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GENERAL UNIVERSITY INFORMATION

A private, independent, international university

An equal opportunity/affirmative action employer

An announcement with information on administration, organization, admission and graduation requirements, and the courses of instruction in:

Undergraduate and Graduate Studies, 2015-2016

It is the policy of the University of Miami that no person within the jurisdiction thereof shall, on the basis of race, religion, color, sex, age, disability, sexual orientation, gender identity or expression, veterans status, or national origin, be excluded from, participation in, be denied the benefits of, or be subjected to discrimination or harassment (including all forms of sexual harassment and sexual violence) under any program or activity of the University, regardless of whether such program or activity occurs on-campus or off-campus. The University does not intend by this commitment to require compliance with this policy by governmental or external organizations that associate with but are not controlled by the University, except as required by law. The Executive Director of Workplace Equity and Performance is responsible for coordinating the University's effort to implement the nondiscrimination policy and Affirmative Action Programs for employees and students. The Executive Director may be contacted at the following address or telephone number:

Workplace Equity and Performance Office

Gables One Tower, Suite 100R

1320 S. Dixie Highway

Coral Gables, FL 33146

305-284-3064

More information regarding the student sexual harassment/violence policy may be found online in the Student Rights and Responsibilities Handbook (<https://umshare.miami.edu/web/wda/deanstudents/pdf/20132014SRR.pdf>). For available resources and services contact the Dean of Students Office (http://www.miami.edu/sa/index.php/dean_of_students), Phone: 305-284-5353; the Counseling Center (http://www.miami.edu/sa/index.php/counseling_center), Phone: 305-284-5511; and/or the Sexual Assault Response Team (http://www.miami.edu/sa/index.php/counseling_center/current_students/special_programs/sexual_assault_response_team_sart) (S.A.R.T).

The University of Miami is authorized under Federal law to enroll non-immigrant alien students.

The University reserves the right to change any provision or requirement, including, but not limited to fees and tuition, at any time without notice. Degrees, courses, programs, activities, and like academic or non-academic offerings of the University may also be changed from time to time without notice. The University further reserves the right to require a student to withdraw at any time under University policies, as may be promulgated from time to time. Further, admission of a student to the University of Miami for any semester does not imply that such student will be enrolled in any succeeding academic semesters. It also reserves the right to impose sanctions on any student whose conduct

is unsatisfactory. Any admission on the basis of false statements or documents is void when the misconduct is discovered, and the student is not entitled to any credit hour for work which the student may have done at the University prior to any discipline that may be taken as a result of such misconduct. When a student is dismissed or suspended from the University for cause, there will be no refund of tuition or fees paid. If a dismissed student has paid only a part of his tuition and fees, the balance due the University will be considered a receivable and will be collected.

There will be no refund of tuition, fees, charges or any other payments made to the University in the event the operation of the University is suspended at any time as a result of any act of God, strike, riot, disruption, or for any other reason beyond the control of the University.

The University of Miami is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award bachelor's, master's, specialist, and doctoral degrees. Contact the Commission on Colleges at:

1866 Southern Lane
Decatur, Georgia 30033-4097

or call 404-679-4500 for questions about the accreditation of the University of Miami.

Mission Statement

The University of Miami's mission is to educate and nurture students, to create knowledge, and to provide service to our community and beyond. Committed to excellence and proud of the diversity of our University family, we strive to develop future leaders of our nation and the world.

Core Values

We are absolutely committed to freedom of inquiry—the freedom to think, to question, to criticize, and to dissent. We will pursue the value of excellence in our research and educational missions with the single-mindedness that only great commitments deserve. We will provide our students with the foundations for ethical citizenship and service to others, a respect for differences among people, and a commitment to high standards of thought and communication. We also will prepare them for rewarding lifelong careers and will imbue in them a continued and permanent desire for the study of knowledge and the search for truth.

Undergraduate Academic Procedures and Information

While the University makes every effort to provide academic counseling to its students, its basic policy places the responsibility for planning an academic program upon the student.

The University of Miami relies on electronic means (email and CaneLink accounts) for correspondence with students. Students are required to maintain a working email address and are expected to update their personal biographical information annually via their CaneLink account. Students who fail to maintain a working email account may not receive critical university information.

Students are expected to familiarize themselves with the requirements of:

- the University,
- the schools in which they are enrolled, and
- their major department.

Requirements refer to those stated in the Bulletin at the time of admission to degree status, unless a student has not been continuously enrolled. In such cases, the Bulletin in effect at the time of re-admission is the one to be used. Under special circumstances, a student may appeal the bulletin decision. In such cases, the determination of the Bulletin in effect is made by the readmitting School or College.

Academic core requirements will not be waived for students under any circumstances.

The work of each student is under the supervision of an academic Dean and of the appropriate Scholarship Committee. A student who fails to maintain an adequate academic record may be dismissed from the University.

Admission of a student to the University of Miami for any semester does not imply that such student will be re-enrolled in any succeeding academic semesters. If a student whose record is unsatisfactory is for some reason permitted to continue in attendance, the appropriate scholarship committee or Dean may specify the standard that must be attained, and any other conditions to be met.

A student who graduates and plans to enter a graduate school or professional school at the University of Miami must apply for admission to the appropriate school of the University in accordance with application deadlines of respective schools.

Not all the regulations and procedures described below pertain to the Graduate School, the Law School, and the School of Medicine. The specific regulations of these schools are stated in their respective Bulletins.

Student-Right-To-Know and Campus Security Act

The Student-Right-to-Know and Campus Security Act requires institutions to disclose information about graduation rates and crime statistics to current and prospective students. Students interested in obtaining this type of information should contact the Office of Admission, 305-284-4323 or go to www.miami.edu/hea (<http://www.miami.edu/hea>).

Family Educational Rights and Privacy Act (FERPA) Buckley Amendment

The purpose of this policy is to assure that students have access to their educational records and to assure the privacy of students by restricting the disclosure of information from education records to those persons authorized under the Act.

The policy is provided to all students in the Student Life Handbook. Copies can also be printed from the website www.miami.edu/hea (<http://www.miami.edu/hea>).

Security of Student Records

The Office of the Registrar is charged with the responsibility of maintaining the security and integrity of student records. Student records

created before 1985 have been electronically scanned. Student records created after 1985 are housed on an electronic database.

In order to maintain confidentiality, access to the student record system is limited to university personnel who have a legitimate need for this information. Each user is required to fill out an access form. A user name is created, and each user must also create a password that must be changed every 180 days. Periodic audits of records as well as reviews of who has access to the system are regularly scheduled to ensure a secure environment.

Students are assigned a UM ID number that is unique to them and they are encouraged to use it instead of their social security number. Students are required to provide their student ID or a photo ID when requesting academic record information from this office.

FERPA Training

FERPA, the Family Educational Rights and Privacy Act, provides established guidelines for universities to ensure that students have access to their educational records as well as to ensure the privacy of said records by restricting the disclosure of information from educational records to those persons authorized under the Act. FERPA guidelines must be followed when dealing with the disclosure of student information.

All staff who use the student records system are required to complete a FERPA tutorial. Periodic reviews are required.

Service Indicator (Hold) on Student Records

Schools and colleges, university administrative departments and other student related offices have the ability to put service indicators, also known as holds, on student records. These holds can be financial, academic or disciplinary in nature and may delay a student's ability to register, to receive an official transcript or to receive a diploma. Holds on a student's record normally require action on the part of the student, i.e., a payment, completion of paperwork, etc. Specific information on a hold and what is required to remove it can be found in the Student Services Center in CaneLink or can be obtained from the office/department that initiated the hold.

Course Information

Academic Credit

The University of Miami adopted the following Federal Definition of the Credit Hour at the Faculty Senate meeting on April 17, 2013 that appears in the Credit Hours policy statement of the Southern Association of Colleges and Schools Commission on Colleges (SACS), Federal Requirement 4.9:

Federal Definition of the Credit Hour

For purposes of the application of this policy and in accord with federal regulations, a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally established equivalency that reasonably approximates:

1. Not less than one hour of classroom or direct faculty instruction and a minimum of two hours out of class student work each week for approximately fifteen weeks for one semester or trimester credit hour,

or ten to twelve weeks for one quarter credit hour, or the equivalent amount of work over a different amount of time, or

- At least an equivalent amount of work as outlined in item 1 above for other academic activities as established by the institution including laboratory work, internships, practica, studio work, and other academic work leading to the award of credit hours.

Application of Credit Hour Policy

This credit hour policy applies to all undergraduate and graduate programs that award academic credit (i.e., any course that appears on an official transcript issued by the University) regardless of the delivery method including, but not limited to, self-paced, online, hybrid, lecture, seminar, and laboratory. Academic units are responsible for ensuring that credit hours are awarded only for work that meets the requirements outlined in this policy.

The expectation of contact time inside the classroom and student effort outside the classroom is the same in all formats of a course whether it be online, a hybrid of face-to-face contact with some content delivered electronically, or one delivered in lecture or seminar format. The University operates on the semester system and, for its measure of academic course work, uses academic credits (referred to as semester credits, semester hours, credit hours, hours, or credits).

Courses that have less structured classroom schedules, such as research seminars, independent studies, internships, practica, studio work, or any other academic work leading to the award of credit hours, at a minimum, should state clearly learning objectives and expected outcomes and workload expectations that meet the standards set forth above.

Two or three laboratory hours each week throughout a semester are considered the equivalent of one lecture hour in counting credit hours earned in an undergraduate laboratory or studio course.

No grades or credit hours are given for audited courses.

Campus Processes - Curriculum Review

Each College or School within the University of Miami is charged with following the policy on credit hours in its review and approval of all undergraduate and graduate courses and for certifying that the expected student learning for the course meets the credit hour standard. The determination of credit hours is made when a new course or a revision to an existing course is proposed. The submitted syllabus is examined for contact time as well as for assignments and evaluation mechanisms.

The Office of the University Registrar requires training for class scheduling before granting access to any departmental staff approved by a department for scheduling classes.

Academic Calendar

The University of Miami adheres to a reasonable approximation of the Carnegie unit for contact time. In addition, students are expected to spend two hours outside of class in preparation for every classroom hour. The Academic Calendar is the official record of academic instruction.

The standard meeting times for three-credit hour courses are as follows:

- 50-minute, Monday-Wednesday-Friday schedule;
- 75-minute, Tuesday-Thursday schedule.

The calendar is planned to ensure 69 class days (41 Monday-Wednesday-Friday meeting days and 28 Tuesday-Thursday meeting days) and at least five days for final examinations. The policy allows a mandatory examination period to be counted in the minutes of instruction, but does not count reading days. The University has a required two-and-a-half-hour final examination policy that adds 150 minutes of instruction, resulting in a minimum of 2,200 minutes of classroom instruction in a three-credit hour course for all undergraduate and graduate terms in the Academic Calendar.

The calculation for summer sessions and other abbreviated terms follows this same standard which means longer class meeting times over the duration of the shortened term.

The University Registrar maintains the official Academic Calendar on its website: <http://www.miami.edu/index.php/registrar/calendar/>.

School of Business Administration

In the School of Business Administration, graduate programs include terms of varying length. The School follows federal and SACS guidelines for the credit hour. All graduate business programs have a minimum of 750 minutes of instructional contact time per credit hour, including the final examination. Students are expected to dedicate at least two hours of course-related work for each hour of instruction.

School of Law

The School of Law is accredited by the American Bar Association and follows federal and SACS guidelines for the credit hour. Ordinarily, full-time students must enroll for a minimum of 11 credit hours and a maximum of 16 credit hours (please consult the Student Handbook and Honor Code). For one credit hour, a student receives 700 minutes of instruction, exclusive of examination time. For a three-credit hour course, this equates to 2,100 minutes of classroom instruction. An additional 180 minutes of instruction is allotted for the final exam session in a three-credit hour course. The faculty expects students to spend at least two hours outside the classroom in preparation for each hour of instruction.

Miller School of Medicine

The Miller School of Medicine is accredited by the Liaison Committee on Medical Education (LCME). The School's Department of Physical Therapy is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). The length of all educational programs is appropriate for each degree, based on national standards and accreditation criteria. The School follows federal and SACS guidelines for the credit hour. Completion of the M.D. program ordinarily takes four years. Although credit hours are not specified by the LCME, the medical education program leading to the M.D. must include at least 130 weeks of instruction. The University of Miami's curriculum consists of 161 weeks and may be referenced here: <http://admissions.med.miami.edu/md-programs/general-md/curriculum>.

Change or Drop of Course

Course changes after the completion of registration must be approved by the student's academic dean.

Dropping of any course for which the student has registered is official only when the drop has been fully processed by the student successfully dropping the course via CaneLink or by the Office of the Registrar.

Please note: Failure to attend classes or merely giving notice to instructors of one's absence will not be considered as an official withdrawal and may result in failure in the course.

The last day to drop a course or make a change in credit-only option is noted on the Academic Calendar located on the Office of the Registrar's website at www.miami.edu/registrar (<http://www.miami.edu/registrar>).

Students enrolled in a course after the withdrawal date must receive a final grade in the course.

Class Attendance and Absences

Regular and punctual class attendance is vital for all students.

Instructors will distribute course syllabi which include policies regarding class attendance and missed or late work. Any student may be dropped from a course or receive a lowered grade for unauthorized absences in excess of those permitted by the instructor. It is each student's responsibility to know and understand the instructor's policies. It is also the student's responsibility to give the instructor notice one week prior to any anticipated absence and to contact the instructor within one week after any unanticipated absence.

All students are responsible for material covered during their absence. However, the instructor must allow each student who is absent for a University-approved reason either the opportunity to make up, or to be excused from, work missed, without any reduction in the student's final course grade as a direct result of such absence.

Other than absences for a University-approved reason, the instructor determines whether or not an absence is for an acceptable reason and whether or not students shall have the opportunity to make up missed work. If the instructor does not recognize the reason as acceptable, the student may appeal to the chair of the department in which the course is offered.

The following constitute University-approved reasons for absences:

1. Participation in an activity approved by the Academic Deans Policy Council, such as musical and debate activity, R.O.T.C. function, or varsity athletic trip; participation in a special academic activity such as a field trip or other special event connected with academic coursework. Verification of a student's participation shall be issued by the sponsor when authorized by the Office of the Executive Vice President and Provost.
2. Observance of a religious holy day as described in the Religious Holy Day Policy, below:

Religious Holy Day Policy

The University of Miami, although a secular institution, is determined to accommodate those students who wish to observe religious holy days. It seeks to reflect its awareness of and sensitivity to religious holy days whenever possible when scheduling University activities. The following provisions are meant to apply equitably to all religious groups and to provide opportunities to all to meet their religious obligations.

1. Except as specifically provided to the contrary, this policy is binding on all students in undergraduate programs. Schools offering graduate or professional programs, including undergraduate professional programs, are strongly encouraged to adhere to these policies to the maximum extent practicable.

2. Any student absent from class in observance of a religious holy day shall not be penalized in any way for an examination or assignment missed during the period of absence. Absence in observance of a religious holy day does not relieve students from responsibility for any part of the course work required during the period of absence.

Students who are absent on days of examinations or class assignments shall be offered a reasonable opportunity to make up the work without penalty, if the student previously arranged to be absent. Nothing in this policy shall preclude faculty members from limiting the number of student absences to a reasonable number of absences for any reason. The faculty member has discretion to determine how the make-up obligation will be fulfilled. A faculty member who penalizes a student contrary to these provisions may have committed unprofessional conduct, and thus may be subject to a complaint to the Committee on Professional Conduct under the provisions of Section B4.9 of the Faculty Manual.

3. It is the student's obligation to provide faculty members with notice of the dates they will be absent due to observance of religious holy days, preferably before the beginning of classes but no later than the end of the first three class days. For religious holy days that fall within the first three class days, students must provide faculty members with notice no later than two class days before the absence. Missing a class due to travel plans associated with a particular religious holy day does not constitute an excused absence. Absences due to observance of religious holy days that are not pre-arranged with the relevant faculty member within the first three class days may be considered unexcused, and the faculty member may therefore prevent the student from making up examinations or assignments missed during the period of absence.
4. Faculty members are encouraged to anticipate days when a substantial number of students will be absent for observance of religious holy days and should avoid scheduling examinations and assignment deadlines on those days. Faculty members are expected to reasonably assist students in obtaining class information the student missed during the period of absence in observance of a religious holy day. In that regard, faculty members are urged to allow taping or recording of the class session, with the reproduction limited to the student's personal use, when a student misses a class due to observance of a religious holy day. To assist in identifying religious observance days, faculty members are encouraged to consult the illustrative list provided in the Interfaith Calendar (<http://www.interfaithcalendar.org>). Faculty members are urged to remind students of their obligation to inform faculty members within the first three class days of any anticipated absences due to observance of religious holy days and should include that information in the syllabus or course requirements document for that course.

Course-Numbering System

The following course-numbering system is used:

- Courses in the 100 series are primarily for freshmen.
- Courses in the 200 series are primarily for sophomores.
- Courses in the 300 series are primarily for juniors.
- Courses in the 400 series are primarily for seniors.
- Courses in the 500 series are open only to seniors or other qualified undergraduates.
- Courses in the 600 through 800 are open only to graduate students.

Courses in some departments, with the specific numbers 100, 200, 300, 400 are offered, in most instances, on an experimental or trial basis. When listed in CaneLink's Course Offerings, a more descriptive title will normally be attached.

Credit for Service Experience

Veterans of the military services may make application for academic credit for schooling received while in the armed forces. Credit hour may be awarded for work that the American Council on Education Guide regards as college level. Students must have credit hours approved by their departmental chairperson.

Credit hour for military service and experience is usually in the elective area and may not take the place of subjects required for graduation. Such work is not assigned quality points and is not included in quality point computations.

Credit Only Option

The credit only option has been established to encourage students to explore academic areas outside their major and minor fields of concentration. Students may use this option with free electives and receive a CR (Credit Received) or NC (No Credit). These courses become part of a student's record, but they do not count in the grade point average as computed by the University of Miami.

Eligibility

To be eligible to enroll for courses under the CR/NC option, a student must:

1. Hold the standing of Sophomore or above, and, if a transfer, must have completed one semester of residency at the University of Miami;
2. At the time of registration have a minimum cumulative grade point average of at least 3.00;
3. Elect the CR/NC option within two weeks following the last day of registration for Fall and Spring semesters. Election of CR/NC options for Summer Sessions must occur no later than the fifth class day following the last day of registration. No changes except withdrawals from the course are permitted after this time.

Regulations and Restrictions

1. Eligible students may take one course per semester for credit only, to a maximum of 9 credit hours.
2. Only free electives may be taken under this option. Free electives are defined as courses not taken to fulfill the requirements for the major, minor, or general education requirements (including prerequisite course work) of the University and the individual schools.
3. ENG 105 and ENG 106 cannot be taken for credit only.
4. Grading standards for the credit only option are the same as for students who register for the course under the regular grading system. Letter grades will be submitted by instructors to the Office of the Registrar. The Office of the Registrar will change all grades A through C (including "C-") to CR (Credit Received) for those enrolled under the CR/NC option.
5. A grade of NC (No Credit) will be recorded by the Office of the Registrar for all grades of D and F. The student will not receive credit hours or quality points for the grade of NC.

6. Should a student subsequently change his/her major, free electives taken for credit only prior to the declaration of this major may be counted toward fulfilling major, minor, or general education requirements at the discretion of the department chairman and the academic dean.

Final Examination Policy

- Final Examinations may not be given during a regularly-scheduled class period.
- No examination shall be permitted during the reading period.
- Final Examinations may be rescheduled only with the permission of the school/college dean.
- No student shall be required to take more than two final examinations in a twenty-four hour period. A student having three or more final examinations scheduled during a twenty-four hour period may request the instructor of the course most easily rescheduled (normally the course with the smallest enrollment) to reschedule the examination for that individual. The request shall be made no later than two weeks before the last class day.
- A student who has a conflict between a final examination and a religious observation may request that the instructor reschedule that student's examination. The request shall be made no later than two weeks before the last class day. For the resolution of any problem pertaining to the scheduling of final examinations, a student should consult with the following entities or persons in this order: the relevant instructor, the department chair, the Dean or designee. If the matter cannot be resolved at the school or college, the student should contact the Office of the Provost.

Registration

Registration dates are shown on the University Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>), and all students are expected to register on these days. If a student is permitted to register late, a fee may be charged.

Cancellation of Courses

Students who select courses and fail to make payment and/or financial arrangements with the Office of Student Account Services (OSAS) prior to the payment deadline will have their course schedules canceled. Reinstatement of classes can only occur after payment arrangements have been made with the OSAS to cover all financial obligations including any reinstatement fees. Reinstatement to cancelled classes will be on an "as available" basis after financial arrangements have been completed.

Repeat Rules

A student may repeat a course, but the repetition will not eliminate the previous grade from the record. A course may be repeated only once¹ unless written authorization is provided by the chair of the department in which the course is offered or, in the case of an un-departmentalized school, by the dean.

Illegal Repeat

A student may not repeat a course in which a grade of C or higher has been earned. This is considered an illegal repeat.

General Repeat Rule

- If the initial grade is D+ or lower (or a C- in cases where an academic unit requires a C or higher), both the initial grade and the repeat grade are included in the computation of the student's cumulative grade-point average (CGPA).
- If the initial grade is a D or D+ (or a C- in cases where an academic unit requires a C or higher) and the repeat grade is passing, the number of credit hours required for graduation will be increased by the number of credit hours repeated.
- Registrations that involve repeating a course in which a grade of C or higher (or C- in cases where an academic unit does not require a C or higher) has already been earned do not earn quality points or credit hours, nor count as credit hours attempted.
- Courses repeated after graduation² will be posted to the transcript showing the grade received; however, the CGPA and credits earned will not be modified based on the grade received for the repeated course.

Freshman Repeat Rule

- A student may elect to repeat up to two courses that were taken at the University of Miami within that student's first two semesters of college work³ and in which the student earned a grade of D (including D+) or F. Each repeated course must be taken at the University of Miami, must be the same course as the course initially taken, and must be completed within 12 months after the end of the semester (or summer session) in which the initial course was first taken.
- No course may be repeated more than once under this rule. A course repeated more than once under the University's General Repeat Rule will not qualify under the Freshman Repeat Rule.
- Enrollment for a second time in a course constitutes a repeat of that course for the purposes of this rule, unless the student withdraws from the course on or before the University's published Last Day to Drop a Course date.
- For each repeated course, only the second grade (whether higher, or lower, or the same as the first grade) will be used in the computation of the student's CGPA. The initial course will not count as credit hours attempted or earned, although the initial course grade will remain on the student's permanent record.
- Students who plan to apply to graduate and/or professional school should be aware that such institutions may recalculate the CGPA to include the initial grade earned before the repeat.

¹ This does not include courses that are eligible to be repeated for credit (e.g. Special Topic courses, Music lessons, etc.). Courses that are eligible to be repeated are designated in the student information system, CaneLink. Courses may have limits on the number of times they may be repeated.

² This refers to courses or a course with a particular grade required for entry into a different degree program.

³ First two semesters includes work at all schools attended, not just the University of Miami.

Schedules

Fifteen or sixteen credit hours constitutes a normal schedule at the University. Academic deans and advisors will determine the appropriate credit hour load for their students. (A schedule of charges for credit hours

is found in the Financial Payment Policies section of this Bulletin.) The schedule of any student whose outside interests cause unsatisfactory scholastic attainment may be reduced by the dean.

Temporary/Permanent Withdrawal from the University

If a student decides to withdraw from the University of Miami, there are procedures in place to facilitate this process. In order to withdraw officially from the University, a student must follow the procedures outlined in this bulletin and on the Office of the Registrar website (<http://www.miami.edu/registrar>).

Failure to follow the outlined withdrawal process may result in monies owed to the university (e.g. tuition, fees, etc.), failing grades on a student's academic record and/or other negative consequences.

Please note that dropping courses in a summer session, thereby reducing a student credit-hour load to zero is not construed as a formal withdrawal from the University.

Undergraduate Students

Undergraduate students are required to meet with an Advisor in the 'Cane Success Center. The 'Cane Success Center is located on the 2nd Floor of the University Center, Suite 2275 (also known as "The Nest"). They can also be reached at (305) 284-1807 or success@miami.edu.

For more details about the withdrawal process and for helpful hints on making a smooth transition out of the University, visit the **Undergraduate Withdrawing Student Checklist** (http://www.miami.edu/index.php/cane_success_center/withdrawal/WithdrawingStudentChecklist) or view the PDF (<https://umshare.miami.edu/web/wda/admission/Website/PDFs/Withdrawal/Withdrawal%20Checklist.pdf>).

For students who are no longer on campus – If you have already left the University but did not complete the withdrawal process before your departure, please call or email the 'Cane Success Center at (305) 284-1807 or success@miami.edu to begin the withdrawal process. Your withdrawal will not be finalized until an Exit Interview is completed.

Undergraduate Appeal Process

Withdrawal Date Appeal Form – If you were unable to attend classes due to a serious accident or illness, and this prevented you from notifying the University of your withdrawal in a timely manner, a Withdrawal Date Appeal Form (http://www.miami.edu/index.php/cane_success_center/withdrawal/withdrawal_date_appeal_form) can be submitted for consideration by an Appeals Committee. Appeals are submitted **AFTER** completing the official withdrawal process above and must include supporting documentation as to what prevented a timely notification. All appeals must be submitted within 30 calendar days of the official withdrawal date established with the 'Cane Success Center or if the appeal is being submitted for a semester that has already completed, it must be submitted within 30 calendar days of the last day of the end of the semester in question. Appeals should be submitted via email to registrar@miami.edu or by mail to:

University of Miami
Office of the Registrar - Withdrawal Date Appeal
P.O. Box 248026

Coral Gables, FL 33124-6914

The Withdrawal Appeal Form can be found at: <https://umshare.miami.edu/web/wda/admission/Website/PDFs/Withdrawal/Withdrawal%20Date%20Appeal%20Form.pdf>

If you have a Merit-based Scholarship and want to return to UM –

If you withdraw from the University but choose to return within one calendar year, and you have continued to meet the requirements of your scholarship, then your merit scholarship will be waiting for you here. Contact the 'Cane Success Center to begin the process of readmission. *Frost School of Music students will need to re-audition after one semester away from the University.

Student Groups with Special Concerns Regarding Withdrawing from the University

- **Veterans** and children of deceased or totally disabled veterans attending the University as students under the government's educational benefit bills must also be cleared by the Veterans Affairs Certifying Official.
- **Varsity athletes or any athlete** registered with the department of Athletics must obtain approval and be cleared by the Athletic department prior to any change in their registration status, including withdrawal from the university.
- Per U.S. Department of Homeland Security (DHS) regulations, **international students in F-1 or J-1 visa status** must notify their ISSS advisor prior to temporarily or permanently withdrawing from the University and must leave the U.S. within 15 days of withdrawing. Failure to comply with DHS regulations may result in the loss of your future eligibility to enter the U.S.

Refunds

During the academic year, tuition will be refunded on a prorated basis depending on the date that is noted as the 'Total Withdrawal Date'. Tuition will be refunded on a prorated basis through 60 percent of the semester.

Title IV financial aid and tuition will be refunded on a pro rata daily basis through 60 percent of the semester. This date is determined based on the student notifying the Canes Success Center (Undergraduate)/ Office of the Registrar (Graduate) of his/her intent to withdraw. If the student fails to notify the appropriate office, federal guidelines for determining refunds will be followed. Please see the Refund Policy (p. 37) under the Financial Payment Policies section.

Military Withdrawal

- Students who need to withdraw from a semester due to official orders to active duty with the Armed Forces of the United State must provide a copy of their official written orders when submitting the request to withdraw.
- Students who withdraw **after the 12th week of the semester** because of these official orders may either be awarded credit hour (CR) or an academic grade for any course in which they have achieved a C or better up to the time of withdrawal. Instructors must certify that the student had achieved satisfactory accomplishment on the basis of previous work in the course by awarding an appropriate grade. Accomplishment of less than C should be entered on the permanent record as a withdrawal without prejudice (W).

- Credit hour granted for courses under this policy should count toward graduation.
- There should be no refund of tuition for courses for which credit hour has been awarded. Refunds for courses not awarded credit hour should be on the same basis as complete withdrawals for military service.
- The above recommendations are procedures for determining the awarding of credit hour and do not release the student from the usual withdrawal procedures.

General Education Requirements

Philosophy

The University of Miami's General Education Requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. The General Education Requirements provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The General Education Requirements allow students to create an integrative map for their academic careers, providing a context for more focused studies.

As an institution of higher learning in an increasingly diverse and global community our goals are to produce graduates who have been exposed to a broad spectrum of educational opportunities and to prepare them for successful participation in the world. The University's General Education Requirements consist of coursework taken before, within, and in addition to students' specialized study within their areas of concentration. The aims of the General Education Requirements are designed to ensure that graduates of the University will have acquired essential intellectual skills and exposure to a range of intellectual perspectives and academic disciplines. Whereas the requirements of majors specified by schools and colleges within the University emphasize depth of learning, the General Education Requirements stress breadth of knowledge and the cultivation of intellectual abilities essential for the acquisition of knowledge.

Areas of Proficiency

The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use quantitative skills with facility, and to reason cogently.

English Composition

Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. The expectation is that students become adept at using the English language as an effective communication tool. Effective writing skills are representative of an educated person because they are instruments to advance ideas efficiently and persuasively. Students fulfill this requirement by satisfactorily completing ENG 105 and ENG 106, or the equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy this requirement. An appropriate score on the SAT or ACT examination may earn a student exemption from, but not credit for, ENG 105.

Students will be able to:

- Gather information, synthesize data, compare various points of view, and present results in writing.

- Develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument.
- Consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks.

Effective Fall 2016¹, new students without prior college credit in English Composition will be placed as follows:

- ENG 103: ACT English score below 18, SAT Writing score below 430, and (if relevant) TOEFL iBT Writing score below 18.
- ENG 105: ACT English score 18-31, SAT Writing score 430-680, or TOEFL iBT Writing score 18 or above.
- ENG 106 or ENG 107: ACT English score 32 or above or SAT Writing score 690 or above

¹ Beginning Fall 2017, the ACT Plus Writing or the Redesigned SAT with optional Essay will be required for new undergraduate applicants with fewer than thirty transfer credits. Placement cutoffs for the ACT Plus Writing and the Redesigned SAT with optional Essay are to be comparable to the fall 2016 score levels above, using concordance tables for the ACT Plus Writing and the Redesigned SAT with optional Essay.

All requirements for the English Composition General Education Requirements must be completed prior to attaining junior year classification.

Quantitative Skills

In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to understand and use essential quantitative skills. The Quantitative Skills requirement helps students learn to use quantitative skills and tools to solve problems, including the interpretation, manipulation and application of quantitative data. Students fulfill this requirement by completing either a Department of Mathematics course numbered MTH 108 or higher or a quantitative skills course approved by the student's college/school and the University Curriculum Committee in consultation with appropriate academic units. Exemption from the requirement can be achieved through the following tests: AP, IB, SAT, SAT subject test in mathematics level 2, or a test administered by the Department of Mathematics.

Students will be able to:

- Select and use appropriate quantitative methods and tools to solve problems.
- Interpret, manipulate, and apply quantitative data to solve problems.

Areas of Knowledge

In April 2012, the University of Miami Faculty Senate adopted a new set of General Education Requirements for Areas of Knowledge. The new "Cognate Program" was implemented during the 2013-2014 academic year.¹

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the areas of knowledge provide a broad array of intellectual and cultural exploration.

In satisfying the Cognate Program for the Areas of Knowledge requirement, students examine creative expression in the arts, literature,

and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world. Students fulfill the requirement by completing three cognates, one from each of the three areas of the university curriculum: Arts & Humanities; People & Society; and Science, Technology, Engineering & Mathematics (STEM). A cognate is a group of at least three courses for at least nine credit hours, related in a topical, thematic, interdisciplinary, sequential, or other fashion, so that completion of a cognate provides coherent depth of knowledge. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the coherent focus of the cognate.

While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed by students are listed on the students' transcripts.

The university offers a large number and range of cognates. Additionally, each major and minor fulfills the cognate requirement in one Area of Knowledge. (Some majors and minors, depending on the courses selected, can fulfill alternative Areas of Knowledge.) All approved cognates are visible in a cognate search engine (at www.miami.edu/cognates) that allows students to search for cognates based on cognate features, cognate courses, and keywords. Each cognate is administered by a department or program that is designated as the "Responsible Academic Unit" (RAU) for the cognate. Inquiries about a cognate should be directed to the cognate's RAU.

¹ The Faculty Senate University Curriculum Committee submitted this clarifying language to Legislation #2012-19(B) The following rule applies to all cognates: A course may not be used to satisfy the requirements of more than one cognate. This rule applies whether the cognate requirement is being met by a major, a minor, or a designated cognate. The fact that a school requires students to take courses which the school construes as outside the major or minor, but must be taken to fulfill the requirements for that major or minor, does not allow the course to be counted for both purposes. On the other hand, the fact that a course is listed as one which must be taken to meet the requirements for a major or minor does not necessarily preclude a student from participating in a cognate which has that course as one of its options. In many cases, the student could take one of the other courses, which make up the cognate.

Arts & Humanities

Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

Students will be able to:

- Critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis.
- Understand the creation and performance of art.

The following departments and programs offer courses that are used in Arts & Humanities cognates: Africana Studies; American Studies; Architecture; Art & Art History; Cinema & Interactive Media; Classics; English; History; Judaic Studies; Latin American Studies; Modern Languages & Literatures; Music Theory – Composition; Musicology; Philosophy; Religious Studies; Strategic Communication; and Theatre Arts. Others will be added as cognates are approved.

People & Society

People & Society cognates help students understand and analyze the organization of society and the patterns of social change, in the past and in the contemporary world.

Students will be able to:

- Analyze the organization of society.
- Analyze patterns of social change.

The following departments and programs offer courses that are used in People & Society cognates: Accounting; Aerospace Studies; Africana Studies; American Studies; Anthropology; Business Law; Classics; Communication Studies; Criminology; Economics; Ecosystem Science & Policy; Educational & Psychological Studies; Geography; History; International Studies; Journalism & Media Management; Judaic Studies; Kinesiology & Sport Sciences; Latin American Studies; Management; Marine Affairs; Marketing; Military Science; Modern Languages & Literatures; Music Media & Industry; Nursing; Philosophy; Political Science; Psychology; Religious Studies; Sociology; Strategic Communication; Teaching & Learning; Urban Studies; and Women's & Gender Studies. Others will be added as cognates are approved.

Science, Technology, Engineering & Mathematics (STEM)

Science, Technology, Engineering & Mathematics (STEM) cognates develop students' abilities to think critically about mathematical, scientific, and technological issues, through an understanding of processes and methods of scientific inquiry involving experimentation, observation, and quantitative analysis. The cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Students will be able to:

- Understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems.
- Interpret quantitative data and draw useful conclusions.

The following departments and programs offer courses that are used in Science, Technology, Engineering & Mathematics cognates: Anthropology; Architecture; Atmospheric Science; Biochemistry; Biology; Biomedical Engineering; Chemistry; Civil, Architectural & Environmental Engineering; Computer Information Systems; Computer Science; Economics; Ecosystem Science & Policy; Electrical & Computer Engineering; Engineering Science; Finance; Geography; Geological Sciences; Health Science; Industrial Engineering; Kinesiology & Sport Sciences; Management Science; Marine Science; Marketing; Mathematics; Mechanical & Aerospace Engineering; Microbiology &

Immunology; Neuroscience; Nursing; Physics; and Psychology. Others will be added as cognates are approved.

NOTES

For the current listing of cognates, visit <http://www.miami.edu/cognates>.

The three cognates taken to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors) must have different RAUs. No more than two Areas of Knowledge may be fulfilled by cognates whose RAUs are in the same school or college, except for the College of Arts and Sciences. Majors and minors may cover more than one Area of Knowledge, but may be used to fulfill the cognate requirement in only one of those areas. A course may be used in only one cognate used to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors). Students may petition for individual course substitutions in cognates by application to the cognate's RAU. Transfer courses, Advanced Placement, International Baccalaureate, CLEP, dual enrollment, etc., that are transferred in with specific UM course credit hour, can be used in cognates. Courses that transfer in with non-specific UM course credit hour can be used in cognates only by application to the cognate's Responsible Academic Unit (RAU).

Transfer students entering the university with 30 or more credits may take an individualized cognate as one of the three required cognates. Individualized cognates allow for flexible use of transfer credits to fulfill a cognate requirement, as approved by the dean/advising office in the student's school/college.

Grades

Academic Standing, Probation, and Dismissal

At the end of each semester the University shall determine whether a student is in Good Academic Standing, on Academic Probation, or subject to Academic Dismissal. Some schools and colleges may have exceptions to the Good Academic Standing, Academic Warning, Academic Probation and Academic Dismissal policies listed below.

Good Academic Standing

To be in Good Academic Standing a student must not be on Academic Probation or subject to Academic Dismissal.

Academic Probation

Students other than first-semester freshmen (non-transfer student) whose UM cumulative grade-point average (CGPA) in University of Miami courses is below the following levels shall be placed on Academic Probation.

Credit Hours Earned	CGPA
Fewer than 33	1.7
33-64	1.8
65-96	1.9
More than 96	2.0

First-semester freshmen who have a semester grade-point average below 1.3 shall be placed on Academic Probation. In addition, students who fail to make satisfactory progress toward meeting the degree requirements

specified by their School or College may be put on Probation by the Academic Standards Committee of the School/College. Students on Academic Probation must meet with their academic advisor prior to the following semester and shall be restricted to a 13-credit hour load.

Academic Dismissal

A student who remains on probationary status after two consecutive semesters on Academic Probation shall be subject to Academic Dismissal. A student who has been on Academic Probation for one semester and has a CGPA below 1.0 shall also be subject to Academic Dismissal. The decision to dismiss shall be made by the Academic Standards Committee of the School or College in which the student is enrolled. If a decision is made not to dismiss, the student shall remain on Academic Probation.

Appeals and Readmission

Students who wish to appeal their Academic probation or dismissal for academic reasons, must do so in writing to the School or College Academic Standards Committee within thirty days of the notice of dismissal. Those who have been dismissed for academic reasons shall not be considered for readmission to any school or college at the University until at least two regular semesters have elapsed since their dismissal.

Faculty Senate Student Affairs Committee Standard Academic Appeals Process

The Faculty Senate Student Affairs Committee (FSSAC) has responsibility for undergraduate student academic appeals. The FSSAC includes faculty representatives from all undergraduate schools as well as three non-voting ex officio representatives: a graduate and undergraduate student representative and the University ombudsperson. The FSSAC reviews undergraduate student academic appeals that have not been resolved at the department, school, or college levels. As noted in section II below, the FSSAC hears cases only after they have gone through the departmental and college process. The processes are the same for grade and non-grade appeals except as noted below.

I. Time Constraints

Appeals must be filed within a year of the occurrence of the academic action resulting in the appeal and prior to the completion of all degree requirements or withdrawal from the University. Exceptions to this deadline may be permitted by the FSSAC for good cause.

Each level of appeal should aim to review the appeal and arrive at judgment within a two month period from the date the appeal reaches them. The entire process should be completed within one year.

II. Order of Appeal

A student appeal regarding a faculty or administrative academic action must be addressed to the following entities or persons in this order:

1. The faculty member or administrator responsible for the course, program, or activity.
2. The department/program chair/director or administrative superior of the faculty member or administrator.
3. The Dean or designee of the school or college offering the course, program or activity.

4. If the school, college or administrative unit has a committee constituted to hear student appeals, that committee must be consulted before proceeding to the next level.
5. The ombudsperson. The student is to provide the materials listed in Section III below to the ombudsperson who will review the merits of the appeal, and attempt to resolve the matter. The ombudsperson, as part of his/her review should give the student a preliminary assessment as to whether the matter, as presented by the student at that time, is reviewable by the FSSAC.
If the matter is the appeal of a final grade, and only after all the other steps are taken, the ombudsperson may refer the matter to the Provost who will decide whether or not to refer the appeal to the FSSAC.
For a non-grade-appeal, the student has the final authority to decide whether to take the appeal to FSSAC. If s/he chooses to do so, the ombudsperson shall forward the appeal and the accompanying documentation to the FSSAC via the Faculty Senate Office.
6. The Provost may request that the FSSAC review an appeal. If, but only if, s/he does so, the FSSAC shall have jurisdiction to review a grade-related appeal.
 - a. As part of the request, the Provost shall forward to the FSSAC, via the Faculty Senate office, the materials submitted by the student as indicated in Section III, below.
 - b. The FSSAC will review the student's written appeal (see section III below), confer with the appropriate faculty, administrators, and others as it deems necessary in making its recommendation to the Provost. The FSSAC may request an interview with the student, additional information or access to records, interviews with relevant faculty or administrators, or additional information or access to records kept by faculty or administrators.
 - c. The FSSAC will communicate its findings and recommendations to the Provost. Copies shall be provided to the Faculty Senate.
7. The final decision with respect to the grade-related appeal will be made by the Provost and communicated to the student in writing. Copies shall be provided to the Faculty Senate Office and to the Chair of the FSSAC.
8. For non-grade-related academic appeals:
 - a. The FSSAC shall act upon those appeals and report its findings and recommendation to the Provost. The Committee shall forward to the Chair of the Faculty Senate a copy of its recommendation to the Provost.
 - b. The Provost shall communicate his/her decision on each recommendation to the student concerned, to the Chair of the Committee, and the Chair of the Faculty Senate.

III. Materials for an Appeal

When bringing an appeal, the student must state in writing issues s/he wishes to have considered. The appeal must include:

1. An appeal letter clearly stating the conditions as seen by the student, and offering reasons for granting the appeal.
2. The appeal letter must indicate if the student wishes to make a personal appearance and, if so, the reasons why the appearance is necessary.
3. Documents of support (e.g., examinations, term papers, syllabi, or medical documentation of illness) that the student wishes to have examined.

4. All written decisions made at earlier levels of the appeal by individual faculty/administrators, departments/programs/administrative units, college or school committees, and deans which are available to the student or in the student's possession.

IV. Other Notes and Special Conditions

1. If the appeal is based on or related to a charge made by the student of discrimination on the basis of race, color, national origin, religion, sex, sexual orientation, age, or handicap, a representative of the appropriate University office will be contacted and, as appropriate, consulted in the appeal process.
2. If the appeal is based on or related to a disability:
 - a. The ADA Coordinating Committee shall serve in an advisory capacity.
 - b. The student is to include in the materials provided, the appropriate forms from the Office of Disability Services documenting:
 - i. An evaluation of the disability
 - ii. Recommendations related to the disability
 - c. The FSSAC does not consider appeals based upon the grant, denial or modification of an accommodation by the Office of Disability Services. Instead, any such appeal is as prescribed by the Office of Disability Services Grievance Procedure only.

The Grading System

A	Excellent attainment
B	Good attainment
C	Fair attainment
D	Poor attainment (earns credit hour but may not fulfill requirement for a major)
F	Failure (effective Fall 1995)
W	Course dropped on or before the last day for withdrawing from classes as published in the official calendar of the University. Credit hour can be earned only by successful repetition of the course.
I	Incomplete work in passing status with the instructor's permission to complete the course. An "I" will be assigned only if the instructor is satisfied that there are reasonable non-academic grounds for the student's incomplete work. ¹ An "I" is not intended to be assigned in order to permit a student to repeat a course without registration or to permit a student to do additional work in order to improve upon grades earned during the semester. The student who receives an "I" must complete the course with a passing grade within the time frame specified by the professor of the course but not longer than the end of one calendar year, or prior to graduation, whichever occurs first. An Academic Dean may approve an extension initiated by the course instructor. An "I" not completed prior to the student's graduation shall be changed to an "IE" or "IF" by action of the student's Academic Dean. ²

IP	Denotes in progress grade assigned upon satisfactory completion of the first semester of a two-semester sequence, with the final grade for both courses to be submitted at the end of the second semester of the sequence. Please note that all "IP"s must be converted to a letter grade or "IF" at graduation. "IP" will also be converted to "IF" upon any departure from the University for a period in excess of one year. ³
IF	Symbol indicating that an "I" grade was not appropriately completed. ⁴ The symbol "IF" is equivalent to an "F" when computing a student's average.
CR	Grade signifying that credit only is awarded based on a "C" average or better.
NC	Grade signifying that no credit hour is awarded based on a course average below a grade of "C".
NG	Symbol assigned by the Office of the Registrar indicating that the instructor has not reported the student's grade. For a student to receive credit hour for the course, the instructor must report a passing grade prior to the student's graduation, or by the end of one regular academic semester, whichever comes first. An Academic Dean may approve an extension initiated by the course instructor. An "NG" not replaced by a passing grade, or by a "W", prior to the student's graduation shall be changed to an "F" by action of the student's Academic Dean. ⁵

Grade Point Average

The grade point average is used to determine:

- class rank
- graduation and university honor eligibility
- good standing, probation, and dismissal status
- scholarship eligibility

Your official grade point average is based only on the work you have completed at the University of Miami. The only exception to this policy is for determining whether a student qualifies for university honors established by the minimum grade point requirement at the time of graduation. For graduation purposes, cumulative grade point average is defined as either the average of all grades earned at the University of Miami or the combined average of all graded work taken at the University of Miami and elsewhere whether or not the transfer work is accepted toward a degree at the University of Miami, whichever is lower.

Quality points per credit hour are awarded as follows:

A+	4.00
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	1.30
D	1.00

E (Prior to Fall 1995)	0.00
IE ¹	0.00
F (Effective Fall 1995)	0.00
IF	0.00

Courses marked with an "IE" or "IF" count as credit hour attempted but are not counted in credit hours earned and do not carry quality points.⁵

Credit hours marked CR are counted as credit hours earned but are not counted in credit hours attempted and do not carry quality points. Courses marked with the symbols I, IP, W, NC, and NG do not carry credit hours attempted, credit hours earned, or quality points.

The grade point average is determined by dividing the total quality points earned by the total credit hours attempted.

Military service credit hour, some foreign university credit hour, correspondence course credit hour, credit by examination, etc., are not awarded quality points and do not enter the computation of the grade point average.

¹ Faculty Senate legislation #83032(B)

² Faculty Senate legislation #2000-24(B)

³ Faculty Senate legislation #2001-29(B)

⁴ Faculty Senate legislation #85005(B) and #97001(B)

⁵ Faculty Senate legislation #85001(B)

Honor Code

The Honor Code, initiated at the request of the Undergraduate Student Body Government, ratified by student referendum, approved by the Faculty Senate, by the President of the University, and administered by students, protects the academic integrity of the University of Miami by encouraging consistent ethical behavior among its undergraduate students. The Code provides standards that prohibit all forms of scholastic dishonesty, including cheating, plagiarism, collusion, and falsification or misrepresentation of experimental data. The Code covers all written and oral examinations, term papers, creative works, assigned computer related work, and any other academic work done at the University by an undergraduate student.

All undergraduate students are responsible for reading, understanding, and upholding the Honor Code. Signed pledges are required for written work submitted for evaluation, but the absence of a signed pledge does not free a student from the ethical standards required by the Code. Procedures for dealing with infractions of the Code, including provisions for appeals, are printed in the text of the Honor Code. Copies may be obtained from the Office of the Dean of Students or from the office of the Undergraduate Student Body Government, or on-line at www.miami.edu/honor-council (<http://www.miami.edu/honor-council>).

In keeping with the traditional prerogatives of university faculties, nothing in the Code infringes on the faculty's assignment of grades undertaken in a class. Instructors are informed when students have been found guilty of infractions involving their classes. Courses in which students have been failed for academic dishonesty may neither be dropped nor repeated under the terms of the freshman repeat rule.

The Dean's List

The Dean's List is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained high scholastic achievement for the semester. To attain the Dean's List, a student must, for the semester:

1. have registered for and have completed 12 or more graded credit hours (excluding the credit hours earned in courses taken for credit only);
2. have attained a quality point average of 3.50 or higher for the semester;
3. have no courses with pending grades (I or NG).

The Dean's List will be announced by each college and school at the end of the semester. The Office of the Registrar will post this achievement to the student's permanent record.

The Provost's Honor Roll

The Provost's Honor Roll is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained a high scholastic achievement for the semester. To attain the Provost's Honor Roll, a student must, for the semester:

1. have registered for and have completed 12 or more graded credit hours (excluding the credit hours earned in courses taken for credit hour only);
2. have attained a quality point average of 3.75 or higher for the semester;
3. have no courses with pending grades (I or NG).

The Provost's Honor Roll will be announced by the Provost's Office. The Office of the Registrar will post the achievement to the student's permanent record, and distribute the Provost's Honor Roll Certificate.

The President's Honor Roll

The President's Honor Roll is composed of those undergraduate students who are enrolled in a degree-seeking program and have attained the highest possible scholastic achievement for the semester. To attain the President's Honor Roll a student must, for the semester:

1. have registered for and completed 12 or more graded credit hours (excluding credit hours earned in courses taken for credit only);
2. have attained a quality point average of 4.0 for the semester;
3. have no courses with pending grades (I or NG).

The President's Honor Roll will be announced by the Office of the Registrar who will post the achievement to the student's permanent record, and distribute the President's Honor Roll Certificate.

Graduation

Graduation and Degrees

It is the responsibility of the student to be sure he/she makes satisfactory progress toward, and fulfills requirements for, the degree he/she seeks. He/she may obtain help in the office of his/her Academic Dean.

To receive a Bachelor's degree from the University, the student must earn at least 120 credit hours (more in some schools), with a C average (2.0) or better as well as a C average for all work done at the University of Miami.

Students must also meet all of the degree requirements of their respective schools and should not expect requirements in composition, mathematics, foreign languages, or other subject areas to be waived for any reason.

- A student transferring credit hours from a 2-year community or junior college (this being the last school attended) must complete a minimum of **56 credit hours in residence** at the University of Miami to earn an undergraduate degree.
- A student transferring credit hours from a 4-year college or university (this being the last school attended) must complete a minimum of **45 credit hours in residence** at the University of Miami to earn an undergraduate degree.
- In addition, each student must complete at least half of the credit hours specified for his or her major in residence at the University of Miami.
- Not more than 30 credit hours of correspondence work and extension work combined will be accepted toward a degree, and neither correspondence nor extension work may be credited as a part of the last 45/56 credit hours of the student's program.
- Not more than 30 credit hours based on military experience will be awarded toward the degree.
- Credit hours earned in a manner other than by course registration, i.e. proficiency examination, CLEP, placement tests, etc., may not be used to meet the final 45/56 credit hour residency requirement, however such credit by examination may be earned while the student is enrolled in the courses needed to meet the final 45/56 credit-hour residency requirement.
- Once a degree has been awarded, no changes will be made to the academic record.

Dual Degree

- To obtain two different undergraduate degrees, a student must complete all the requirements for each degree.
- A second undergraduate degree on the same level requires a different major and a different minor.
- If the degrees are in two different schools, a student must meet the requirements with distinctly different majors and minors, wherever applicable, in each school.
- Students must obtain approval from the Office of the Senior Vice Provost and Dean of Undergraduate Education to pursue dual degrees in different schools.

As a general rule, college credit hours more than 12 years old are not recognized for degree purposes. Students in this category should consult their academic deans.

A student must apply for graduation on CaneLink during the semester in which they expect to graduate.

Graduation Honors

University Honors (summa cum laude, magna cum laude and cum laude) will be determined by a minimum GPA unique to the school or college from which the student is graduating. The GPA required will change each

academic year and will be based on the cumulative GPA of the previous year's graduating class.

Visit the Honors Program and Office of Academic Enhancement website at www.miami.edu/honorsprogram (<http://www.miami.edu/honorsprogram>) for specific GPA requirements each academic year to determine eligibility for graduation with University Honors.

The top 5% of the graduating class will receive summa cum laude within each individual school or college; the next 10% will receive magna cum laude, and the next 10% cum laude.

Eligibility for University Honors for each student is determined by the lower of two GPAs:

1. UM cumulative graduation GPA
2. Combination GPA (UM cumulative graduation GPA + Transfer GPA)

A student must meet the required GPA by the completion of the final semester within his/her school or college to be eligible to graduate with the honor.

Diplomas and Transcripts

No diplomas or official transcripts are released from the Office of the Registrar without the approval of the Office of Student Account Services.

The last date on which application may be made for each graduation period is published in the Academic Calendar. The academic deans are the only officers authorized to approve placing the student's name on the candidate degree list.

Diplomas are issued after the student's graduation has been awarded by the school/college and noted on the student's official transcript. The diploma must be issued in the name on the student's academic record. Addition or omission of a middle name is acceptable. The addition of a middle name will be acceptable only as it appears on the student's application for admission. If the middle name is not on the application or if the student wants another version, documented proof of a legal name change must be presented to the Office of the Registrar.

Official transcripts are issued only upon receipt of a secure electronic request through the university's online transcript system or a written and signed request from the student is received in the office. Payment for the transcripts is required before they will be sent.

Unofficial transcripts are available free of charge to students through CaneLink.

Student Status

Academic Bankruptcy

Students entering college sometimes perform at an unacceptable academic level. They either drop out or are dismissed. Some individuals with this experience re-evaluate their educational goals and desire to return to college. Their academic record, however, may present an insurmountable obstacle. Undergraduate students in this category who want the opportunity for a fresh start at the University without this handicap may apply for admission or readmission with the request that their prior academic record be disregarded.

In order to be considered for academic bankruptcy, a student's combined college grade point average must be below 2.00 as calculated by the Office of Admission.

Application for Initial Admission to the University with Academic Bankruptcy

The applicant must apply to the Office of Admission and:

1. Must have been admissible to the University as a senior in high school,
2. Must have attended an accredited institution for at least one year and must not have attended any college or university for the preceding six months, and,
3. Must not be admissible to the University based on his or her college-level work.

Application for Readmission to the University with Academic Bankruptcy

A University of Miami student who has dropped out or who has been dismissed may request Academic Bankruptcy on meeting these conditions:

1. The student must apply to the Office of the Registrar.
2. At least six months must have elapsed since the end of the semester in which the student was last in attendance at the University of Miami.
3. Detailed written evidence must be provided with the readmission application, showing that the conditions or factors that caused the poor performance have changed sufficiently, so that there is a reasonable expectation of future satisfactory performance.

Conditions of Approval

1. If Academic Bankruptcy is approved, no course credit hours earned previously will be displayed on the transcript for credit hours attempted, credit hours earned, or quality points earned; however, all grades¹ earned previously will remain on the transcript.
2. Readmission applicants with approval from the dean of the accepting school, may have Academic Bankruptcy apply only to those credit hours taken by the student when last in attendance at the University of Miami, so that credit hours earned at another institution subsequent to the date the student last attended the University are not affected.

¹ All grades, good or bad, are invalidated during this process and will not be reinstated at any future time.

Academic Bankruptcy will be granted only once for any student.

Certification of Enrollment

Students who require certification of enrollment for insurance or education loan purposes may obtain an enrollment letter via their CaneLink¹ account (<https://canelink.miami.edu>) or by submitting a request in writing to the Office of the Registrar. Enrollment verification via CaneLink is available after the last day to drop without a "W". Please refer to the University's academic calendar for specific dates.

Enrollment Verification letters will include only information maintained in the university's official academic record system. The Office of the Registrar will not alter, amend or add anything to the standard letter. Notarization is available upon request.

Students will be certified as currently enrolled once they have met their financial obligations. If a student is delinquent in paying his/her tuition and fees statement balance and/or Monthly Payment Plan, the University will not process transcript and/or diploma requests. Course selection/modification will not be permitted for any previous, current or future semesters. The student is not considered enrolled during the term in question, which means that certification of enrollment cannot be provided for insurance, student loan deferment or repayment purposes. Non-payment also means the student is ineligible for financial assistance awarded for the term in question. A late payment fee may be assessed on delinquent accounts.

Students who require enrollment certification for scholarship purposes only, will be conditionally certified until financial obligations are met.

¹ For students who do not have a Social Security number, verification letters are generated by the Office of the Registrar. Letters are typically generated in seven (7) business days but may take longer during our registration period and the first two weeks of classes.

Classification of Students

Students are classified in three ways:

1. by course load (full- or part-time);
2. by objective (degree sought, non-degree, transient, audit, etc.);
3. by year.

By Course Load

A student is a full-time student if he/she carries not less than the minimum normal load, 12 credit hours per semester in most schools, nine credit hours in the Graduate School (please refer to the Graduate section for exceptions). The minimum credit hour loads in a summer session will vary for each category, according to the length of the sessions. (A typical full-time class schedule for fall and spring semesters not requiring override approval from an advisor consists of 15 credit hours. In some cases, students are recommended to enroll in fewer than 15 credit hours.) Please refer to the university's full-time/half-time policy located at www.miami.edu/registrar (<http://www.miami.edu/registrar>). For spring semester, Intersession courses can be included when evaluating full-time status. It is important to note that tuition charges for Intersession courses typically are separate from and in addition to charges for the spring semester. Full-time status may vary from one college or school to another. Students should consult with the dean of his/her college or school for details.

By Objective

A degree student is one whose immediate educational objective consists wholly or principally of work normally credited to a University of Miami bachelor's or higher degree. To qualify for this status, a student must meet the standards for admission.

A non-degree student is one who is not pursuing a degree program. Such students are those who, although eligible for degree candidacy, have requested permission to take a limited or special selection of credit hour

courses without regard to requirements for a degree. This classification includes high school graduates and students with previous college credit hour

1. who do not want degree status;
2. whose applications for degree status are incomplete;
3. who are taking work toward teacher certification;
4. who are workshop applicants;
5. who are visiting summer school students. (Students under 21 years of age who have not completed high school will not be admitted to this status.) Non-degree students are sub-classified as transient, special, etc.

An undergraduate non-degree student may petition the Director of Admissions to have his/her status changed to that of degree student. Up to 30 credit hours earned in non-degree status may be applied towards a degree, but only to the extent approved by the appropriate academic dean. It is therefore important that the degree student identify himself/herself as such, early in his/her program.

By Year

- A freshman is a degree student who has earned 0 to 29 credit hours.
- A sophomore is a degree student who has earned 30 to 59 credit hours.
- A junior is a degree student who has earned 60 to 89 credit hours.
- A senior is a degree student who has earned 90 credit hours or more.

Transient Student

A transient student is one who is enrolled at the University of Miami with the sole intention of using credit hours earned toward graduation elsewhere.

Audit Student

An audit student is one who enrolls as an observer or listener only. Auditing is allowed only when there is space available in the class. Audit status may be restricted by the Dean in the case of laboratory, studio or performance courses where audit status is not appropriate. Audit students receive no credit hour, do not prepare written assignments or take examinations, are not eligible for residence in campus residence halls, and do not receive student privileges except for the use of the library. No entries are made on the permanent academic record for audited courses.

Students wishing to change from audit status to credit hour status must obtain all necessary approvals within two weeks following the last day of registration for Fall and Spring semesters and no later than the fifth class day following the last day of registration for Summer Sessions. No changes except withdrawals from the course are permitted after this time.

Note: Fee for auditing a course is non-refundable. Please refer to financial information section of the bulletin.

Undergraduates Taking Graduate Coursework

University of Miami undergraduates within 30 credit hours of meeting the requirements for the Baccalaureate Degree may be considered for

concurrent admission to graduate study in non-degree graduate status, and in this status may take and receive credit hour for graduate courses, while completing the requirement for the baccalaureate. The application may be found at: https://umshare.miami.edu/web/wda/grad/forms_/web/undergrad_take_grad_course.pdf.

Admission to Graduate Status requires:

1. Must have a minimum of 3.000 G.P.A.
2. The submission of an Undergraduates to Take a Graduate Course form (which can be obtained at the Graduate School) which will not require the application fee;
3. The written approval of the Chairman of the Department, the Dean of the Undergraduate School or College, and of the Graduate Dean prior to registration on the form.

Admission to Graduate status does not automatically admit the student, upon graduation, to status as an applicant for a graduate degree at the University of Miami.

The graduate credit hours earned may NOT be used to meet undergraduate graduation requirements or be used to meet the 120 credit hour requirements at the University of Miami.

No more than six (6) credit hours may be taken in one semester, and no more than a total of twelve (12) credit hours may be taken while in Graduate Status. Students may take no more than 13 credit hours of combined undergraduate and graduate courses per semester.

Students electing Graduate status must register and be processed centrally at the Office of the Registrar.

Eligibility for University Extracurricular Activities

Full participation in University-sanctioned extracurricular activities and organizations is open to all full-time students who are not on academic probation and who have been assessed the Student Activity Fee. Extracurricular activities include, but are not limited to the following: academic, athletic, dramatic, or musical organizations or teams; student organizations registered with the Committee on Student Organizations (COSO); fraternities and sororities; student publications; program boards; and University committees.

Students on probation may participate in any activity required as partial fulfillment of their degree program; may attend meetings of organizations; and may play intramural sports. They may not otherwise compete, perform, or hold a leadership position. At the beginning of each fall semester, the activity's faculty or staff advisor or appropriate committee chairperson shall determine with the Office of the Provost the eligibility of each participating student. Some activities apply stricter standards, and may monitor academic progress and review eligibility during the academic year. Students should consult with the individual activity for specific requirements.

Readmission

Undergraduate students who have not attended the University for at least one semester should request readmission through the Office of the Registrar no later than two weeks before the beginning of classes, in the semester they wish to re-enroll. Readmission to the University is

contingent upon approval of the Dean of the school/college the student is applying to and clearance from the Office of Student Account Services.

International students who seek readmission must receive clearance from International Admission and submit a bank letter to receive an I-20 from International Student and Scholar Services.

Specific details on the readmission process can be found at: http://www.miami.edu/index.php/registrar/inactive_status_readmission_withdrawal/readmission_information/

Students who have attended another college or university since they were last enrolled at the University of Miami, will be required to provide a transcript of their work. Failure to disclose all prior institutions attended may result in disciplinary action.

An undergraduate student who has applied to graduate for a given semester will not be eligible to register for any subsequent semester until the student applies for readmission or admission to a new program. A candidate for graduation may wish to continue his/her studies in one of the following situations:

1. If the student fails to graduate and further registration is needed, they must delete their application for graduation in CaneLink and within twenty-four hours, registration for subsequent semesters or sessions should be available. Students should contact the Office of the Registrar for assistance.
2. If the student graduates and wishes to pursue a second bachelor's degree, the student must apply for readmission, stating his/her new degree objective.
3. If the student graduates and wishes to take additional course work without a degree objective, the student must apply for unclassified status.

Proof of immunization must be provided to the Student Health Service before readmission to the University of Miami. Failure to do so may prevent you from registering for classes.

Inactive Status

Inactive status is available to continuing, undergraduate, degree-seeking students who intend, and qualify, to re-enroll at the University of Miami after leaving the university for a designated period of time. This status is used when students will not be taking classes at another institution. Students interested in this option may obtain further information at <https://umshare.miami.edu/web/wda/registrar/Forms-1/InactiveStatusNotificationForm.pdf> or by visiting the Office of the Registrar.

Non-UM Programs

Students who study through a non-UM program, domestic or study abroad, and would like to have those credit hours applied toward their UM degree, should apply for Non-UM Program status. For more specific information on the Non-UM program please see the application:

<https://umshare.miami.edu/web/wda/registrar/Forms-1/Non-UM%20ProgramApplication.pdf>.

Non-UM is only available in the Fall and Spring semesters.

Student Identification Numbers

All students at the University of Miami will receive an identification number that is unique to them. This number supplements the social security number, which is also required by the university in order to provide information to the federal government and approved agencies. Access to social security numbers is limited to staff who have a legitimate need for that information.

Transfers Between Schools and Colleges

Undergraduate students who have compiled fewer than sixty (60) credit hours may transfer between schools and colleges provided that such students:

1. Demonstrate their academic admissibility to the new program (as defined by class rank and SAT scores) at the time of their original matriculation at the University;
2. Satisfy any special criteria required for admission by a particular program (e.g., auditions in the arts, portfolios in architecture, etc.); and
3. Obtain the approval of the Dean of the receiving school or college.

It is a general policy of the University that students admitted to degree seeking status may not transfer to an unclassified status.

Students who have compiled 60 or more credit hours with an average of 2.0 or higher and who have satisfied all of the above three conditions may be eligible to transfer between schools and colleges pending space availability and additional program requirements.

Admission

The University of Miami is a member of the National Association for College Admission Counseling and subscribes to its Statement of Principles of Good Practice.

Freshman Admission

The Admission Committee reviews applications and bases admission decisions on the following factors:

- **The Secondary School Record.** The applicant must be in the process of completing graduation requirements at a regionally accredited secondary school or must be a graduate of an accredited secondary school. The applicant must have successfully completed a solid college preparatory program including English, Mathematics, natural sciences, social sciences and foreign language.
- **Standardized Tests.** *Applicants attending schools in the United States must submit official SAT or ACT results. The results of these tests, together with the secondary school record, provide a better measure of the ability of a candidate to perform college level work successfully than can be obtained by either measure alone. Applicants graduating from a secondary school outside of the United States **should not** submit SAT or ACT results.*
- **The Counselor's Evaluation Form.** This form is to be completed by the applicant's secondary school counselor and includes rank in class, test score information, and an evaluation of potential for academic success in the student's area of interest.

- **The Essay.** Since each applicant is considered individually, the Essay provides the opportunity to present information that may assist the Admission Committee as it evaluates the application for admission.

See admission procedures for freshmen (http://www.miami.edu/admission/index.php/undergraduate_admission/apply/freshman/freshman_application_instructions).

Transfer Admission

Transfer admission may be granted in most fields of study to students who have earned credit hours from other regionally accredited colleges or universities. Courses completed with **passing grades of C or higher** at other colleges and universities and acceptable for academic credit hours by the University of Miami, will be verified, and where appropriate, will be translated into University of Miami equivalents by the Office of Undergraduate Admission. However, the Dean of the College or School within the University from which the student plans to graduate determines which transferred courses may be counted toward meeting graduation requirements of that College or School.

Transfer of Credit Hours to UM

Work taken at other institutions will appear on the University of Miami transcript in separate entries as:

1. The total number of transferable credit hours attempted and quality points earned, regardless of grades, and
2. The total credit hours transferred, which shall be the total credit hours for which a grade of C or higher was earned.

*Note: Only the transfer totals earned are added to the University of Miami totals. Total credit hours attempted and quality points earned elsewhere are **not included** in the University of Miami totals.*

The University does not accept transfer credit hours for courses in which a grade of C- and below (or the equivalent grade) was earned. However, grades of C-, D, and F are used to calculate the transfer admission grade point average.

Credit hours are not transferred from institutions not accredited by the appropriate regional accrediting association. Limited exceptions may be made with the approval of the Dean in the College or School of the student's major. Credit hours transferred from institutions not in existence long enough to attain regional accreditation must be validated by the attainment of a C average or better in the first 12 credit hours of course work taken at the University of Miami.

The University does not have a coursework forgiveness policy. The grades of any repeated courses will be averaged.

A student may not repeat a course in which a grade of C or higher has been earned. This is considered an illegal repeat.

Upper division course requirements (300 level or above) at the University may not be satisfied with community college courses.

After being offered admission and enrolling, a student must submit any final college transcripts with grades, AP, IB, AICE or CLEP examination scores for review by the end of the first semester of enrollment. Any documents listed above which are submitted after this time period will not be reviewed and credit hours will not be awarded.

Required Credit Hours in Residence at the University of Miami

A student transferring credit hours from a 2-year community or junior college (this being the last school attended) must complete a minimum of **56 credit hours in residence** at the University of Miami to earn an undergraduate degree.

A student transferring credit hours from a 4-year college or university (this being the last school attended) must complete a minimum of **45 credit hours in residence** at the University of Miami to earn an undergraduate degree.

At least **half of the credit hours** required for the chosen Major or Minor must be completed at the University of Miami.

See Admission procedures for transfer students (http://www.miami.edu/admission/index.php/undergraduate_admission/apply/transfer_applicants/transfer_application_instructions).

Undergraduate International Admission

ELIGIBILITY FOR ADMISSION (http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/eligibility_requirements_by_country)

Admission Procedures for International Students

Educational Documents

Diplomas, Certificates

Copies should be enclosed with the application. Students from countries following the British educational system must submit certified photocopies, or ask the examinations council to mail confidential results to the University of Miami. Reports of scores in school-leaving examinations (e.g., Baccalaureate) must also be submitted.

Transcripts, Statements of Marks

A transcript must contain the following information: subjects studied; marks (grades) awarded; length of class periods; number of periods per week for each subject; and grading scale with minimum passing mark. Year-by-year records of marks should be sent to the University of Miami directly from U.S. institutions. Certified records from foreign institutions may be submitted by applicants, but the University may sometimes insist that such transcripts be sent directly to the University of Miami from the issuing institutions. All secondary and tertiary transcripts must be submitted.

English Translations

Documents in a language other than English must be accompanied by certified English translations. Notarized translations will not be accepted. Translations supplement but do not replace original documents. Please remember to send both.

Syllabus of university study (description of each course or subject studied accompanied by certified English translations. Notarized translations will not be accepted).

A current (within the past six months) bank or government sponsorship letter guaranteeing payment for tuition and fees, books, room and board,

medical insurance and personal expenses for one calendar year (two semesters and two summer sessions) is required.

Examinations for International Students

All international students whose native language is not English, including those applying for transfer from U.S. institutions, are required to submit the results of the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). The TOEFL code for the University of Miami is 5815.

The SAT score report is **not required and should not be submitted for admission consideration** from applicants who are attending schools outside the United States. Applicants should only submit an SAT score report if they qualify for merit scholarship consideration.

Please see the TOEFL Score Requirements

(http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements).

Conditional admission: Academically qualified applicants who are unable to take the TOEFL, or who have scored less than the required minimum, may be offered admission to undergraduate programs with the condition that they successfully complete level five of the University of Miami Intensive English Program or obtain a 550 TOEFL and higher. University of Miami TOEFL code number is 5815, and the IELTS code number is 4861.

Institutional TOEFL scores are designed for academic placement use at the University of Miami. Those needing TOEFL for admission to the University of Miami or for use elsewhere should take the TOEFL iBT instead. Visit www.ets.org/toefl/ (<http://www.ets.org/toefl/>) for more information about the TOEFL iBT.

Please see the IELTS Score Requirements

(http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements).

IELTS is the International English Language Testing System. It measures ability to communicate in English across all four language skills – listening, reading, writing and speaking – for people who intend to study or work where English is the language of communication.

IELTS Course ID (codes): Undergraduate Admission – 4861; Graduate Admission – 4862. For more information, visit http://bandscore.ielts.org/course_info.aspx?OrgId=3187.

Programs of Study

International students are eligible to apply for all programs offered at the University of Miami. It should be noted that medicine and law are studied at the graduate level in the United States, and it is therefore inappropriate for undergraduate international applicants to request these programs.

Financial Information

The University of Miami has no financial assistance for international students other than academic scholarships. International students must provide funds for all of their expenses during the entire period of study, including travel and vacations. Students who would not be able to cover their expenses are best advised not to apply for admission.

Early Admission

A limited number of carefully selected students who are currently enrolled in high school and who have completed three years of study may be admitted to the University as freshmen. Early admission applicants typically have a very strong academic background and demonstrate a mature character.

Students who wish to apply under Early Admission must have the support of his/her parents, guidance counselor, and high school. Early applicants must also schedule an interview with the Office of Undergraduate Admission.

Early Admission applicants must submit official high school transcripts, SAT or ACT examination results, and all other supporting documents required to complete the application as part of the admission process.

Early Admission applicants will be notified of an admission decision by June 1 or after receipt of grades from the final high school year completed.

Since every applicant must be appraised individually, no general qualifications can be listed. Students interested in early admission may send inquiries and requests for applications to the Office of Undergraduate Admission.

Advanced Placement/Credit

The University allows students to receive college credit hour toward graduation from the following programs: Advanced Placement, International Baccalaureate, Dual Enrollment, and College Level Examination Program. To have Advanced Placement, International Baccalaureate, or College Level Examination Program credit hours evaluated, the student must submit an official test result report to the Office of Undergraduate Admission. The University of Miami does not give credit hour for CLEP Foreign Language and General Examinations. Students taking Dual Enrollment courses (college courses taken while still in high school) must submit an official college transcript for review of potential transfer credit hour. Please refer to the transfer student section for requirements to transfer college coursework.

A student must submit official AP, IB, Dual Enrollment transcripts or CLEP results no later than the end of the first semester of enrollment for review. Documents submitted after this time period will not be reviewed and credit hour will not be awarded.

The University will accept no more than 60 credit hours from these programs to count toward the 120 credit hours required for graduation.

GED Scores

Submitting GED Scores

An applicant may apply to the University upon completion of the GED in lieu of completing high school. When applying with the GED, the applicant must submit official high school transcripts up to the time of withdrawal, as well as the official GED score report and diploma.

Applicants submitting the GED must achieve the following scores to be considered for admission. These scores should be considered a guideline and do not guarantee admission to the applicant.

For exams taken in English:

Overall score of 2800
No subscore below 500

For exams taken in any language other than English:

Overall score of 3000
No subscore below 600

It is strongly suggested that applicants submitting the GED in any language other than English also submit a TOEFL score.

Non-Degree Enrollment

Adult Student Access Program (A.S.A.P.)

For information and policies regarding enrollment for classes in a Non-Degree seeking status, please visit:

<https://next-bulletin.miami.edu/undergraduate-academic-programs/continuing-international-education/adult-student-access/>

For more information, please contact:

The Adult Student Access Program
Division of Continuing Studies
University of Miami
P.O. Box 248005
Coral Gables, FL 33124-1610
305-284-4000

Financial Assistance

<http://www.miami.edu/admission/index.php/ofas/>

The Office of Student Financial Assistance (<http://www6.miami.edu/ofas/>) and Employment (<https://www.miami.edu/ofas/>) administers federal, state, private and University financial assistance programs. Our office awards financial assistance for Undergraduate and Graduate/Professional students. We communicate with our students mainly through the **CaneLink** (<https://canelink.miami.edu>) system regarding any information we might need in order to complete the financial aid process. Medical students should contact their respective financial aid office.

Office of Student Financial Assistance and Employment

P.O. Box 248187
Coral Gables, FL 33124-5240
Telephone: 305-284-6000
Fax: 305-284-4082
Hours of Operation:
Monday-Friday (8:30 am - 5:00 pm EST)

Undergraduate Undergraduate Financial Assistance

It is the purpose of the Office of Student Financial Assistance and Employment to provide need base assistance and/or academic achievement awards to qualified students in the form of scholarships, grants, loans and work programs (http://www.miami.edu/index.php/office_of_financial_assistance/ug/ug_aid) to the extent that resources are available. Professional financial aid and student employment

advisors are ready to assist all students plan for the most efficient use of their financial resources for education.

Underlying the awarding of need-based financial assistance is the philosophy that the student and family have the primary responsibility for educational costs. Need-based financial assistance serves to supplement these primary resources.

- Students who require financial assistance in order to attend the University should apply for assistance each academic year.
- Candidates for admission should indicate their interest in financial assistance by checking the box provided for that purpose in the application for admission.
- The U.S. Department of Education's Free Application for Federal Student Aid (FAFSA) (<http://www.fafsa.ed.gov>) is used to determine eligibility for federal need based assistance. The FAFSA must be completed for each academic year.
- Beginning with students who entered during the 2014-2015 academic year (including readmitted students) the College Board's CSS Financial Aid PROFILE Application is required to determine institutional need based financial aid awards. The PROFILE application must be completed each academic year to determine renewal eligibility.

Admission Application Option (App Deadline)	PROFILE, Prior Year Tax Transcripts and W-2's Deadline	FAFSA Deadline	Current Year Tax Transcripts and W-2's Deadline
Early Decision I & Early Action (November 1)	November 1	February 1	April 15
Early Decision II (January 1)	January 1	February 1	April 15
Regular Decision (January 1)	February 1	February 1	April 15
Transfer (Fall-March 1)	March 1	March 1	April 15
Continuing Student	N/A	April 15	April 15

Important Financial Aid Tips

- Financial aid applications are accepted throughout the year but it is important to note that the appropriate preference date for receipt of aid applications must be met as aid is awarded on a funds available basis.
- **DO NOT WAIT FOR YOUR ADMISSION DECISION TO APPLY FOR FINANCIAL AID.** Financial aid resources are limited and there is no guarantee of assistance for students who do not submit appropriate documentation by the deadline posted above. **Your financial aid application will not be considered complete until all documents are received.**
- Apply for an FSA ID from the Department of Education early: <https://fsaid.ed.gov/npas/index.htm>.
- Keep a checklist and copies of all forms submitted. Put the applicant's name and UM ID# on all forms submitted.
- Use your best estimate of current income information when completing the FAFSA and PROFILE if your federal tax returns

have not been completed by the application deadline. Submit your complete current year federal tax transcripts to our office by April 15.

- If you are not required to file a federal tax return and will not be filing, please notify us in writing

Financial Aid Census Date

Effective Fall 2014, financial aid awards will be set according to a census date or date of fixed enrollment. All financial aid awards will be set according to the enrollment in effect at the close of business on the last day of the drop/add period each regular term semester. No adjustments will be made to the financial aid awards for any enrollment changes (increases or decreases) made after this date with two exceptions:

1. Bright Futures awards will continue to be adjusted (increased or decreased) according to any change in the enrolled credit hours.
2. The aid award package for students with federal financial aid and who completely withdraw (drop to 0 credit hours enrolled) will be adjusted according to the regulatory required Return To Title IV Calculation.

Graduate/Professional Graduate and Doctoral Students

It is the purpose of the Office of Student Financial Assistance and Employment to provide federal financial aid assistance to qualified students in the form of loans and work programs (http://www.miami.edu/index.php/office_of_financial_assistance/ug/ug_aid) to the extent that resources are available. Professional financial aid and student employment advisors are ready to assist all students plan for the most efficient use of their financial resources for education. Law, Graduate and Doctoral students need only complete a few steps in order to receive notification and disbursement of federal awards.

1. Apply for Admission to a Graduate Program or the Law Program at the University of Miami.
2. Complete the Free Application for Federal Student Aid (FAFSA).
3. Accept, reduce or decline your awarded aid via CaneLink.
 - a. First-time loan borrowers must complete Entrance Counseling at the Department of Education website (<http://www.studentloans.gov>).
 - b. A signed Promissory Note for both the Unsubsidized and the Graduate PLUS Loan are required if either loan is utilized. Each should be completed at the Department of Education website (<http://www.studentloans.gov>).
 - c. Students receiving the Graduate PLUS Loan must have an approved credit check conducted by the Department of Education in order for the loan to be disbursed.

Your financial aid award may consist of loans, scholarships, tuition waivers or a combination. Aid is offered to a student's maximum eligibility as determined by enrollment and the Cost of Attendance (COA).

Some of the aid programs which may be offered to a Law, Graduate or Doctoral student:

Federal Direct Unsubsidized Stafford Loan: the interest becomes due to the student upon the disbursement of the funds. However, a student may choose to capitalize the interest which will accrue and result in additional

indebtedness when repayment begins. Eligibility is not based on need and is up to \$20,500 for an academic year.

Federal Direct Graduate PLUS Loan: Borrowers may be eligible to request up to the cost of attendance minus other financial aid. Your award letter includes your maximum loan eligibility for the Federal Graduate PLUS Loan. This loan is based on the borrower not having an adverse credit history. Once you have accepted the offered loan amount on CaneLink, a credit check will be conducted by the US Department of Education. You will be required to have completed a Master Promissory Notice as well as Entrance Counseling (first time borrowers only). In the event your loan is declined, you have the option of appealing that decision or reapplying with an endorser; however, the Department of Education will then require you complete Credit Counseling in order to approve the disbursement of your loan.

First-time borrowers will need to complete the online Federal Direct Stafford Loan Master Promissory Note (MPN) and Loan Entrance Counseling with the Department of Education. Students may complete all federal student loan applications and entrance counseling at the Department of Education website (<http://www.studentloans.gov>).

Scholarships and Tuition Waivers are exclusively handled by the respective department. Our office is notified of scholarships/waivers by the department and it is then added to your award package. Adjustments to your Graduate PLUS Loan and/or other aid may take place upon notification to prevent an over award of aid.

In order to receive a graduate assistantship or fellowship, a graduate student must:

- Be admitted unconditionally to a post-baccalaureate degree program;
- Be enrolled for full-time study; and
- Maintain a cumulative graduate grade point average of 3.0 or above.

For additional information, please visit the Law School Website at www.law.miami.edu (<http://www.law.miami.edu>) or the Graduate School Website at www.miami.edu/grad (<http://www.miami.edu/grad>). For specific information regarding graduate programs, contact the Graduate Advisor of the respective program. For information regarding loan and work-study opportunities, visit the Office Student Financial Assistance and Employment website at www.miami.edu/ofas (<http://www.miami.edu/ofas>).

Graduate Online

For United States citizens and eligible non-citizens, federal financial aid is available for online programs.

- Applying for Financial Aid (http://www.miami.edu/index.php/office_of_financial_assistance/g/g_applying), UM
- Costs and Financial Aid (http://www.miami.edu/gs/index.php/graduate_school/costs_and_financial_aid), UM

Eligibility

Please see the University's Financial Aid (p. 31) website for eligibility criteria.

- http://www.miami.edu/index.php/office_of_financial_assistance/g/g_applying/eligibility/

Applying for Financial Aid

To apply for financial aid, submit the Free Application for Federal Student Aid (FAFSA) at <https://fafsa.ed.gov/>. Be sure to include the University of Miami school code **001536**.

http://www.miami.edu/index.php/office_of_financial_assistance/g/g_applying/g_apply/

Awarding and Disbursing Financial Aid

Key Points and associated deadlines:

- Awards are processed on a rolling basis and are done annually, one academic year at a time (3 terms per academic year: Fall, Spring and Summer).
- Students are strongly encouraged to begin the application process at least **four weeks** prior to the start date of their program or renewal date of their existing loan.
- Applications will be accepted in the **last 30 days of the term**, but the Office of Student Financial Assistance and Employment cannot be held responsible if funds are not available for disbursement for the term. Delays can occur that are outside of the control of the Office of Student Financial Assistance and Employment.

New Students

The Office of Student Financial Assistance and Employment will award Financial Aid for new students when

- FAFSA has been received
- A student has been fully admitted
- Student has enrolled in classes

Financial Aid will be disbursed only when:

- All Official transcripts have been received by the University
- After the last day to add/drop and when attendance has been confirmed

Continuing Students

The Office of Student Financial Assistance and Employment will award Financial Aid for continuing students only when

- FAFSA has been received
- The student has enrolled in classes

Financial Aid will be disbursed only when:

- After the last day to add/drop and when attendance has been confirmed.

Maintaining Eligibility, including Satisfactory Academic Progress

Students must maintain all federal aid eligibility requirements for the entire term. Please see the eligibility (p. 33) page for specific criteria for maintaining eligibility.

http://www.miami.edu/index.php/office_of_financial_assistance/g/g_standards/

Federal and Institutional Need Based Aid SAP Policy

Federal and Institutional Need-based Satisfactory Academic Progress Policy

- In compliance with federal financial aid regulations, the University of Miami requires satisfactory academic progress (SAP) towards a degree as an eligibility requirement for federal and university need-based financial assistance. The SAP policy requires both a quantitative and a qualitative measure of a student's progress.
- This policy is applicable to all undergraduate, law, graduate and doctoral students receiving financial aid through federal aid sources, including the Federal Parent Loan for Undergraduate Students (PLUS).
- At the end of each semester, the Office of Student Financial Assistance and Employment Services reviews the academic progress of all University of Miami financial aid recipients.
- If it is determined that a student is not making satisfactory academic progress at the end of the semester, a notification is sent to the student. The student will be placed on financial aid warning for one semester. Aid will not be withdrawn for the subsequent (warning) term, but at the end of that term, the student's academic record will be reviewed by Office of Student Financial Assistance and Employment and appropriate renewal or termination actions will be taken. Notification will be sent to the student detailing information on the appeal process.
- Federal academic progress policy is subject to change based on guidelines and changes made by the U.S. Department of Education.

Undergraduate

Credit Completion and Cumulative Grade Point Average Requirement for all Federal Aid and UM Need-based Assistance

Undergraduate Students

A student must have earned at least 67% of the total credit hours attempted during his/her overall academic career. Graduate level credit hours cannot be combined to meet the 67% requirement; however, credit hours transferred into the University of Miami are used in the calculation.

The percentage of earned credit hours is calculated by dividing earned credit hours by all attempted credit hours. Rounding does not apply (e.g.: student completes 21 of 31 attempted credit hours therefore percentage complete is $21 / 31 = 67\%$).

- Withdrawals, Incomplete, Audits, and Fs are attempted but not considered earned hours.
- Reinstatement of aid eligibility can be obtained by earning additional University-approved credit hours, achieving the 67% completion requirement, or having an appeal approved by a committee as outlined later in this section.
- The University reviews progress at the end of each semester. Aid eligibility will be restored upon determination that the progress requirements have been met.

All undergraduate students must meet and maintain the University of Miami credit hour and cumulative grade point average (CGPA)

requirements to maintain satisfactory academic progress. The criteria listed below must be met to receive federal and institutional financial assistance administered by the Office of Student Financial Assistance and Employment.

Credit Hours Earned	Minimum Cumulative G.P.A.
0 to 32	1.7
33 to 64	1.8
65 to 96	1.9
97 +	2.0

This criteria does not apply for meeting requirements for University of Miami scholarships and State of Florida financial aid. State of Florida financial aid and University of Miami academic scholarships have their own CGPA requirements.

Maximum Period of Eligibility for All Financial Assistance Awards

- Degree-seeking undergraduate students receiving federal aid must complete their degrees within 150% of the normal time for completion as determined by the school or college catalog under which the student was admitted. For example, if an academic program requires 120 credit hours, the student must complete the program within 180 total credit hours. Credit hours used in this calculation include those accepted for transfer and those attempted at the University of Miami.
- Pell Grant eligibility is limited to 12 full time semesters or the equivalent (e.g.; two half-time semesters equal one full time semester) www.studentaid.ed.gov/pell-limit (<http://studentaid.ed.gov/PORTALSWebApp/students/english/PellLimit.jsp>).
- Students receiving university need-based grants are limited to four years of eligibility (five years of eligibility for the five-year undergraduate degree programs).

Graduate/Professional Federal Financial Aid Semester Review - Graduate and Doctoral

- A student must have earned at least 67% of the total credit hours attempted during his/her overall academic career. Undergraduate and graduate level credit hours cannot be combined to meet the 67% requirement; however, credit hours transferred into the University of Miami are used in the calculation. The percentage of earned credit hours is calculated by dividing earned credit hours by all attempted credit hours. Rounding does not apply. (e.g.: Student completes 21 of 31 attempted credit hours, percentage complete is $21 / 31 = 67\%$).
- Withdrawals, Incompletes, Audits, and F's are attempted but not considered earned hours.
- Credit hours transferred into the University of Miami will be counted as credit hours attempted and credit hours earned.
- Reinstatement of aid eligibility can be obtained by earning additional University approved credit hours, achieving the 67% completion requirement, or having an appeal approved by a committee as outlined later in this section.
- The University reviews progress at the end of each semester. Aid eligibility will be restored upon determination that the progress requirements have been met.

Graduate students must be enrolled at least half-time in order to receive federal financial assistance. A minimum of 5 graduate credit hours constitutes at least half-time enrollment at the graduate level. The only exception to this credit hour requirement is enrollment in any of the 800-level research courses. Students enrolled in any of these courses are considered full-time and are eligible for federal loans.

Graduate and Doctoral Students

All University of Miami graduate and doctoral students must maintain a minimum 3.0 cumulative grade point average (CGPA). Graduate students who fail to meet the minimum credit hour or cumulative grade point average requirements have failed to meet the satisfactory academic progress standards established by the University. Those in violation of the satisfactory academic progress eligibility requirements will be notified in writing of their eligibility status and right to appeal.

Maximum Period of Eligibility for All Financial Assistance Awards

- Graduate students may receive federally-funded assistance for the time to complete their degree requirements in accordance with limits set by the Graduate School. The limits are: six (6) years for those studying for the various masters degrees and 8 years for those studying for doctoral degrees. Students pursuing dual masters degrees will receive aid for a maximum of six (6) years. Students in a combined masters degree/doctoral degree program are eligible for assistance for a maximum of eight (8) years.
- Time to completion starts when a student begins any program in the Graduate School, whether it is a masters or doctoral program. All work must be completed within six years of the time of admission to graduate work, for those studying for the various masters degrees; and within eight years for those studying for doctoral degrees. For those admitted directly into a Ph.D. program without a masters degree in field, work must be completed within eight years. Individual programs may be set to a shorter time period.
- Graduate students who plan to enroll in a graduate degree program should keep in mind their aggregate loan limits. For more information, go to the National Student Loan Data System (NSLDS) at <http://www.nsls.ed.gov>. This site displays information on loan amounts, outstanding balances, loan statuses and disbursements.

Law School Students

Please visit the Law School Website for the Satisfactory Academic Progress Policy for Law Students: <http://www.law.miami.edu/financial-aid/standards-of-academic-progress.php?op=3>

Scholarship SAP Policy

Undergraduate only

- The academic scholarship is available to undergraduate students enrolled full time in a course of undergraduate study leading to the first bachelor's degree.
- First-time freshmen are eligible for University of Miami academic scholarships for four years (eight consecutive semesters), or such shorter time required to complete the baccalaureate degree.
- Transfer students are eligible for University of Miami academic scholarships for two years (four consecutive semesters), or such shorter time required to complete the baccalaureate degree.

- Academic scholarships may be applied only to fall and spring semester coursework of undergraduate study only. They are not available during a summer term.
- Bachelor of Architecture students may receive the scholarship for five academic years (ten consecutive semesters), or such shorter time required to complete the degree. Bachelor of Architecture students admitted as a transfer student from another university may receive the scholarship for up to three academic years (six consecutive semesters), or such shorter time required to complete the degree.

Credit Hour and GPA Requirements for UM Scholarships

- Scholarship recipients must maintain a minimum 3.0 cumulative grade point average (on a 4.0 scale) for all credit hours earned at the University of Miami to retain their scholarship.
- All full-time undergraduate students are required to register for and complete at least 24 (a minimum of 12 each semester) new credit hours at the University of Miami each academic year, defined as the fall and spring semesters.
- Reinstatement of academic scholarship eligibility can be obtained by earning additional University-approved credit hours. The University reviews progress once a year at the end of the spring semester.
- Withdrawals, Incomplete, Audits, and F's are attempted but not considered earned credit hours
- Ronald Hammond scholarship recipients should refer to their contract for renewal criteria provided by the Office of Academic Enhancement (<http://www6.miami.edu/provost/oae>).

All 2014-2015 and prior academic scholarship recipients please refer to the Bulletin at the time when you were admitted into the university for scholarship renewal requirements.

Graduate/Professional Graduate/ Professional Only

Graduates scholarships awards are determined by the departments. A student's academic progress and eligibility for an award is monitored and evaluated by the departments.

State of Florida SAP Policy

The Florida Department of Education (<http://www.fldoe.org/students/financialaid.asp>) Office of Student Financial Assistance (<http://www.floridastudentfinancialaid.org>) has its own standards of progress for state financial assistance.

- All Bright Futures Scholarship recipients (includes Florida Academic and Florida Medallion scholarships) are eligible for up to 132 credit hours; however, eligible students may only receive up to 45 credit hours per academic year.
- 2009-2010 high school graduates and thereafter may receive up to 100% of his/her program of study or 120 credit hours (or the equivalent in quarter or clock hours) toward completion of his/her first baccalaureate degree, or for up to five years from high school graduation (if the student was initially funded within three years after high school graduation), whichever comes first.
- Florida Gold Seal Vocational Scholar recipients who graduate from high school in the 2009-2010 academic year and thereafter are

eligible to receive funding for up to 100% of their program of study, up to 90 credit hours.

- State of Florida Aid academic progress policy is subject to change based on changes made by the Florida Department of Education.

A student must earn at least 24 credit hours (or the equivalent) if enrolled full time for the entire academic year. A student enrolled full time (12 or more credit hours or the equivalent) for only one term must earn at least 12 credit hours for that term. If a student is enrolled part time for any part of the academic year, the student must earn a prorated number of credit hours. (See below). Initial eligibility must be at least 6 credit hours.

Student Funded (per term)	Required Earned Hours (per term)
12+ credit hours (Full Time)	12
9-11 credit hours (Three-Quarter Time)	9
6-8 credit hours (Half Time)	6

A student that fails to meet the minimum institutional grade point average (3.0 for Florida Academic, 2.75 for Florida Medallion and Gold Seal) will no longer be eligible for his/her Bright Futures award. Florida Academic recipients that fail to achieve a 3.0 institutional average, but achieve at least a 2.75 institutional average, will renew at the lower Florida Medallion amount. Recipients that fail to meet the progress requirements receive notice including information on the appeal process.

- Award Reinstatement: an eligible student that did not receive scholarship funds for the last academic year (fall through spring), may request reinstatement of the award. The student must complete a Reinstatement/Restoration application available on the Florida Department of Education Office of Student Financial Assistance (OSFA) website at <http://www.FloridaStudentFinancialAid.org> (<http://www.FloridaStudentFinancialAid.org>)
- Award Restoration: a student that failed to achieve a minimum 2.75 institutional GPA and became ineligible for funding may apply for restoration in an academic year **after** which the 2.75 institutional GPA requirement was met. (The 2.75 institutional GPA must be met before the fall term for which the student is applying.) The student must complete a Reinstatement/Restoration application available on the Florida Department of Education Office of Student Financial Assistance (OSFA) website at <http://www.FloridaStudentFinancialAid.org> (<http://www.FloridaStudentFinancialAid.org>)
- For 2009-10 and later high school graduates, if a scholarship is not renewed because of an insufficient GPA **during their first year of funding**, the scholarship may be restored in an academic year after the minimum institutional GPA requirement is met. Students who do not meet the **minimum earned credit hours** requirement or who fail to meet the minimum institutional GPA requirement **after** their first year of funding will **NOT** be permitted a restoration opportunity. ***State of Florida Aid academic progress policy is subject to change based on changes made by the Florida Department of Education.**
- Recipients of the William L. Boyd, IV, Florida Resident Access Grant (BFRAG) and Florida Student Assistance Grant (FSAG) must complete at least 24 credit hours each academic year with an institutional grade point average of at least 2.0. Classes taken in the previous summer may be included in calculating the completed credit hours (credit hours earned during summer of **2014** may be combined with the credit hours earned during the 2014-2015 academic year to

meet the 24 credit hour requirement). Please note that credits earned the previous summer at another institution may be counted if they are accepted as transfer credits to the University of Miami; however, this will have no impact on the CGPA calculation at UM.

- William L. Boyd, IV, Florida Resident Access Grant (BFRAG) and Florida Student Access Grant (FSAG) recipients are limited to nine semesters of eligibility.

Students that do not meet the annual minimum 24 credit hours requirement for renewal, may not receive funding the following academic year. To be eligible for renewal in a subsequent year, the student must meet the general eligibility requirements for renewal and have maintained/earned an institutional GPA of 2.0.

Students enrolling for only one semester must complete at least 12 new credit hours while maintaining the required institutional GPA.

SAP Appeals Process

Students that do not meet the academic progress requirements may submit a written appeal to request reinstatement of eligibility to receive aid. The student must complete the University of Miami's Academic Progress Appeal Form. This petition requires the student to:

1. Submit a written explanation as to why he/she was unable to meet or maintain the academic progress requirements; and
2. Submit documentation that substantiates the student's circumstances, such as a letter from a doctor or copies of medical bills if a student cites medical reasons for not meeting the requirements.

The appeal form (<https://umshare.miami.edu/web/wda/financialassistance/SAP15-16.pdf>) may be downloaded from the financial assistance website. Submit the Appeal Form and all documentation to the Satisfactory Academic Progress (SAP) Appeal Committee, c/o the Office of Student Financial Assistance and Employment. All appeals must be submitted no later than 30 days from notice of ineligibility. All appeals submitted completely and on time will be reviewed by the committee prior to the beginning of each semester. Decisions are made using the appeal documentation provided by the student in conjunction with the student's academic record. All decisions by the committee are final.

A general description of the major financial assistance programs available through various departments as well as the Office of Student Financial Assistance and Employment can be found at <http://www.miami.edu/ofas>.

Student Employment

Student Employment (<http://www.miami.edu/ose>)

Student Employment is responsible for assisting and guiding students (admitted and enrolled in a degree program at the University of Miami) through the job search and placement process while attending the University.

Student Employment provides job opportunities to all students regardless of sex, age, disability, sexual orientation, ethnicity, nationality, race or creed. University of Miami student employees are required to

adhere to established federal, state and local employment regulation practices.

Employment programs for undergraduate students include the Federal Work Study, Student Assistant program, and Miami Commitment program, all of which offer opportunities on campus and in the surrounding community. Employment programs for graduate students include: Federal Work Study, Student Assistant Program and Graduate Assistantships.

Eligibility for an employment program does not provide the funds up-front for tuition expenses.

Federal Work Study

Federal Work Study is a need-based program that provides part-time job opportunities based on your financial aid eligibility. To apply for Federal Work Study, you must complete the Free Application for Federal Student Aid (FAFSA) and check yes to "Are you interested in being considered for work study?"

Students who are awarded Federal Work Study obtain jobs available at the University of Miami campuses or at off-campus community service agencies that have been approved to participate in the program.

Student Assistant Program

The Student Assistant program is for those students who do not apply or qualify for financial aid. Student assistant positions are similar to Federal Work Study in terms of job responsibilities and rates of pay; however, they are not supported by federal funds.

Miami Commitment Program (http://www.miami.edu/index.php/miamicommitment/miami_commitment_forms/endofyear_evaluation)

The Miami Commitment program is available by invitation to a limited number of students based on Office Admission recruitment strategies. To be considered, invited students must apply to the program by the published deadline.

Graduate Assistantship Program

Graduate Assistantships are mostly offered directly to selected students by their academic departments. Graduate Assistantships may include a tuition scholarship of varying amounts, in addition to work payment. Students must be admitted to a Graduate or Professional Degree Program at the University of Miami in order to be hired as a Graduate Assistant.

Off-Campus Employment

Students seeking career-related experiences and who have reliable transportation can work off-campus. Student Financial Assistance and Employment acts only as a referral service and makes no particular recommendations regarding off-campus employers. Off-Campus employers hire students directly and Student Financial Assistance and Employment is not responsible for safety, wages, working conditions, or other aspects of off-campus employment.

The University of Miami participates in E-verify (http://www.miami.edu/index.php/ose/student_information/after_being_hired/e-verify_ose). E-Verify is an Internet-based system that allows an employer, using information reported on an employee's Form I-9, to determine the eligibility of that employee to work in the United States. The E-Verify system is operated by the U.S. Department of Homeland Security (DHS)

in partnership with the Social Security Administration (SSA). Student employees need to present original documents to complete the Form I-9 and E-verify. A list of other acceptable documents can be found online at [miami.edu/ose \(https://umshare.miami.edu/web/wda/benefits/FormI9Documents.pdf\)](https://umshare.miami.edu/web/wda/benefits/FormI9Documents.pdf).

Financial Payment Policies

Policy

All semester charges (tuition, room, board and fees) are due by the date on the billing notification e-mail, unless an established Monthly Payment Plan contract has been finalized with the Office of Student Account Services. Previously unbilled and new charges are due and payable when incurred. Payment is considered complete only when all charges are paid or when satisfactory arrangements to pay have been finalized with the Office of Student Account Services.

Consequences of Non-Payment

There are consequences to non-payment. Students that are delinquent in paying their tuition and fees statement balance and/or Monthly Payment Plan may be subject to having their class schedule cancelled. Also, there will be a hold on transcripts and course registration for the current and subsequent semester. Cancellation may also lead to the forfeiture of any financial aid the student may have been awarded.

Course selection will not be permitted for any past due accounts including Monthly Payment Plans. A late payment fee will be assessed on all delinquent accounts.

Finance Charges

No additional charges are imposed on an account once full payments are received by the payment due date. If, however, payment is received after the payment due date, a Finance Charge is assessed. Finance charges are assessed at an Annual Percentage Rate of 16%.

Anticipated Payments

If financial aid funds are not available at the time of registration, the student would normally be expected to cover these payments. However, financial aid awards will be considered "anticipated" under the following conditions:

- The Office of Student Financial Assistance and Employment (OSFAE) is provided with a source of aid (other than College Work Study or Miami Commitment) on the student's award package.
- OSFAE awards the corresponding amount on the student's award package. i.e., outside scholarship information must be provided to both the Offices of Financial Assistance and Student Account Services in order to consider the aid as "anticipated."
- OSFAE allocates the **guaranteed** award during the semester that the disbursement should be expected.
- Final guarantees have been processed by the appropriate alternative loan lender – preliminary approvals will not result in automatic disbursements of alternative loan funds.

Examples

Veterans Monthly Educational Benefit Checks: An amount not to exceed the total of the checks expected to be received during the semester (for fall and spring, this is typically three checks) may

be credited. Arrangements for this type of tuition credit must be initiated with a representative of Veterans Affairs through the Office of the Registrar and the Office of Student Account Services.

Students with VA benefits are required to sign a promissory note with the Office of Student Accounts in order to have their anticipated awards credited to their account.

International Students with Government Sponsorships: Payment of all or a portion of charges that can be billed directly to corresponding government agencies may be credited upon presentation of appropriate documentation from their government or embassy.

Florida Prepaid Program

The University of Miami will assist with a student's education expenses by billing for any available Florida Prepaid College Program funding directly to the Florida Prepaid College Board. Florida Prepaid participants may authorize the University of Miami to request a payment disbursement option that best matches your needs and current savings in the plan. We encourage participants to authorize a payment that will facilitate your financial planning objectives for your student's enrollment at the University of Miami.

The University of Miami requires new students to complete the "Florida Prepaid College Program Authorization Form." In addition to this form, all students who plan to use their prepaid funds must contact Florida Prepaid at 1-800-552-4723 option 2, and request a separate Florida Prepaid "Transfer Form." Upon your request, Florida Prepaid will mail the Transfer Form to you. The purchaser of the plan must complete this form and return it directly to Florida Prepaid. It is necessary that Florida Prepaid have this Transfer Form on file in order for students to use Florida Prepaid funds at the University of Miami.

Questions in reference to Florida Prepaid should be sent to saccounts@miami.edu with "Florida Prepaid" in the subject line. The required authorization form for the University of Miami and an example can be downloaded from the following web site: www.miami.edu/osas (<http://www.miami.edu/osas>)

Policy on Previous and Unpaid Balances Non-Payment

The University of Miami may declare due and payable at once the sum of all past due balances. In addition, the student will be responsible for interest accrued on all past due and unpaid amounts at the maximum rate permitted by law and any and all costs incurred by the University of Miami in enforcing its rights. The University reserves the right to withhold transcripts, diplomas, readmission, and future registration for non-payment of outstanding balances. The University's Collection Department may also disclose the student's outstanding indebtedness, along with other relevant information, to credit information bureaus. A non-refundable \$100 reinstatement fee will be charged to reinstate each unpaid and cancelled semester.

Refund Policy

Definitions

Title IV Financial Aid or Title IV Programs refers to the following awards:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Federal Perkins Loan, DL PLUS (Graduate Student), DL PLUS (Parent)

- Federal PELL Grant
- Federal Supplemental Educational Opportunity Grant (SEOG)
- Federal College Work Study

Refund Policy

Students who have advised the appropriate University department of their withdrawal, through 60 percent of the semester, will receive credit for eligible financial aid refunds using a pro-rated calculation based on the percentage of the semester attended by the student. Unearned Title IV funds will be returned in accordance with the refund policy established in Section 484B of the Higher Education Act of 1965, as amended (HEA) and provided for through the Student Assistance General Provisions regulations enacted on October 7, 1998. Please review UM's current policy on tuition refunds (https://umshare.miami.edu/web/wda/accountservices/Refund_Calendar/Refunds20148.pdf). Fees are not refundable and will not be pro-rated.

The University refund schedule does not apply to students in the following on-campus and off-campus programs: The Executive MBA, the MBA Program for Working Professionals, and the Master of Science in Professional Management. Unless the student has completed official withdrawal procedures in writing with the Graduate Business Program office prior to the beginning of a course/term, tuition will be refunded on a prorated basis based on the number of class meetings attended through the effective date of withdrawal. No tuition refund will be granted when class attendance has exceeded 50% of class meetings. This policy supersedes any information stated in the Graduate Bulletin and other university publications.

Procedure

The amount of earned tuition and financial aid will be calculated on a daily pro-rated basis. Unearned tuition will be credited to the students account. Unearned, disbursed financial aid will be charged to the students account and refunded to the appropriate financial aid programs. Students who have not completed the verification process are ineligible to receive any financial aid and therefore no financial aid will have been earned. All disbursed financial aid will be charged to the students account and refunded to the appropriate financial aid program.

The return of financial aid will be refunded to the following sources used in the specific order as noted below until the total amount of the school's responsibility has been satisfied:

- Unsubsidized Federal Stafford Loans
- Subsidized Federal Stafford Loans
- Federal Perkins Loans
- Federal PLUS Loans (Graduate Student)
- Federal PLUS Loans (Parent)
- Federal Pell Grant
- Federal Supplemental Opportunity Grant (SEOG - Federal Portion Only)
- Any other Title IV Assistance
- State financial aid

In the event of an overpayment of unearned Title IV grants, the University will send the student a notification letter requesting payment in full or the establishment of a satisfactory payment arrangement with the University's Department of Collection or the Debt Collection Services

of the U.S. Department of Education. This notification letter will be processed within 30 days of the date of the University's determination that the student withdrew.

If the student does not respond to the request for repayment within 15 days, the University will notify the Department of Education of any Title IV grant overpayment. If the student does not make satisfactory repayment arrangements for the repayment of Title IV grant aid, the student will then become ineligible for federal assistance on the 46th day from the date of the University's repayment letter.

Withdrawal Example

A student notifies the Registrar of withdrawal on the 50th day of the semester. If the total number of calendar days in a semester were 108, the earned financial aid ratio would be 50 divided by 108 or 46.3 percent. The student would have earned 46.3 percent of the approved federal aid that the student was originally scheduled to receive for the term. The 53.7 percent of the student's scheduled or disbursed aid remains unearned and must be returned to the Federal Program. If a student remains in school until the percentage of earned financial aid is 60% or more, then federal regulations consider the student to have earned 100% of their federal aid. For further information please refer to the 'Cane Success Center withdrawal information page (http://www.miami.edu/index.php/cane_success_center/withdrawal).

Post Withdrawal Disbursements

If the University determines that a student is eligible for Title IV funds that have not been disbursed, grant funds that the student is eligible for will be disbursed first. Federal aid that the student is eligible for will be credited to the students account and applied against any outstanding charges.

Reinstatement of Cancelled Classes (Continuing Students)

Classes are subject to cancellation if the student fails to complete payment by the due date for each semester. Reinstatement of a cancelled semester is at the sole discretion of the Office of Student Account Services. A non-refundable \$100.00 Reinstatement Fee will be assessed on the student's account if a reinstatement of cancelled classes is granted.

The student will be allowed to register for a subsequent semester only if all outstanding balances have been paid in full, with certified funds.

Important Note: Students who are receiving financial assistance and have had their classes canceled for the semester run the risk of forfeiting their awarded financial aid for the term and/or academic year.

Payment Options

The University Cashier accepts cash, personal checks, traveler's checks, cashier's checks, certified checks, money orders, and checks drawn against lines of credit. Personal check and credit card payments are accepted on line via CaneLink. Bank wire transfers are also accepted.

Checks and Money Orders

Payments must be in U.S. Dollars and drawn on a U.S. bank. Payments must be made payable to the University of Miami and include the

student's identification number to ensure credit to the student's account.
Post-dated checks are not accepted.

Returned Checks Policy

All returned checks are deposited twice, automatically, and without notice. A Returned Check Fine will be assessed to the student's account, as listed below, after the second attempt. Check cashing privileges will be canceled for those students who have three (3) or more returned checks.

A notification letter will be mailed to the maker of the check by the University's Collection Department detailing the amount and fine for the returned check. Check cashing privileges will be restricted until cash or certified funds (money order or cashier's check) are presented for payment. A personal check will not be accepted to replace a dishonored check.

Returned check fines processed through CaneLink will incur a \$20 fee. Checks not processed through CaneLink will incur the following charges:

Check < or = \$800.00	\$20.00 fee
Checks over \$800.00	2.5% of the check amount
Checks for Monthly Payment Plan	\$25.00 Fee

Wire Transfer of Funds

Wire transfer of funds for payment on an account at the University of Miami may be processed through any full service bank. Please direct the transfer to:

Bank of America, N.A.
 1500 South Dixie Highway
 Coral Gables, Florida 33146

ABA Routing Number: 026009593
 For Credit to: University of Miami Account 5508319094
 For Further Credit to: **Student Name and I.D. Number**

The student's name and the student's identification number (C#) are required in order to properly credit funds to the student's account.

Tuition Payment Plans

The Office of Student Account Services offers several tuition payment options to assist students and parents. The University's payment options are designed to provide convenient alternative plans of budgeting and paying educational costs whether or not a financial assistance award is granted.

Monthly Payment Plan (MPP)

Purpose: This plan allows you to divide all or part of your semester educational expenses (tuition, fees, on-campus housing, and meal plan less financial assistance) into four convenient monthly payments for the fall. A four month payment plan is also available for the spring term as well. The University of Miami does not offer a monthly payment plan option for the summer term.

Contract length: This plan is offered on a semester-by-semester basis for the fall and spring semesters. The minimum contract for either plan is \$1,000.

Fee: A 3% non-refundable administration fee of the amount financed is charged and included in the established monthly payments.

Conditions: Payments are due on the 1st of each month with the first payment due on August 1st. The first payment for spring MPPs will be due on the first business day in January.

Students may apply for the Monthly Payment Plan on CaneLink. For more information regarding this option please follow this link to the Monthly Payment Plan FAQ page (<https://umshare.miami.edu/web/wda/accountservices/MPP%20FAQs%20website%20changes%207%2022%2013.pdf>).

Tuition and Fees

Tuition

The basic undergraduate tuition rate covers the normal student load and is increased if the student carries an overload. Private instruction, e.g., music lessons, carries extra charges. Students who opt to participate in any of the University's intercession courses will be billed for the intercession course separately from the flat rate cost of full-time tuition and fees.

For tuition charges in special programs and sessions, see announcements that are published concerning these components of the University's academic program.

The following list of charges is effective for the academic year 2015-2016.

Undergraduates (All Colleges and Schools)

Number of Credit Hours	Tuition (per semester)
One	\$ 1,850.00
Two	\$ 3,700.00
Three	\$ 5,550.00
Four	\$ 7,400.00
Five	\$ 9,250.00
Six	\$ 11,100.00
Seven	\$ 12,950.00
Eight	\$ 14,800.00
Nine	\$ 16,650.00
Ten	\$ 18,500.00
Eleven	\$ 20,350.00
Twelve to twenty (Includes Course Fees)	\$ 22,200.00
In excess of 20, per credit hour	\$ 1,850.00
No credit hour towards degree (audit), per course, nonrefundable	\$ 1,850.00

Undergraduate students carrying both undergraduate and graduate courses will be charged tuition at the rate in effect for undergraduate credit hours taken and appropriate fees. For example, tuition for a student carrying a total of 15 credit hours, of which 3 are graduate and 12 are undergraduate, would be charged at the \$22,200.00 rate.

Undergraduate students taking graduate level coursework that is priced at a special level will be billed separately for these courses. Students

should check with their advisors and/or the appropriate school's department for more details on their course pricing requirements.

Full-time fees will be assessed according to student classification as an undergraduate or graduate.

The University reserves the right to change without notice tuition, fees, room and all other charges at the beginning of any academic year, and the right to change activities and board fees at the beginning of any semester.

Graduate Students

(Pre-Master', Post-Master's, and Doctoral Students per credit hour	\$1,850.00
Research in Residence (720 or 750) or Continuous Registration-Master's Study (725), per fall/spring semester	\$1,850.00
Research in Residence (720 or 750) or Continuous Registration-Master's Study (725), per summer session (0 Research Credit Courses)	\$1,850.00
Audit Work (No degree credit) Tuition, per course, non-refundable.	\$1,850.00

Certain programs are conducted by the University under contract with the State of Florida. Florida residents who have been accepted as students in those contract programs are required to pay current state tuition for each credit hour taken and the state provides the University with additional funds in accordance with the terms of the contracts. Students involved in state contract programs should contact the appropriate school/college to ascertain the state tuition charge per credit hour that they are expected to pay.

Fees

Some fees depend upon full-time status. This is usually determined by the sum total of semester credit hours carried by the student in all divisions or enrollment in certain special programs that are classified as full-time regardless of credit hour load. Intersession classes are included with regular fall and spring semester classes in determining the student's full- or part-time status. This determination will also result in the billing of required fees. Fees are subject to change.

Undergraduate students are classified full-time if they enroll in 12 or more credit hours in a regular semester or 12 or more credit hours in a summer session or if they are enrolled in a special program which is classified full-time regardless of credit hour load.

Graduate students are classified full-time if they enroll in nine (9) or more credit hours in a regular semester or six (6) or more credit hours in a summer session, or if they are enrolled in dissertation credit hours that are classified as full-time.

Mandatory Fees

FALL OR SPRING SEMESTER	Student Activity Fee	Athletic Fee	Wellness Center	Student Health and Counseling Centers Fee	Student Center Fee	Total
Undergraduate – full-time (12 or more credit hours) ¹	\$59.00	\$75.00	\$152.00	\$120.00	\$156.00	662.00
Graduate, fulltime (9 or more credit hours) ¹	\$46.00	N/A	\$152.00 ²	\$120.00	\$156.00	474.00
Rosenstiel Graduate (9 or more credit hours) ¹	\$15.00	N/A	\$152.00 ²	\$120.00	N/A	287.00
Medical Science Graduate (0 or more credit hours) ¹	\$15.00	N/A	\$161.00 ²	\$25.00- Med Gables \$92.00-	N/A	293.00
Law Students (12 or more credit hours) ¹	\$59.00	N/A	\$152.00	\$120.00	\$156.00	487.00

¹ Student Health & Counseling Centers Fee is mandatory for all full time students regardless of credit hour load. Also mandatory for part-time students.

² Wellness Center Fee is automatically charged to all full-time Graduate, Rosenstiel Graduate, and Medical Graduate students. It is mandatory unless declined with a waiver form submitted to and approved by the Office of Student Account Services by the last date to add classes for the semester as defined in the university's academic calendar.

SUMMER SESSION FEES (per session)	
Undergraduate (Full Time 5+ Credit Hours)	
Student Activity Fee	\$11.00
Student Health and Counseling Centers Fee	\$60.00
Student Center Fee	\$78.00

Total:	149.00
Graduate (Full Time 5+ Credit Hours)	
Student Health and Counseling Centers Fee	\$60.00
Student Center Fee	\$78.00
Rosenstiel Graduate	
Student Health and Counseling Centers Fee	\$60.00
Medical Graduate	
Student Health and Counseling Centers Fee	\$46.00
Law	
Student Health and Counseling Centers Fee	\$60.00
Student Center Fee	\$78.00

Health Insurance Fee (August 15, 2015 to August 14, 2016)	\$2,466.00
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Please note you are not required to have the University sponsored health insurance plan in order to utilize the services of the Student Health Center.

Students who are not enrolled for the current semester but intend to enroll for the next semester and graduating seniors (who wish access for one additional week after graduation), may gain access to the services of the Student Health Service after paying the Health and Counseling Centers Fee.

Optional Fees

FALL OR SPRING SEMESTER FEES (per semester)	Student Activity Fee	Student health and Counseling Centers Fee	Athletic Fee	Wellness Center
Undergraduate Students (1 to 11 credit hours)	\$159.00	Not Optional	\$75.00	\$152.00
Graduate Students (0-8 credit hours)	\$46.00	Not Optional	\$75.00	\$152.00 ¹
Graduate Students (9 or more credit hours)	Not Optional	Not Optional	\$75.00	\$152.00 ¹
Rosenstiel Graduate Students (0 to 8 credit hours)	\$15.00	Not Optional	\$75.00	\$152.00 ¹
Rosenstiel Graduate Students (9 or more credit hours)	Not Optional	Not Optional	\$75.00	\$152.00 ¹

Medical Science Graduate Students (0 or more credit hours)	Not Optional	Not Optional	\$75.00	\$161.00 ¹
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¹ Wellness Center Fee is automatically charged to all full-time Graduate, Rosenstiel Graduate, and Medical Graduate students. It is mandatory unless declined with a waiver form submitted to and approved by the Office of Student Account Services by the last date to add classes for the semester as defined in the university's academic calendar.

Optional SUMMER SESSION FEES (per entire summer term)	Activity Fee ¹	Wellness Center Fee
Undergraduates	Not Optional	\$130.00
Graduate	\$20.00	\$130.00

¹ Optional only for students taking less than 5 credit hours per session.

Other Fees

Diploma Fee	
Original Diploma	no charge
Replacement Covers	\$5.00
Replacement – Bachelors, Masters, Ph.D	\$10.00
Replacement – Law, Medicine	\$15.00

Transcript Fee	
Mailed/Paper Transcripts	\$10.00
Electronic/PDF Transcripts	\$7.00

Note: Unofficial transcripts are available in CaneLink (<https://caneid.miami.edu/cas/login?service=https%3A%2F%2Fcanid.miami.edu%2Fidp%2FAuthn%2FRemoteUser>). (<https://caneid.miami.edu/cas/login?service=https%3A%2F%2Fcanid.miami.edu%2Fidp%2FAuthn%2FRemoteUser>)

Fees Charged by Sonhs to Students Registered for Clinical Courses (Annual, non-refundable, due at registration, estimated at time of publication)¹	
Academic Year 2015-2016	
Nursing Fees	\$770.00
Total	Between \$347.00 - \$520.00

Professional Liability Insurance (annual, non-refundable, due at registration, estimated at time of publication)¹

Clinical athletic training students	\$75.00/semester
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Music Charges for Non-Music Majors or Minors (Lessons in Applied Music)

Fees, in addition to regular tuition, per credit hour per semester	\$300.00
Readmission Fee	\$100.00
Inactive Status Fee	\$50.00/semester
Non-UM Program Status Fee	\$50.00/semester
Graduate Application Fee	\$65.00

Graduate Business Program Mandatory Fees

For all Graduate Business Programs, there is a one-time non-refundable \$2,000.00 mandatory Enrollment Fee for Applicants with intent to enroll in all Masters of Business Administration (MBA) and Specialized Master Degree Programs.

In addition to tuition, all Executive and Professional MBA programs have a mandatory Program Administration Fee charged each semester. The tuition typically increases each academic year. Any increase in the University of Miami per credit tuition rate will be compensated by a corresponding reduction in the program administration fee. The total cost of the program (Tuition and Program Administration Fee) therefore will not vary.

Program Administration Fee

Professional MBA beginning in Fall 2015	\$3,200.00
Professional MBA beginning in Spring 2015	\$3,200.00
The Miami Executive MBA for the Americas	\$7,916.00
Global Executive MBA (in Spanish)	\$2,312.00
Executive Health Sector Management and Management	\$1,050.00
Executive MBA for Artists and Athletes	\$9,600.00

Late Registration Fee (Permission to register required) Reinstatement Fee

Reinstatement Fee charged if classes are canceled AFTER Semester begins	\$100.00
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Proficiency or Competency Examination Fee

College of Engineering, Division of Continuing and International Education:

Examination Fee, per examination	\$25.00
Recording Fee for Competency Examinations, per examination	\$25.00
English Language Proficiency Test	\$50.00

Alumni Rate and Policy

Special Opportunity for UM Graduates

UM graduates may take undergraduate credit hour courses in the College of Arts and Sciences on a space available basis, at a special alumni rate. All University of Miami graduates are eligible for this special program.

Students may take whatever courses are of interest. From Anthropology to Theatre Arts and all the disciplines in between, participants may choose a course or collection of courses (maximum two courses per discipline) to meet professional or personal goals.

Interested students may call the Division of Continuing and International Education at 305-284-4000 to inquire about the benefit and/or the current tuition rate, request an application, or enroll in the courses. They will submit a simple, no-fee, one-page application, simply select an undergraduate course (open on a space available basis) and be on their way to continued learning at UM.

Policies Governing Enrollment in University of Miami Alumni Status

The University of Miami Alumni Status includes students who are not seeking a degree and meet the following requirements. Enrollment in a non-degree program and/or satisfactory completion of courses does not imply admission to a degree program.

1. University of Miami graduates (completed degree);
2. U.S. citizens or permanent U.S. residents.

Conditions applying to University of Miami Alumni enrollment

1. Students may enroll in a maximum of 12 undergraduate credit hours per semester.
2. Students are limited to two courses per academic department.¹
3. Courses may be selected from the College of Arts and Sciences only.
4. International students will not be issued I-20 forms.
5. International students in B-1 (business) or B-2 (pleasure) visa status may engage in study as long as the educational activity is secondary to the principal activity for which the visa was sought.
6. Enrollment may be completed on a space-available basis only. (Course availability determined two days prior to semester start.)
7. Courses taken for undergraduate credit hour (including 500 level courses) will not be considered for graduate credit hour at a later date.

¹ Note: Not all courses and/or departments may be available.

Room Rates

Room Rates - Undergraduates

Residential Colleges ¹	Semester	Annual
Double	\$3,778.00	\$7,556.00
Small Single ²	\$5,009.00	\$10,018.00
Standard Single ³	\$5,758.00	\$11,516.00

University Village ⁴	Fall Semester 2012 (Aug-Dec)	Spring Semester 2013 (Jan-May)	Summer Term 2013 (June-July)	Annual Rate (12-mos. agreement) in Total
Ibis Model (1:1)	\$8,810.00	\$8,810.00	\$3,480.00	\$21,100.00
Palm Model (2:2)	\$6,180.00	\$6,180.00	\$2,430.00	\$14,790.00
Cane Model (4:2)	\$5,300.00	\$5,300.00	\$2,080.00	\$12,680.00
Villager Model (4:4)	\$5,720.00	\$5,720.00	\$2,250.00	\$13,690.00
Lake Model (4:4)	\$5,840.00	\$5,840.00	\$2,300.00	\$13,980.00

- ¹ Freshmen are typically assigned to Hecht and Stanford Residential Colleges but may be assigned to another residential college based on availability.
- ² Small Singles are only available in Hecht and Stanford Residential Colleges and only to new freshmen.
- ³ Standard single rooms are available in Eaton, Mahoney, and Pearson Colleges and only to returning upper-class students.
- ⁴ For upper-class students only (60+ academic credit hours completed)—no freshmen or sophomores; annual (12-month) agreement for all Village residents—billed by semester/term through the Office of Student Account Services.

SUMMER SESSION (all air-conditioned)	Rates are per person
Double Room	\$ 950.00 per session
Small Single Room (when available)	\$1,250.00 per session
Standard Single Room	N/A

Graduate Housing

Housing in on-campus housing is not available for GRADUATE students in addition to married students, single parents with children, law students, and medical students. The Department of Housing and Residential Life does assist GRADUATE students with off-campus housing information and resources at <http://www.miami.edu/housing>.

Law Housing

Housing in on-campus housing is not available for LAW students in addition to married students, single parents with children, graduate students, and medical students. The Department of Housing and Residential Life does assist LAW students with off-campus housing information and resources at <http://www.miami.edu/housing>.

Meal Plans

The following are the Meal Plan rates for the 2015 - 2016 academic year. Meal Plan enrollment is for the full academic year but charged on a semester basis.

Plan	Dining Dollars Per Semester	Semester Cost	Annual Cost
Unlimited Meal Plan	\$100	\$3,091	\$6,182

19 Meal Plan	\$50	\$2,676	\$5,352
14 Meal Plan	\$150	\$2,559	\$5,118
8 Meal Plan	\$200	\$1,853	\$3,706

University Village and Commuter students are eligible to participate in the Block Meal Plans. These plans offer greater flexibility, a better value and may be purchased at any time during the academic year. For more information, visit http://www.miami.edu/finance/index.php/auxiliary_services/dining_services.

Plan	Semester Cost
100 Block Meal Plan	\$ 1,194
75 Block Meal Plan	\$ 916
50 Block Meal Plan	\$ 622
10 Block Refresh	\$ 119

Parking and Transportation

Description	Price (Tax Included)
Commuter Student	\$ 496.00
Fall Only - Commuter	\$ 248.00
Resident Student	\$ 534.00
Fall Only - Resident	\$ 268.00
Discount	\$ 254.00
Visitor	\$ 559.00
Motorcycle	\$ 100.00

*Parking subject to change

Parking on the University of Miami's Coral Gables campus is a privilege extended to those using the facilities of the University consistent with the terms of the University's Motor Vehicle Parking Code and other policies of the University as they are set or amended by the Provost. Parking privileges are extended only to those eligible members of the university community including trustees, faculty, administrators, staff, students, vendors and visitors who have paid for, received and properly displayed a current and valid UM parking permit. In consideration of being allowed to use the University's facilities for parking, the purchaser of a parking permit agrees to be bound by the rules set forth in the Motor Vehicle Parking Code, and agrees to pay to the University any fine or administrative charge assessed for non-compliance with this code.

Students, faculty, employees, and staff may not park in visitor parking spaces, and UM parking permits are not valid at parking meters.

First year resident students (students residing on the Coral Gables campus who are attending college on a full time basis for the first time) are restricted from purchasing a parking permit to park on the University of Miami's Coral Gables campus. This policy applies to first year students living in University of Miami student housing on the Coral Gables campus.

For more information on Parking, please visit our Website, www.miami.edu/parking (<http://www.miami.edu/parking>). Annual permits are valid August 16, 2015 through August 15, 2016.

Student Services

Academic Resource Center

Located on the second floor of the University Center, the Camner Academic Resource Center (ARC) offers free academic assistance to all UM students. The ARC offers individual peer tutoring by appointment in most subjects, study skills instruction with a Learning Specialist, free academic workshops, and many other valuable services. Please visit www.umarc.miami.edu (<http://www.umarc.miami.edu>) or call 305-284-2800 to learn more and/or schedule an appointment.

Peer Tutoring

At the ARC, all UM students can take advantage of free individual peer tutoring to develop a deeper understanding of course work through additional, special, or corrective content instruction. All tutoring is course specific and taught by nationally certified peer tutors. All UM students are eligible for two hours of tutoring per week for each course. Please email tutoring.arc@miami.edu for more information or to ask any questions.

Supplemental Instruction

Small group sessions are available to help students succeed in the University's toughest courses. Group Peer Tutoring is done on a weekly basis where students sit down to discuss course content in a small group setting with the peer tutor serving as a facilitator.

Academic Workshops

This free workshop series instructs students on specific academic skills and strategies to enhance academic performance. Workshop topics include effective test-taking strategies, improving study strategies, utilizing technology, and organization and time management skills. Topics are updated every semester, and students may attend unlimited sessions. Please visit our website www.umarc.miami.edu (<http://www.umarc.miami.edu>) for the current workshop schedule.

Learning Specialists

The Camner Academic Resource Center provides the support of trained Learning Specialists to students experiencing difficulty with academic issues. Students may request a one-on-one meeting with a Learning Specialist to help develop the skills needed to achieve success in their academic careers. Skills covered during these appointments include time management, effective note-taking, college textbook reading, educational technologies, test taking, and other learning strategies. Students can request an appointment with a Learning Specialist through our website or by filling out a request form at the Camner Academic Resource Center. Visit the website at www.umarc.miami.edu (<http://www.umarc.miami.edu>) for more information about the support services available to students.

Independent Learning Initiative

The Independent Learning Initiative is a fee-based academic support program that provides structure, support, instruction, and monitoring for students needing additional guidance during the college experience. During the semester, students will identify and understand their academic strengths and areas for growth, as well as learn strategies, skills, and technologies to enhance their academic and personal success in college. Participants learn to monitor their academic progress and critically evaluate their current skills and strategies to work towards becoming a successful independent student. For more information about the program

or to apply, please visit our website at www.umarc.miami.edu (<http://www.umarc.miami.edu>).

UMX 100: The University of Miami Experience

The University of Miami Experience (UMX 100) is a graded, comprehensive virtual self-paced course specifically designed to assist first year students in making a successful transition to the University of Miami. Freshman and transfer students are automatically enrolled. UMX 100 provides an opportunity for students to utilize UM resources necessary for success in college and beyond. Specifically, students will be exposed to campus leadership opportunities, academic and career planning, university traditions, study abroad opportunities, personal wellness programs, as well as advising and registration through videos, power points, blogs, and more. These resources and opportunities are only a click away. Questions about UMX 100 can be directed to umx@miami.edu.

The course will open on the following dates each semester:

Fall Semester	August 1st
Spring Semester	January 1st

Disability Services

Office of Disability Services (ODS)

The Office of Disability Services (ODS) is the primary university office responsible for the coordination of auxiliary aids and services for students with disabilities. Please visit our website www.umarc.miami.edu (<http://www.umarc.miami.edu>) for more information.

The Office of Disability Services (ODS) provides academic accommodations and support to ensure that students with disabilities are able to access and participate in the opportunities available at the University of Miami. Individuals with disabilities must request academic accommodations through the Office of Disabilities Services. Accommodations are determined on a collaborative and case-by-case basis and are based on the documentation provided by the individual. ODS staff will work collaboratively with students to determine what academic adjustments and educational auxiliary aids are reasonable to ensure that students with disabilities are not subject to discrimination.

Information is available to prospective and enrolled students, their parents and/or sponsors. The Office of Disability Services (ODS) is located in the Camner Academic Resource Center in Whitten University Center N2400. ODS staff can be reached at 305-284-2374 (Voice) or 305-284-1999 (Fax). Office hours are 8:30 am to 5:00 pm, Monday through Friday. Individuals may email the office staff at disabilityservices@miami.edu for quick responses to questions.

The following deadline dates apply for all requests for academic accommodations through the Office of Disabilities Services:

Fall Semester	June 1st
Spring Semester	December 1st
Summer Semester	6 weeks prior to first day of class

Cane Cards

The Cane Card is an on-campus student identification card. Students, faculty, and staff must present a government issued photo ID such

as a driver's license or passport when acquiring their card. The Cane Card provides access to on-campus student residences, the Otto G. Richter Library, computer laboratories, the swimming pool, the Patti and Allan Herbert Wellness Center (for those who purchase a membership), and other facilities where access has been granted. The Cane Card is also used to control lending privileges at the library, access to athletic and other events (fee required), the purchase of discounted Metrorail tickets, U-Print services, and meal plan privileges. All University of Miami students, faculty and staff are required to carry their Cane Cards for identification purposes while on campus.

- Lost or stolen Cane Cards should be reported to the Cane Card office at 305-284-3096 during the week or anytime by accessing your MyUM account, under the financial tab.
- Lost or stolen cards may also be reported to security 24 hours per day at 305-284-6666.
- After being reported stolen or lost, a card will be deactivated to prevent unauthorized use.
- Lost or stolen cards will be replaced for a \$25 fee (Fee waived in certain circumstances. Please contact the Cane Card office for additional details).
- Damaged cards will be replaced for free upon exchange of the original damaged card.
- For all issues with Cane Express accounts, call Student Account Services at 305-284-6430.

Commuter Student Involvement

The Department of Orientation and Commuter Student Involvement is located on the second floor of the Shalala Student Center, suite 203. This department offers a variety of services and programs for students from Miami-Dade and Broward Counties who live at home and commute to the University of Miami. For more information, please visit our website at [miami.edu/csi](http://www.miami.edu/csi) (<http://www.miami.edu/csi>).

Great Start Pre-Orientation Program for First-Year Commuter Students

Great Start is an overnight, pre-orientation program designed to promote and emphasize college adjustment and campus involvement opportunities. The program's goal is to help students feel like a part of the University and give them a chance to meet other commuter students. Students who participated in Great Start have said the program greatly contributed to a positive transition from high school to college.

Commuter student leaders serve as Program Coordinators, Steering Committee members, and Counselors. Applications are available in the fall on the Great Start website, [miami.edu/greatstart](http://www.miami.edu/greatstart) (<http://www.miami.edu/greatstart>).

Commuter Assistant/Transfer Assistant Program

The Commuter Assistant (CA)/Transfer Assistant (TA) Program provides first-year commuter and incoming transfer students with an experience that mirrors the programs and services offered by Resident Assistants and Academic Fellows to first-year students living on-campus in a Residential College. All first-year commuter students and interested new transfer students will be assigned to a CA or TA group and will begin meeting with this group during New Student Orientation. The CA/TA

serves as a mentor, plans programs that will aid commuter or transfer students in their transition to college, and works with the Department of Orientation and Commuter Student Involvement to plan, promote, and implement initiatives specifically focused on first-year commuter or incoming transfer students. CAs and TAs release informative newsletters to their student groups and also host a monthly breakfast called "Good Morning, Commuters!" for off-campus students. CAs and TAs are hired during the spring semester. Applications are available on the departmental website, [miami.edu/csi](http://www.miami.edu/csi) (<http://www.miami.edu/csi>).

Association of Commuter Students

The Association of Commuter Students (ACS) is a second home for its members. ACS, a student organization, provides social support, service opportunities, school spirit involvement, and a physical space through which commuters bond with fellow students and to participate in all that the University has to offer. ACS provides its members with a working knowledge of UM that gives them the opportunity to become fully involved in campus life. Brought together by a simple fact of life, commuting to campus, ACS members have forged bonds that extend beyond this commonality. For more information on ACS, visit their website at [miami.edu/studorgs/acs](http://www.miami.edu/studorgs/acs) (<http://www.miami.edu/studorgs/acs>) or www.miami.edu/sa/index.php/commuter_student_involvement/association_of_commuter_students.

Off-Campus Housing Assistance

The Department of Housing and Residential Life provides assistance to students, staff, and faculty with identifying off-campus housing options. A web-based search engine of community listings and information about off-campus apartment complex listings is available along with other resources such as:

- Individual consultations & appointments
- Over-the-phone guidance
- Knowledge of the greater Miami area & specific neighborhoods where students typically reside
- Roommate search assistance

For more information about assistance with off-campus housing, visit [miami.edu/off-campus-services](http://www.miami.edu/off-campus-services) (<http://www.miami.edu/off-campus-services>), or contact the office at 305-284-4505 or email housing@miami.edu.

Counseling Center

<https://miami.edu/counseling-center>

The Counseling Center is the primary provider of mental health services for UM students. The Counseling Center provides short-term individual, couples, and group therapy as well as psycho-educational outreach programming and consultation. Urgent care and limited career and psychological assessment are also available. Psychiatric services are available to those under the care of a Counseling Center therapist.

The Counseling Center staff consists of experienced professionals from the fields of mental health counseling, psychology, social work and psychiatry.

During the fall and spring semesters, the Counseling Center is open Monday, Wednesday and Friday from 8:30 a.m. to 5 p.m. and Tuesdays and Thursdays from 8:30 a.m. to 7 p.m. During the Spring, Summer and

Winter breaks the Counseling Center is open Monday through Friday from 8:30 a.m. to 5 p.m.

Students can call the Counseling Center directly at 305-284-5511 or request an appointment in person. The Counseling Center offers walk-in triage service for students in crisis. The University Counseling Center is located at 1204 Dickinson Drive, Suites N & S.

For more information, visit <https://miami.edu/counseling-center>.

Sexual Assault Response Team (S.A.R.T.)

The Counseling Center also coordinates the **Sexual Assault Response Team (S.A.R.T.)**. S.A.R.T. is a 24/7 telephone response line to assist University of Miami students victims of sexual assault. This service is available during the academic year and is for both men and women. The S.A.R.T. hotline number is 305-798-6666.

For more information, visit <https://miami.edu/SART>.

Graduate Student Training

The Counseling Center participates in the graduate training programs in the Department of Psychology and the programs of the Department of Educational and Psychological Studies. Doctoral students in psychology take part in the Center's professional activities and have first-hand contact with clinical problems. In addition, pre-doctoral interns obtain professional training at the Counseling Center through the Dr. Jess Spire Pre-doctoral Internship in Professional Psychology. The pre-doctoral internship at the Counseling Center is accredited by the American Psychological Association.

Dean of Students

www.doso.miami.edu (<http://www.doso.miami.edu>)

The Dean of Students Office provides leadership that is consistent with the University's mission and works closely with students and student organizations, contributing to their co-curricular education and serving as an advocate for their varied interests. The Office works directly with academic, athletic, student affairs, and other administrators in the coordination of institutional efforts to address specific concerns, as well as to enhance the overall quality of the student experience.

Each area within the Dean of Students Office provides students with opportunities for student support, involvement, and leadership. For more information about each of these areas, click on the links below.

- Alcohol and Other Drug Education (<http://www.miami.edu/sa/index.php/pier21>)
- Greek Life (http://www.miami.edu/sa/index.php/dean_of_students/FraternitiesAndSororities-1-1)
- Judicial Affairs (http://www.miami.edu/sa/index.php/dean_of_students/judicial)
 - Student Rights and Responsibilities Handbook (<https://umshare.miami.edu/web/wda/deanstudents/pdf/20132014SRR.pdf>)
- Sexual Assault Resources - It's On Us (http://www.miami.edu/sa/index.php/its_on_us)
- Undergraduate Honor Council (http://www.miami.edu/sa/index.php/dean_of_students/undergraduate_honor_council)

- University Chaplains' Association (http://www.miami.edu/sa/index.php/spiritual_life)
- Veteran Student Services (http://www.miami.edu/sa/index.php/dean_of_students/veteran_student_services)

The Dean of Students Office coordinates efforts in response to various student crises and employs an Assistant Dean who is a Licensed Clinical Social Worker. The entire staff is knowledgeable and prepared to assist all students in their adjustments to campus life. The administration and record keeping of all undergraduate student disciplinary infractions are also the responsibility of the Dean of Students Office.

To contact the Dean of Students Office visit Whitten University Center, Suite 2250 or call 305-284-5353.

Career Services

<http://www.HireACane.com>

Patricia and Harold Toppel Career Center

(305) 284-5451 | toppel@miami.edu

The Toppel Career Center provides innovative and dynamic career services to students and alumni of the University of Miami. Furnished with the latest technology, including videoconferencing, 360-degree video recording, and lecture capture, the Center's six interview suites, a technology lab, a conference room, and a multipurpose Loft offer a variety of spaces (<http://www.HireACane.com/Students/ToppelReservations.aspx>) for students to meet their career-related needs. The Center is often described as "like no other" by visitors and is a model for career services throughout the country. Over six times larger than the average career center, the 12,000 square-foot building on Ponce De Leon Boulevard houses career programs and workshops, networkers, professional individualized advising, practice interviews, industry panels, walk-in peer advising, company presentations, on-campus interviews, and more.

Career Education

Regardless of the path you take, an effective career planning process begins *as soon as you step on campus*. Professional staff at the Center assist students with their career development utilizing a three-part model (<http://www.HireACane.com/Students/GettingStarted/Explore,Prepare,ConnectCareerEducationPlan.aspx>) that provides the tools necessary to Explore (strengths, interests, values, skills, and abilities), Prepare (career and industry research, practice interviews, and internships), and Connect (building meaningful relationships and growing a professional network).

Advising Services

Toppel offers a variety of options for career advising. You can set up an individual advising appointment with highly trained and motivated career advisors who have industry-specific knowledge and can provide you guidance on potential career paths (schedule online at [HireACane.com](http://www.HireACane.com) (<http://www.HireACane.com>)). For resume (<http://www.HireACane.com/Students/ResumesandLetters/ResumeAssistance.aspx>) and cover letter (<http://www.HireACane.com/Students/ResumesandLetters/CoverLettersandNetworkingLetters.aspx>) reviews and practice interviews (<http://www.HireACane.com/Students/InterviewPreparation.aspx>), you can drop by any time from Monday through Friday, 9am - 4:30pm, to meet with a peer advisor (no appointment necessary). The Center even

offers online career assessments (<http://www.HireACane.com/Students/GettingStarted/CareerAssessments.aspx>) that can help you narrow down career options by building self-awareness.

Programs and Workshops

A series of programs and workshops (<http://www.HireACane.com/Students/Programs.aspx>) is offered throughout the academic year both in person and virtually. Each session provides information and skill-building activities in the areas of resume development, interviewing skills, social media for the job search, securing internships, and much more. In addition, programs designed to increase awareness of specific career paths and professional opportunities are offered. These are often conducted by outside speakers and panelists who are UM alumni and/or recognized specialists in their field.

Career Preparation & Networking

Through the Center's vision, *Empowering and Connecting a World of 'Canes*, the staff encourages students to develop meaningful relationships with professionals in their area(s) of interest. The Toppel Career Center provides many opportunities for you to network with employers and alumni, including panel programs, employer meet-ups, job shadowing (USshadow (<http://www.HireACane.com/Students/USshadow.aspx>)), on-campus recruiting, and career fairs.

Career Fairs and On-Campus Recruiting

Career Expo (<http://www.HireACane.com/Students/CareerFairsandEvents/CareerExpo.aspx>) is the largest career fair, typically bringing in over 100 employers and 1,000 students and alumni biannually in September and February. Toppel also organizes smaller industry-specific career fairs that focus on more specialized areas. Representatives from a variety of industries from around the world visit campus to meet, interview and discuss career opportunities with students. In addition, the On-Campus Recruiting (<http://www.HireACane.com/Students/JobSearching/OnCampusRecruiting.aspx>) program brings employers to campus for company information sessions and to interview students for jobs and internships in the interview suites. Last year, over 1,000 interviews were conducted in the Center's interview suites. You can apply for these positions through Toppel's free online career management system at HireACane.com (<http://www.HireACane.com>).

Toppel Internship Program

The Toppel Internship Program (TIP) (<http://www.sa.miami.edu/toppel/mainsite/Students/Internships/ToppelInternshipProgram.aspx>) is designed to provide valuable career-related work experience through internships with participating employers. TIP allows students to earn a one-credit transcript notation from the Toppel Career Center for internships they have already secured. Students can also search HireACane (<http://www.HireACane.com>) for hundreds of opportunities available to them. Part-time internships require at least 160 working hours while full-time internships require at least 320 working hours.

UCAN

If you are interested in jobs and internships outside of South Florida, the Center is a member of the University Career Action Network (UCAN) (<http://ucan-csm.symplicity.com/students>), a highly selective consortium of private institutions across the country. Participating schools, including Brown, Duke, Emory, Princeton, Harvard, and others, share internship opportunities across the network. You will be strongly encouraged to

complete at least one internship while here, and these partnerships will help you meet this goal.

The Launch Pad at Toppel

The Launch Pad at Toppel (<http://www.thelaunchpad.org>) provides support to all entrepreneurs and inventors at the University of Miami. The Launch Pad's programs are co-curricular and voluntary by design. Pragmatic, concrete, and experiential, they provide the just-in-time knowledge entrepreneurs need to assess and develop their ideas and plans for a new enterprise. The Launch Pad offers guidance, encouragement, and immediate access to a dedicated local commercial network. It brings entrepreneurs into the local business community as early as possible. The Launch Pad's programs are exercises in experiential capitalism that fulfill a key educational obligation: to teach learners not just how to find a job, but also how to make a job.

Connecting with the Toppel Career Center

The Toppel Career Center's mission is to help all students achieve a lifetime of career success. Currently, over 2/3 of all undergraduate students utilize the Center's services each year, including over 1,500 unique visits to career fairs and nearly 4,000 unique visits to career education opportunities. Evidence shows that students who visit the Career Center are more likely to earn internships and ultimately have better career outcomes at the time of graduation. Visit us at 5225 Ponce De Leon Blvd. or by logging into HireACane.com (<http://www.HireACane.com>) and activating your account as soon as you arrive on campus! You can also keep up with what we're doing by following any one of our social media platforms: LinkedIn (http://www.linkedin.com/groups?gid=1295647&trk=hb_side_g), Facebook (<http://www.facebook.com/pages/Toppel-Career-Center-at-the-University-of-Miami/70221785028?ref=ts>), Twitter (<http://www.twitter.com/toppel>), Instagram (<http://instagram.com/hireacane>), YouTube (<http://www.youtube.com/toppelcareercenter>), Flickr (<http://www.flickr.com/photos/hireacane>), Blogger (<http://toppelpeers.blogspot.com>), Pinterest (<http://pinterest.com/umtoppel>), and Snapchat (username: HireACane).

Honor Council

The Honor Council - Undergraduate

www.miami.edu/honor-council (<http://www.miami.edu/honor-council>)

The purpose of the Honor Council is to protect the academic integrity of the University by encouraging consistent ethical behavior by students in their academic work. The Honor Council investigates and adjudicates alleged violations of the Undergraduate Student Honor Code (https://umshare.miami.edu/web/wda/deanstudents/pdf/undergrad_honorcode.pdf). The Council is also responsible for educating the University community on Honor Code related issues and promoting academic integrity through a variety of educational programs. The Council consists of representatives from the undergraduate schools and colleges.

Members of the University community who would like to request Honor Council programming or an investigation of alleged academic dishonesty are encouraged to call the Honor Council at 305-284-5354 or email honorcouncil@miami.edu.

International Student and Scholar Services

www.miami.edu/iss

International Student and Scholar Services (ISSS)

1306 Stanford Drive
Whitten University Center, Suite 2275
Coral Gables, FL 33146-6929
Telephone: 305-284-2928
Fax: 305-284-3409
Email: iss@miami.edu
Website: www.miami.edu/iss (<http://www.miami.edu/iss>)

ISSS represents the needs and interests of the University of Miami international community and provides support services and programs for international students, scholars, and academic departments at UM. Every year, approximately 3,748 international students (undergraduate and graduate) and scholars (professors and researchers) from 120 countries representing every region of the world study, teach, and conduct research at the University of Miami.

International students and scholars face some unique challenges as well as opportunities while pursuing their academic goals at UM. The professional and dedicated ISSS staff provides expert advice, services, programs, and information aimed at supporting their educational endeavors and enriching their U.S. experience over the entire course of their stay. ISSS support services and programs encompass:

- **Pre-Arrival Information**
- **Immigration Advising for Students and Scholars in F-1 and J-1 Status**
- **Employment Information and Authorization**
- **Online Tax Return Preparation System**
- **Liaison with Sponsoring Embassies, Government and Agencies**
- **Short-Term, Small Emergency Loans**
- **Assistance with Personal and Adjustment Problems**
- **Assistance in Coping with Crises**
- **Advocacy**
- **International Student Orientation**
- **International Scholar Orientation**
- **Advise the Council of International Students and Organizations (COISO)**

On the ISSS website you will find detailed information regarding each of these services and programs. Please do not hesitate to contact us should you have any questions or require additional information. We look forward to assisting you.

Libraries

The libraries of the University of Miami (<http://welcome.miami.edu/academics/libraries>) rank among the top research libraries in North America with a combined collection of over 3.6 million volumes, with 95,600 current electronic and print serials. The libraries are located on the Coral Gables, Rosenstiel, and Medical campuses.

Individual and Collaborative Study Space

Learn about the hours (<http://library.miami.edu/hours>) we're open for you.

Access to Millions of Resources

Consult the library website (<http://library.miami.edu>) to get access to millions of resources, experts, and learn more about all the spaces and services available to you.

Expert Assistance for Every Subject

Librarians (<http://sp.library.miami.edu/subjects/staff.php?letter=Librarians%20by%20Subject%20Specialty>) are available to support students in all courses and majors. Consider us part of your network.

Online Research Guides for Courses and Majors

Online research guides (<http://libguides.miami.edu/content.php?pid=384666>) can help you find the resources you need for course assignments, research projects and more.

Jobs

We offer a variety of opportunities for student employment. Check out our openings today (<http://library.miami.edu/student-jobs>).

Ombudsperson and University Troubleshooters

www.miami.edu/ombudsperson (<http://www.miami.edu/ombudsperson>)

The Ombudsperson and University Troubleshooters provide open channels of communication between students and the university by listening to student concerns, investigating the facts and attempting to resolve situations in the best possible way. Ultimately, the goal is to resolve matters and assist students in their success at the University. The Ombudsperson and University Troubleshooters do not bypass or circumvent those individuals who have responsibility for departments or classroom instruction. Nor will they eliminate certain structured grievance and appellate mechanisms already established by the University.

Ombudsperson

The Ombudsperson is in a position to interpret University policy to students and make recommendations to the central administration when policy changes are needed as they have extensive knowledge of the University. The Ombudsperson assists in the decision-making process within the University and ensures that the University follows its own published policies and procedures. The Ombudsperson will connect students to faculty and administrators who will listen, answer questions, interpret policies/procedures and provide guidance on the appropriate steps to consider for a resolution. The Ombudsperson seeks to resolve matters informally before they become matters in a formal grievance-appeal proceeding and works with students in establishing next steps to assist in their success at the University.

University Troubleshooters

University Troubleshooters are faculty members and administrators who serve as a resource for students seeking assistance. They represent in a wide range of campus departments, who assist students with academic and administrative related matters. If a student has spoken to the appropriate University Troubleshooter and have not brought resolution to a student's concern, students should contact the

Ombudsperson. For a listing of University Troubleshooters, click on the following links: Academic Troubleshooters (http://www.miami.edu/sa/index.php/ombudsperson/academic_troubleshooters) or Administrative Troubleshooters (http://www.miami.edu/sa/index.php/ombudsperson/administrative_troubleshooters).

For more information on the Ombudsperson or University Troubleshooters, visit [miami.edu/ombudsperson](http://www.miami.edu/ombudsperson) (<http://www.miami.edu/ombudsperson>), call 305-284-4922, email ombudsperson@miami.edu or visit the office in Ashe Building 244.

Residence Life

Housing and Residential Life

www.miami.edu/housing (<http://www.miami.edu/housing>)

The University of Miami offers undergraduate on-campus housing in five residential colleges and University Village.

Each residential college has resident faculty members (Masters and Associate Masters), an Area Director/Assistant Area Director, and student staff who all live in the residential college with the resident students to support and promote student well-being, safety, academic achievement, student learning, and development. Numerous social, educational, cultural, and recreational programs are offered throughout the academic year.

Special Interest Housing (<http://www6.miami.edu/provost/oe/sih.html>) (SIH) is also available within the residential college system—these resident communities are facilitated through the Office of Academic Enhancement. Themes center around literature, community service, ethnic cuisine, healthier lifestyles, and diverse educational experiences as well as academic and career interests.

General Highlights

- The University has both single and double rooms. Singles are limited and assigned based on seniority living on campus and, thus, entering students are typically assigned to double occupancy rooms.
- All non-local freshmen students are required to live in University housing for two academic semesters, as long as space is available. This policy does not apply to freshmen students living with parents or legal guardians in Miami-Dade or Broward Counties.
- University Village (http://www.miami.edu/sa/index.php/residential_life/on_campus/university_village), an apartment-style residential community, is an available option to juniors and seniors. The apartments are fully furnished and include in-apartment washers and dryers, full-size kitchen appliances (stove, refrigerator, microwave, & dishwasher), and reserved parking.
- All housing facilities are co-educational with men and women living on alternate floors or alternating separate suites or apartments.

Applying for On-Campus Housing

- Admitted undergraduate students, following verification of acceptance to the University and payment of the enrollment deposit, can apply for housing via CaneLink (<http://www.canelink.miami.edu>).
- Students are encouraged to apply for housing as soon as possible after paying the enrollment deposit. New freshmen housing applications should be submitted by May 1, 2015; applications

received from new freshmen after May 1, 2015 will be accommodated on a space available basis.

- The \$250 non-refundable pre-payment can be paid by credit card or electronic debit from a checking account at the time of application.
- Assignments to buildings, rooms, and specific roommates are made according to the date of application and receipt of the housing deposit.
- Whenever possible, requests for roommates are honored. However, if specific preferences are not available, the University reserves the right to assign students to other roommates.

The 2015-2016 housing agreement is for both fall and spring semesters, unless the applicant is:

1. applying only for spring semester housing (not available in University Village)
2. applying only for summer session housing
3. graduating in December
4. participating in a University of Miami study abroad experience spring semester
5. not enrolling in the University spring semester

Housing cancellations received through May 31, 2015 will result in a \$500 cancellation penalty. Cancellations received after May 31, 2015 will result in:

- the canceling student being responsible for the fall semester housing charges, unless or until the vacancy created by the cancellation can be filled by another qualifying University student applying for housing
- if filled, the canceling student will only be assessed the \$500 cancellation penalty

Housing cancellations for the spring semester received through December 1, 2015 will result in a \$500 cancellation penalty.

Cancellations for the spring semester received after December 1, 2015 will result in:

- the canceling student being responsible for the spring semester housing charges, unless or until the vacancy created by the cancellation can be filled by another qualifying University student applying for housing
- if filled, the canceling student will only be assessed the \$500 cancellation penalty

Note: Written notice of cancellations must be made to the Department of Housing and Residential Life office directly.

Dates of Housing Availability

Fall Semester	August 20, 2015 - December 18, 2015
Spring Semester	January 7, 2015 - May 8, 2015

Off-Campus Housing Resources

The Department of Housing and Residential Life also provides assistance to students, staff, and faculty with identifying off-campus housing options. A web-based search engine of community listings and information about off-campus apartment complex listings is available along with other resources such as:

- Individual consultations and appointments

- Over-the-phone guidance
- Knowledge of the greater Miami area & specific neighborhoods where students typically reside
- Roommate search assistance

For more information about housing on-campus or assistance with off-campus housing, please visit [miami.edu/housing](http://www.miami.edu/housing) (<http://www.miami.edu/housing>), call 305-284-4505, or email housing@miami.edu.

Student Health Services

[miami.edu/student-health](http://www.miami.edu/student-health) (http://www.miami.edu/sa/index.php/student_health_center)

The Student Health Service provides primary care, specialty care and pharmacy services to eligible (http://www.miami.edu/sa/index.php/student_health_center/general_information/#Eligibility) University of Miami students. You are not required to have the Health Center sponsored insurance plan to utilize our services. Appointments can be scheduled at mystudenthealth.miami.edu (<https://caneid.miami.edu/cas/login?service=https://mystudenthealth.miami.edu>), services are also available on a “drop in” basis.

The Student Health Service is located at:

5513 Merrick Drive
Coral Gables, Florida 33146
(across from the Pavia Garage)

Contact Information

Telephone: 305-284-9100

Fax: 305-284-4098

Hours of Operation

Fall and Spring semesters: 8:30 a.m. to 5:00 p.m., Mondays, Tuesdays, Wednesdays and Fridays. On Thursdays: 9:00 a.m. to 5:00 p.m. Sundays: 11:00 a.m. until 4:00 p.m.

Winter break, Spring break, and Summer sessions: Monday through Friday from 9:00 a.m. to 5:00 p.m.

The Health Service is closed on Saturdays and University holidays. After hours assistance is available by calling 305-284-9100.

For sudden, severe illness or serious accident dial 911. For illnesses or injuries requiring immediate attention, students are urged to go to an Emergency Room. After hours assistance for urgent situations can be obtained by dialing 305-284-9100. Students with United Healthcare insurance may also contact the United Healthcare Nurseline by calling 800-436-7709 and selecting the Health Resources option. For less urgent conditions, you may visit one of the local Urgent Care Centers (<https://umshare.miami.edu/web/wda/studenthealth/pdf/UrgentCareCenters.pdf>).

Eligibility/Access

The Health & Counseling Centers Fee, is mandatory for (undergraduate (p. 39), graduate (p. 39), and law (p. 39)) students regardless of credit hour load and all students registered in an off-campus program

who are enrolled in the University sponsored student insurance plan (http://www.miami.edu/sa/index.php/student_health_center/insurance_information).

Employees may be charged the Health and Counseling Centers fee on their initial bill, however the charge will be removed from their bill soon after the last day to drop or add a class, if they remain eligible for tuition remission benefits. Dependent of UM employees are treated the same as all other students..

Health Insurance

Domestic students enrolled in six or more credit hours per semester (or considered full time) are required to obtain adequate health insurance (see exceptions (<https://umshare.miami.edu/web/wda/studenthealth/pdf/ProgramsNotCharged.pdf>)). The annual premium for the health insurance plan offered through the University is added to each student’s fees. Domestic students with adequate alternative coverage may request cancellation of the insurance fee via CaneLink. Insurance cancellation must be renewed each year via CaneLink.

Deadlines to waive the insurance are:

- July 25 for the Fall semester
- January 25 for the Spring semester
- April 25 for Summer I
- June 25 for Summer II

Domestic students can check the status of their insurance waiver/cancellation request via CaneLink. The insurance premium will be prorated for those students entering for the first time in the Spring or Summer semesters. No waiver and/or refund will be granted after the above dates.

Students who have previously waived the insurance charge can reinstate the insurance prior to the Spring semester or first Summer session by completing the reinstatement request form and checklist. Coverage can also be reinitiated at the start of the Fall semester by choosing **not** to re-waive the charge, or at other times during the academic year, if within 30 days of termination of other similar coverage, by completing the reinstatement request form and checklist (<https://umshare.miami.edu/web/wda/studenthealth/Forms-1/studentreinstatement.pdf>). Documentation of termination may be requested.

Deadline for reinstatement of insurance is January 25th for the Spring. Please do not consider your reinstatement complete until reinstatement has been verified via CaneLink, the charge has been posted to your student account and all charges on your account have been paid.

All international students are required to enroll in the University sponsored health insurance program. The annual premium for this coverage is added to each student’s fees.

Any additional questions regarding the health insurance requirement should be directed to the Student Health Service at 305-284-9100 or studenthealth@miami.edu.

Immunization

All students are required to provide proof of immunization against measles, mumps and rubella; and tetanus, diphtheria and pertussis.

All new students must also provide proof of immunization against hepatitis B (http://www.miami.edu/sa/index.php/student_health_center/immunization_information/#Hepatitis) and meningococcal meningitis (http://www.miami.edu/sa/index.php/student_health_center/immunization_information/#Hepatitis) **or** sign a waiver declining these immunizations. An immunization (https://umshare.miami.edu/web/wda/studenthealth/pdf/immunization_form_07new.pdf) form must be completed and returned to the Student Health Service prior to arrival on campus. For students less than 18 years old, the meningitis/hepatitis vaccine waivers must be signed by a parent or legal guardian.

All international students must also be screened for tuberculosis by completing page two of the immunization form (https://umshare.miami.edu/web/wda/studenthealth/pdf/immunization_form_07new.pdf).

Deadlines for submission of immunization records are Fall - August 22nd, Spring - January 15th, Summer - April 15th. Failure to comply with this requirement will interfere with registration. A \$50.00 processing fee will be charged for any form received after the start of the semester. Immunization information must be entered at mystudenthealth.miami.edu (<https://mystudenthealth.miami.edu>) prior to faxing or mailing the form to the Student Health Service for verification. Immunization compliance can also be verified at mystudenthealth.miami.edu (<https://mystudenthealth.miami.edu>). Instructions on the use of mystudenthealth.miami.edu (<https://mystudenthealth.miami.edu>) is available at [miami.edu/student-health](http://www.miami.edu/student-health) (<http://www.miami.edu/student-health>).

Most students will be able to obtain the required immunization information from their prior medical providers or from their prior high school, college or university. Students who believe that they were previously immunized but are unable to provide proof of immunization may either obtain blood tests confirming immunity or obtain the necessary immunizations. Immunizations and blood tests documenting immunity are available at the Student Health Service. All charges are in addition to processing fees for late forms.

Immunization against varicella (chicken pox) is suggested and is available at the Student Health Service for a reasonable charge.

Pharmacy

The pharmacy (http://www.miami.edu/sa/index.php/student_health_center/pharmacy) is located on the second floor of the Student Health Service, and can fill prescriptions from most local and out of town medical providers.

Prescription prices are often lower than at local drug stores, and most insurance plans are accepted. Non-prescription medications, vitamins, nutritional supplements, personal care products, over-the-counter medications, and condoms are also available. New prescriptions can be dropped off, called or faxed by the ordering provider. Refill requests will be handled most promptly by having your prescription number available and calling the automated refill line at 305-284-5922. Refills can also be requested by calling 305-284-5922 option 2.

- Students with the Health Service sponsored insurance plan receive enhanced benefits if prescriptions are filled at the Health Service pharmacy.

Contact information for Pharmacy

Telephone: 305-284-5922

Fax: 305-284-4883

Hours of Operation for Pharmacy

Fall and Spring semesters are from 9:00 a.m. to 5:30 p.m., Monday through Friday. Winter break, Spring break, and Summer sessions, 9:00 a.m. to 5:00 p.m. Monday through Friday.

The pharmacy is closed on Saturdays, Sundays, and on University holidays.

University Dining Services

The University of Miami Dining Services program offers students a variety of food options conveniently located throughout the campus. Among these are the:

- Hurricane Food Court - featuring varied concepts including several well-known national brands
- Courtside Eatery at the Wellness Center - featuring a variety of healthy food options
- Jenkins Snack Bar – the perfect spot to grab a quick bite at the School of Business
- The Corner Deli at Outtakes – specializing in sandwiches, salads, & soups made with kosher ingredients
- Outtakes – a full service convenience store
- Starbucks at Richter Library & Student Center – your favorite specialty coffee
- Carts – for your convenience around campus [Communication, Memorial, and Merrick]
- Village Marketplace – providing UV residents your convenience store needs
- Einstein Bros. Bagels – enjoy a delicious bagel at the Law School
- Sebastian's Café – offers specialty sandwiches and salads at UM's Newman Alumni Center
- GOT Spot featuring Rose's Café – our newest addition located at the University's Gables One Tower
- Lime Fresh Mexican Grill – Mexican fare at the University Center
- M20 – made to order deli sandwiches, Panini's, salads, and soups at the Student Center
- Jamba Juice – smoothies at the Student Center

The University of Miami Dining Services program offers a variety of services that meet the individual student's schedule of classes and extracurricular activities. Four different meal plan options are offered at the Hecht/Stanford and Mahoney/Pearson Dining locations for students residing in the residential dorms on campus:

- Unlimited meal plan provides unlimited access into the dining hall
- 19 meal plan provides 19 meals per week
- 14 meal plan provides 14 meals per week
- 8 meal plan provides 8 meals per week
- 100 Block meal plan provides 100 meals to be consumed throughout the fall and spring semesters
- 75 Block meal plan provides 75 meals to be consumed throughout the fall and spring semesters

- 50 Block meal plan provides 50 meals to be consumed throughout the fall and spring semesters
- Enrollment in any of the residential colleges (excluding University Village) requires participation in the 8, 14, 19, or the Unlimited meal plan
- Freshmen must choose from the Unlimited, 19, or 14 Meal Plans only
- Block meal plans are open to Commuter and University Village students only
- Graduate and undergraduate students who are 25 or older as of September 1 of the meal plan contract year are excluded from this requirement
- Commuter and other students not enrolled in the residential colleges may participate in any meal plan
- All meal plans are available seven days a week. Students have the opportunity to eat meals five times a day up to their weekly meal total. Unless they are on the Unlimited meal plan
- Take out is limited to once per meal period
- Releases will be subject to a \$300 cancellation fee plus full charges through the week of cancellation, and may also result in a Dining Dollars surcharge fee
- Approval is obtained solely through the Department of Dining Services
- The University reserves the right to terminate the contract by written notice if a student fails to comply with any of the terms and conditions of the contract and all other University and Dining Services rules and regulations.

For more information on Dining Services write to:

University of Miami, Dining Services
P.O. Box 248106
Coral Gables, FL 33124-6909

call Dining Services at 305-284-3584, email diningservices@miami.edu or visit http://www.miami.edu/finance/index.php/auxiliary_services/dining_services/.

Dining Dollars

- Dining Dollars provided with the meal plan may be used in approved food service locations for food purchases only. Usage is limited to \$20 per day
- Dining Dollars may not be used in vending machines
- Unused Dining Dollars at the end of the Fall Semester will carry into the Spring Semester
- Unused Dining Dollars at the end of the Spring Semester are forfeited
- Dining Dollars may be used at the Hurricane Food Court, Carts, The Corner Deli, Outtakes Convenience Store, Village Marketplace, Rathskeller, Subway, Jenkins Snack Bar, Starbucks, BankUnited Center, Sebastian's Café, Courtside Eatery at the Wellness Center, Lime Fresh Mexican Grill, Jamba Juice, and M20

Dining Services Contract

- The Dining Services contract begins with the first meal of Fall Semester and extends through the last meal of Spring Semester
- The student indicates choice of meal program on the Dining Contract or via CaneLink
- The student's signature on the Dining Contract or election via CaneLink signifies acceptance of that board plan for the period indicated
- Students who do not enroll in any of the meal plans will be force enrolled onto the 14 meal plan. All terms and conditions will be binding upon the student
- Meals are not served when the University is not in session, during official University vacation periods, or between semesters
- The entire semester amount must be paid in full at the same time students pay other registration costs (tuition and fees) during or before the first week of classes
- All students may make changes to their meal plan within the first week of the semester by notifying the Department of Dining Services or via CaneLink
- Changes made to lower meal plans for the Spring Semester will be assessed a \$40 processing fee
- Charges will be prorated up to the end of the week
- Meal plan weeks run Monday through Sunday

Honors

Foote Fellows Honors Program

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years. The Foote Fellows Honors Program offers unique academic freedom to the most educationally accomplished incoming students at the University of Miami.

Additionally, outstanding students may pursue departmental honors. Students who satisfactorily complete the requirements for departmental honors are graduated with Departmental Honors; the award is noted on the graduates diploma and official transcript.

Foote Fellow Honors Program

http://www.miami.edu/admission/index.php/undergraduate_admission/academics/foote_fellows_honors_program/

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Foote Fellows are exempt from the Cognates Program of General Education requirements. Within the curricular framework of their school or college, Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the

University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Departmental Honors Programs

Among the departments offering approved programs for honors study at the junior-senior level for both majors and elective students are American studies, art and art history, biochemistry and molecular biology, biology, business administration, chemistry, computer science, engineering, English, finance, French, German, history, international finance and marketing, international studies, Judaic Studies, marine science, mathematics, meteorology, microbiology and immunology, philosophy, political science, psychology, religious studies, sociology, Spanish, and women's and gender studies. Admission into the program is by invitation, but any student who believes himself or herself qualified may apply to the Chairman or the Departmental Honors Advisor of the major department, preferably during the sophomore or early junior year. Upon successful completion of the required program and with approval by the faculty of the department, the notation Departmental Honors in ... is included in the candidate's diploma and transcript.

Departmental Honors are designed primarily to provide an opportunity for the student to intensify and deepen his or her knowledge of the major, to permit closer associations with professors in the student's area of concentration, and to prepare the student for research, thesis preparation, and other work at the graduate level in the major areas.

Departmental Honors requirements vary by departments; the prospective Departmental Honors student should confer with the Honors Advisor within the department about specific requirements for graduation with Departmental Honors.

Fellows in Latin American Studies (FILAS)

This innovative, dual B.A./M.A. honors degree in Latin American Studies allows outstanding incoming freshmen the opportunity to complete a master's degree in five years, following a rigorous, efficient, accelerated curriculum of 150 credits. This highly selective group of students will enjoy close faculty mentoring and the opportunity to engage in specialized research projects with faculty. Students will gain advanced competence in at least one major language of Latin America, intern for one semester in public or private organizations dealing with Latin America and/or the Caribbean, and take advanced seminars with UM's major Latin American scholars and visiting scholars. In addition, students will receive first-hand experience in their regions of focus by studying abroad. Most study abroad opportunities are for one semester (six months). FILAS students may arrange their own study abroad in consultation with the academic director or they may participate in the university's study abroad options. Applicants must be high school seniors in the top 10% of their class and must have a minimum SAT I score of 1360 or (ACT 31). In addition to the regular Application for Admission to the University, the applicant must complete a separate application form for the Fellows in Latin American Studies (FILAS). The FILAS application form and supporting materials must be submitted

no later than November 1st of the applicant's senior year. A review of completed applications will begin by the end of November. Admitted first-semester freshmen interested in admittance to the FILAS program should contact the Academic Director of the Latin American Studies Programs for application information before October 1st.

For further information and application forms please go to the following web address: www.miami.edu/dualdegree (http://www.miami.edu/admission/index.php/undergraduate_admission/academics/dual_degree_honors).

Honors Program in Biochemistry and Molecular Biology (HPBMB)

The Honors Program in Biochemistry & Molecular Biology (HPBMB) is offered to mature high school seniors with strong academic ability and achievement who seek careers in biological or biomedical science. Students can earn both a Bachelor of Science (BS) and a Doctor of Philosophy Degree (PhD) in approximately six years.

To begin, students are admitted simultaneously into (i) the Honors Program and (ii) a special Privileged Studies Program in the College of Arts and Sciences. Privileged Studies provides flexibility in designing a course of study without the limitations of the conventional course distribution requirements. Furthermore, students are assured of a place in the graduate program of the Biochemistry & Molecular Biology Department after 2.5 or 3 calendar years of undergraduate work, provided that (i) a 3.5 GPA both overall and in the sciences is maintained and (ii) at least 1200 is scored on the graduate records examination (GRE). Undergraduates will conduct intensive laboratory work in the areas of biochemistry, molecular biology, and/or nutritional biochemistry starting in their very first year of the program. By spring of their junior year, students will prepare an undergraduate thesis as preparation for their entry into graduate school. At that time they will start taking graduate courses and continue to do research with a graduate faculty member.

Applicants must have a combined SAT1 score of 1400 (combined Math and Critical Reading scores) or an ACT score of 32 and an unweighted GPA of 3.75. An SAT2 score of at least 600 in Math, and one science (Biology, Chemistry or Physics) is required. Eight semesters of English and mathematics and two semesters each of biology and chemistry must be completed by the time they graduate from high school. All components of the Common Application for undergraduate admission must be completed by November 1 of the senior year. In addition, a supplemental application form for the Honors Program in Biochemistry & Molecular Biology (HPBMB) must be completed at this time, including the personal statement. Finally, letters of recommendation in support of the application must be received from (i) three teachers and (ii) a counselor.

For further information and application forms, please go to the following web address: www.miami.edu/dualdegree (http://www.miami.edu/admission/index.php/undergraduate_admission/academics/dual_degree_honors).

Honors Program in Exercise Physiology (HPEP)

The Kinesiology and Sport Sciences Department offers an accelerated Master degree program for students who have completed their 4-year undergraduate program in Exercise Physiology or Athletic Training. It allows students to complete their Master degree in any of the Exercise Physiology tracks (Clinical and Applied Exercise Physiology, Strength and

Conditioning, and Nutrition for Health and Human Performance) within one year of their BS degree obtained in that major.

The additional year of study will enable students to complete all requirements leading to a Master of Science degree in Exercise Physiology in the School of Education and Human Development, (M.S. Ed.), in 5 years. To be considered, applicants must be in the top 10% of their high school graduating class. Students must have an SAT score of 1000 or an ACT score of 30 and an unweighted minimum GPA of 3.0 or above. The Exercise Physiology and HPEP application forms and supporting materials must be submitted no later than August 1st of the applicant's senior year. A review of completed applications will begin by the end of September.

For further information and application forms please go to the following web address: www.miami.edu/dualdegree (<http://www.miami.edu/dualdegree>).

Honors Program in Law (HPLW)

The University of Miami offers the Honors Program in Law (HPLW) which allows excellent students with high academic ability to gain admission to both undergraduate study and to graduate study in the law school. Such an achievement guarantees admission to the School of Law, pending students meet all program requirements - and gives qualified students the chance to complete both bachelors and Juris Doctor degrees in just six years. Applicants who wish to be considered for admission must be high school seniors in the top 5% of their class, have a minimum SAT I score of 1400 or (ACT 32) and an unweighted GPA of 3.750. In addition to the regular Application for Admission to the University, the applicant must complete a separate application form for the Honors Program in Law. The HPLW application form and supporting materials must be submitted no later than November 1st of the applicant's senior year. A review of completed applications will begin by the end of November.

For further information and application forms please go to the following web address: www.miami.edu/dualdegree (<http://www.miami.edu/dualdegree>).

Honors Program in Marine Geology (HPMG)

The Honors Program in Marine Geology (HPMG) allows exceptional students to pursue an accelerated program in the undergraduate Geological Sciences and graduate Marine Geology and Geophysics programs. The degree consists of an undergraduate Bachelor of Sciences degree in Geological Sciences from the College of Arts and Sciences, combined with a graduate Master of Science degree from the Division of Marine Geology and Geophysics at the University of Miami Rosenstiel School of Marine and Atmospheric Science. Applicants must be high school seniors in the top 10% of their class and must have a minimum SAT I score of 1360 or (ACT 31). In addition to the regular Application for Admission to the University, the applicant must complete a separate application form for the Honors Program in Marine Geology. The HPMG application form and supporting materials must be submitted no later than November 1st of the applicant's senior year. A review of completed applications will begin by the end of November.

For further information and application forms please go to the following web address: www.miami.edu/dualdegree (<http://www.miami.edu/dualdegree>).

Honors Program in Medicine (HPME)

The Honors Program in Medicine (HPME) is offered to mature high school seniors with strong academic ability and achievement who seek careers in medicine or medical science. Students can earn both a Bachelor of Science (BS) and a Doctor of Medicine Degree (MD) in 7 or 8 years.

Students undergo a highly selective screening process and are admitted simultaneously to the University of Miami and the Miller School of Medicine. Accepted students are assured of a place in medical school after 3 or 4 calendar years of undergraduate work assuming they maintain the required grade point average and receive the required MCAT score.

Applicants to the Honors Program in Medicine must be US citizens or permanent residents of the United States with an alien registration receipt card in their possession at the time of application. Residents of any state may apply. Only students who are in their last year of high school are eligible to apply.

To be considered students must:

- have a combined SAT1 score of 1400 (combined Math and Critical Reading scores) or an ACT score of 32 and an unweighted GPA of 3.75
- meet the SAT II score requirement of at least 600 in Math (Level I or II) and one science (Biology, Chemistry or Physics)
- have completed eight semesters of English and mathematics and two semesters each of biology and chemistry by the time they graduate from high school complete all components of your Common Application for undergraduate admission and all standardized testing by November 1
- complete a Dual Degree Honors Program Supplemental Application for Medicine by November 1

For further information and application forms please go to the following web address: www.miami.edu/dualdegree (<http://www.miami.edu/dualdegree>).

Honor Societies

The following honor societies have chapters at the University of Miami:

- Alpha Epsilon Delta (Pre-Med)
- Alpha Epsilon Rho (Electronic Media)
- Alpha Eta Mu Beta (Biomedical Engineering)
- Alpha Kappa Delta (Sociology)
- Alpha Lambda Delta (Freshmen General Scholarship)
- Alpha Phi Sigma (Criminology)
- Alpha Rho Chi (Architecture)
- Beta Alpha Psi (Accounting)
- Beta Beta Beta (Biology)
- Beta Gamma Sigma (Business)
- Chi Epsilon (Civil, Architectural and Environmental Engineering)
- Chi Epsilon Pi (Meteorology)
- Eta Kappa Nu (Electrical and Computer Engineering)
- Eta Sigma Phi (Classics)
- Golden Key (General Scholarship)

- Honors Students' Association (General Scholarship)
- Mortar Board (General Scholarship)
- Omicron Delta Kappa (General Scholarship)
- Phi Beta Kappa (General Scholarship)
- Phi Lambda Pi (General Scholarship)
- Pi Kappa Lambda (Music and Music Education)
- Pi Lambda Theta (Education)
- Pi Sigma Alpha (Political Science)
- Pi Tau Sigma (Mechanical and Aerospace Engineering)
- Psi Chi (Psychology)
- Rho Rho Rho (Marine Science)
- Sigma Delta Pi (Spanish)
- Sigma Gamma Epsilon (Geological Sciences)
- Sigma Pi Sigma (Physics)
- Sigma Tau Delta (International English)
- Sigma Theta Tau (Nursing)
- Tau Beta Pi (Engineering)
- Theta Alpha Kappa (Religious Studies)

First-Year Seminars

First-Year Seminars

- FFA 190-199. First-Year Seminars in Arts
- FLT 190-199. First-Year Seminars in Literature
- FNS 190-199. First-Year Seminars in Natural Science
- FPR 190-199. First-Year Seminars in Philosophy/Religion
- FSS 190-199. First-Year Seminars in the Social Sciences

Conceived as alternatives to the typical survey courses that incoming students take, First-Year Seminars offer a limited number of students a small class focused on a specific topic. The seminars are interdisciplinary in nature and/or experimental in subject and design. Seminars are taught by distinguished faculty from a wide variety of academic disciplines and offer students the opportunity to engage in research from their first semester on campus. No student may take more than one. First-Year Seminars are 3 credit hour courses that may be used to fulfill general education requirements in STEM, People & Society, or Arts & Humanities, as they can be a part of cognates.

Veterans

Veterans' Benefits

The University of Miami maintains a Veterans' Affairs (V.A.) Office in the:

Office of the Registrar
P.O. Box 248026
Coral Gables, Florida 33124-6914

This office assists veterans and dependents of veterans who are entitled to V.A. educational benefits under Chapter 30, 31, 32, 33, or Chapter 35 of Title 38, U.S. Code, and Chapter 1606 or Chapter 1607, Title 10, USC. The University of Miami participates in the Yellow Ribbon Program for qualified Chapter 33 recipients.¹ Anyone needing information on Veterans' Benefits is advised to contact the Office of the Registrar

or visit the Registrar's website at www.miami.edu/registrar (<http://www.miami.edu/registrar>) and select "Veteran Information".

V.A. students with previous post-secondary educational training/experience must request an official transcript(s) be sent to the School. If the transcript has not been received prior to the end of the student's initial semester, or as specified in the guidelines under the program he/she is enrolled in, the Veterans' Affairs Office will not re-certify the student for V.A. educational benefits. The Veterans' Affairs Office may re-certify the student after the transcript has been received.

The V.A. student's previous training and/or experience will be evaluated by the School. Should credit(s) be accepted and/or awarded, the V.A. student's tuition and training time may be reduced proportionally. The V.A. and the student will receive a written notice of the credit(s) allowed.

¹ The University of Miami's Yellow Ribbon Program is available to students in the Fall and Spring semesters only.

Standards of Progress Policy for Veterans

Satisfactory progress is indicated by a Satisfactory Progress Average (SPA), which is a variation of the Quality Point Average (QPA). The SPA is computed by the following formula:

A	4
B	3
C	2
D	1
E	0
IE	0
F	0
IF	0
NG	0

- Note that "E's", "F's", "IE's" and "IF's" are included in the SPA.
- A grade of CR will be counted as CR=2.
- The SPA is determined by dividing the total quality points earned by the credits attempted.

When a course is dropped with a grade of "W", the V.A. requires a student to repay any benefits received for that course unless the V.A. determines there are mitigating circumstances involved.

Benefits will not be paid for courses in which a student receives an NG or NC.

- An SPA of 2.0 or greater for undergraduate students, or 3.0 or greater for graduate students, is satisfactory progress.
- Less than 2.0 for undergraduate, and less than 3.0 for graduate students, is not satisfactory.
- Law and M.D. students will be considered to be making satisfactory progress as long as they meet the academic standards set by their schools for retention in their degree programs.
- The SPA is non-cumulative. It is computed each term on a one-term basis.
- Any term a student's SPA is less than 2.0 for undergraduate or 3.0 for graduate, he/she will be notified that he/she is not making

satisfactory progress. He/she will be certified, in a probationary status, for only one additional semester.

- If, at the end of this additional semester, his/her SPA for that semester is still below the satisfactory level, the V.A. will be notified of the unsatisfactory progress and his/her educational benefits will be terminated.
- A student whose V.A. educational benefits have been terminated for unsatisfactory progress may petition the Veterans' Affairs Office to be re-certified after one semester has elapsed. Please address your request to:

VA Certifying Official
c/o Office of the Registrar
University of Miami
P.O. Box 248026
Coral Gables Florida 33124-6914

- The Veterans' Affairs Office may re-certify the student for V.A. educational benefits only if there is a reasonable likelihood that the student will be able to attain and maintain satisfactory progress for the remainder of the program.

For V.A. Payment of Benefits Purposes

All V.A. Students are required to notify the V.A. Certifying Official, every semester, in writing, their intent to use their benefits, and therefore to be certified for that semester.

- An "I" (incomplete) designation for a course must be converted to a credit grade counting toward graduation, or a failing grade, by the end of **one calendar year** unless permission for a delay is granted by the Academic Dean.
- An "NG" (no grade) designation for a course must be converted to a credit grade counting toward graduation, or a failing grade, by the end of **one regular semester** unless permission for a delay is granted by the Academic Dean.
- If permission is obtained, a memo signed by the Academic Dean must be given to the Veterans' Affairs Office during the semester in which the "I" or "NG" was to be removed. This memo should also state the period of time for which the delay is approved.
- If a memo giving permission for a delay in the "I" or "NG" removal is not received by the end of the semester in which the "I" or "NG" was to be removed, the V.A. will be notified of the incomplete grade resulting in a loss of educational benefits for that course.

Please consult with our office regarding regulations for "IP's" received in Thesis, Research, or Dissertation.

There is an official period after each registration in which a student may drop a course without a "W" appearing on his/her grade report. This period is not to be confused with the last date to drop a course with a "W" grade. Please check the academic calendar on the Registrar's website for dates: www.miami.edu/registrar (<http://www.miami.edu/registrar>).

Class Attendance and Absences

- Regular and punctual class attendance is vital for all students.
- It is the student's responsibility to know the instructor's policies regarding examinations, penalties for absences, and late or missed work.

- A copy of the student's transcript will be placed in the student's permanent file maintained by the Veterans' Affairs Office.

Because of the far-reaching effects of these revisions in the V.A. educational benefits program, it is suggested that you exercise care and judgment in your program planning and in the selection of your courses. V.A. educational benefits will only pay for courses that are toward the program in which you are enrolled.

Veterans and children of deceased or totally disabled veterans receive training allowance in proportion to the schedule carried. The full load required to receive full training allowance is 12 credits in undergraduate school (9 credits in Graduate School).

UNDERGRADUATE ACADEMIC PROGRAMS

Architecture

<http://www.arc.miami.edu>

Introduction

The School of Architecture offers a five-year, accredited professional program leading to the Bachelor of Architecture degree. The Bachelor of Architecture fulfills the educational requirements for professional registration. It offers specialized architectural study through upper-level studios and architecture electives, as well as opportunities for the study of liberal arts through the elective sequence.

The School of Architecture's location in Coral Gables within the Miami metropolitan area provides an outstanding laboratory for research and advanced study; the challenges of conservation and development are intense in one of the nation's fastest growing urban areas. These challenges result in an increasing demand for skilled professionals. Students have the opportunity to work with the faculty in the exploration of theoretical issues and in the resolution of practical problems. The School of Architecture values and sustains a creative, open and supportive environment, emphasizing personalized instruction in small classes and studio courses.

Mission

- Prepare students for professional leadership and lifelong learning in architecture, urbanism and related fields.
- Preserve and develop knowledge for the profession through research and practice.
- Share knowledge locally and internationally through community service.
- Promote building and community design goals of environmental responsibility, social equity and economic sustainability.

Accreditation

The school is a member of the Association of Collegiate Schools of Architecture and the Association of Collegiate Schools of Planning, and is fully accredited by the National Architectural Accreditation Board, who asks each school to include the following paragraph on professional degrees in all literature:

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards. Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional

graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Resources

The school's resources, including state-of-the-art computer and digital fabrication laboratories, are enhanced by the interdisciplinary opportunities offered by the other schools and colleges of the University of Miami. A distinguished faculty is joined each semester by internationally renowned visiting scholars and designers.

Other programs that offer academic opportunities for undergraduate architecture students include:

- the **Historic Preservation Certificate**
- the **Classical Architecture Certificate**
- the **Master of Urban Design**
- the **Master of Real Estate Development and Urbanism**
- the **M.S. Architecture**
- the **BSAE/MARCH**
- the **BARCH/MBA**

Dual Degree Programs

A six year dual degree program leading to a Bachelor of Science in Architectural Engineering and a Master of Architecture is also available. The program is open to exceptional students who are admitted to the graduate program at the end of their junior year. Upon completion of this program, graduates are eligible for professional registration as both an engineer and an architect. The course requirements for the BSAE/MARCH program are as follows:

Majors

Major in Architecture

- Bachelor of Architecture (p. 58)

Minors

Minor in Architecture

- Architecture (p. 61)

Joint

Joint Degrees in Architecture

- Bachelor of Science in Architectural Engineering and Master of Architecture (p. 60)

Academic Policies

Admission

Applications for incoming freshmen are processed and reviewed by the Office of Admission. Enrollment in the School of Architecture is selective and highly competitive. Application to the Bachelor of Architecture program is requested by January 1st. Early application is encouraged.

Freshman

Admission decisions are based on the following factors: portfolio, secondary school record, SAT/ACT score, counselor's evaluation and the student essay.

Transfer Students

The academic accomplishments of each transfer student will be evaluated on an individual basis. A 3.0 G.P.A. is required for transfer admission. A portfolio is required for advanced placement in the design sequence of the Bachelor of Architecture Program. Application deadline for the School of Architecture program is March 1st.

All transfer students requesting advanced placement in design must provide a portfolio of previous academic design and graphic work and three academic recommendations. Students accepted into third year design will be required to complete a transitional design course (ARC 301) during the summer prior to enrollment. The courses MTH 130 and PHY 103, or their equivalent are to be completed before admission into ARC 305.

Student Responsibilities

Students in the School of Architecture are responsible for planning their own programs and for meeting degree requirements. It is the student's responsibility to understand and fully comply with all the provisions set forth in this Bulletin and written changes to their program of study. Students are provided assistance by advisors and faculty members. Written requests for variation from program or school requirements are reviewed by a faculty committee.

Academic Progress and Probation

The School of Architecture will review each student's record at the end of each semester. When a student's semester or cumulative average is less than stated below, or progress toward degree completion is unsatisfactory, the student will be placed on academic probation or warning in accordance with School of Architecture policies and procedures. Students on probation are not permitted to enroll in more than 13 credit hours, shall meet on a monthly basis with their academic advisor, and may have a STOP placed upon their future enrollment until grades for work-in-progress are reviewed. First semester freshmen who have a semester grade-point average below 2.0 shall be placed on probation.

Credit Hours Earned	CGPA
Fewer than 33 credit hours	2.0
33-64 credit hours	2.1
65-96 credit hours	2.2
More than 96 credit hours	2.3

Students must complete all Architecture Design studios with a grade of C- or higher. Students receiving two consecutive C- grades in architecture design studios will have to repeat the later course. Students receiving a grade of D+ or lower in an architecture design studio must repeat the studio and will be restricted to a 15 credit hour semester load. The student will meet with an academic advisor on a monthly basis and will be reviewed prior to continuation.

Academic Dismissal

A student in the School of Architecture whose CGPA or progress toward degree completion falls below the level of the minimum standards of the University of Miami may be dismissed. In the School of Architecture this includes a student who receives three grades of D+ or lower in design courses.

Class Attendance and Absences

Class attendance is mandatory for all architecture courses; three unexcused absences constitutes grounds for dismissal from the course and/or a failing grade. Students are required to be present for an entire design review, therefore, students arriving late or departing early from class will be considered absent. Excused absences require written notification and are granted by the instructor.

Failing Grades or Incompletes

A required architecture course in which a student receives a failing grade must be repeated during the first subsequent semester in which the course is offered. Incompletes can be given only for reasons of serious illness or exceptional hardship.

Student Work

The University may retain selected student work and may place it in the architecture archives for exhibition, publication, or other use as the University deems appropriate. Each student in architecture is encouraged to maintain a design portfolio of every project undertaken throughout the five-year program.

Permission to Take Courses at Another University

A form is available from the Office of Academic Services and should be completed and approved PRIOR to off-campus enrollment. Students are encouraged to provide complete documentation for each course request form. Each student requesting transfer credit hour must supply the University of Miami registrar with certified transcripts. Additionally, each student should review transfer evaluations to be certain that all courses are correctly evaluated for credit hour. The proper transmission and transfer of credit hours is the responsibility of the individual student. The last 45 credit hours towards the degree must be completed at the University of Miami.

Changes to Academic Requirements

The School reserves the right to change academic requirements.

Computer Requirement

Undergraduate and graduate students entering the program are required to purchase their own computers for use in the design studio. The School of Architecture computing resources are accessible via a wireless network with an approved device and subject to School and University policy. System requirements are published on the School of Architecture web site.

Requirements for Graduation

Architecture students must complete a cognate in People and Society and a cognate in either Arts & Humanities or STEM.

Bachelor of Architecture

Specific procedures and policies are detailed in the student handbook available from the Office of Academic Services.

First Year		Credit Hours
First Semester		
ARC 101	Architecture Design I	6
ARC 111	Drawing I	3
ARC 121	Architecture and Culture	1
MTH 130	Introductory Calculus	3
ENG 105	English Composition I	3
Term Credit Hours:		16
Second Semester		
ARC 102	Architecture Design II	6
ARC 112	Drawing II	3
ARC 122	Architecture and Behavior	1
PHY 103	General Physics	3
ENG 106	English Composition II	3
Term Credit Hours:		16
Second Year		
First Semester		
ARC 203	Architecture Design III	6
ARC 223	Architecture and the Environment	1
ARC 230	Building Technology I: Materials Methods.	3
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
ARC 213	Drawing Iii	3
Term Credit Hours:		16
Second Semester		
ARC 204	Architecture Design IV	6
ARC 231	Building Technology: Structural Systems	3
ARC 268	History of Architecture II: Baroque through Contemporary	3
Cognate A		3
Cognate A		3
Term Credit Hours:		18
Third Year		
First Semester		
ARC 305	Architecture Design V	6
ARC 362	Environmental Building Systems I	3
CAE 213	Behavior of Structural Systems I	3
Cognate A		3
Cognate B		3
Term Credit Hours:		18
Second Semester		
ARC 306	Architecture Design VI	6
ARC 363	Environmental Building Systems II	3
CAE 313	Behavior of Structural Systems II	3
Cognate B		3
Architecture Elective		3
Term Credit Hours:		18
Fourth and Fifth Years		

ARC 407	Architecture Design VII	6
ARC 408	Architecture Design VIII	6
ARC 452	Management of Professional Practice	3
ARC Professional Practice Elective		3
ARC 509	Architecture Design IX	6
ARC 510	Architecture Design X	6
Cognate B		3
Non- Architecture Electives		15
Architecture Electives		18
Select one of the following ARC History Electives:		3
ARC 371	Ancient Architecture	
ARC 373	Early Christian, Byzantine, and Medieval Architecture	
ARC 475	Colonial Architecture	
ARC 476	19th and 20th Century Architecture	
ARC 554	Architecture of South Florida	
ARC 570	Modern Architecture	
ARC 572	Selected Topics in World Architecture	
ARC 574	Renaissance Architecture	
ARC 590	History of Cities	
Term Credit Hours:		69
Total Credit Hours:		171

Curriculum Notes

The School reserves the right to retain all student projects done in for academic credit hour. MTH 130 AND ENG 105 are entry-level courses. Courses taken to achieve entry-level status cannot be considered towards the total credit hours required for the B.Arch. Degree.

Electives

The program requires four types of electives:

- Architecture electives (7 courses)
- Investigations in areas of architectural interest beyond the core requirements
- Professional practice elective (1 course)
- Focused examination of a topic related to practice
- Non-Architecture electives (5 courses)
- Explorations of general University offerings
- Minor (4-5 courses) or 2 cognates (6 courses)
- Concentrated study in an area outside of architecture

A minor or its equivalent is required for all students who began the program prior to the Fall of 2013. All others shall complete the cognate requirements. Areas are selected in consultation with faculty advisors.

Bachelor of Science in Architectural Engineering and Master of Architecture

Year One		
First Semester		Credit Hours
CAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
ARC 121	Architecture and Culture	1
Term Credit Hours:		15
Second Semester		Credit Hours
CAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Year Two		
First Semester		Credit Hours
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
ARC 294	Introduction to the Development of Architecture	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
IEN 311	Applied Probability And Statistics	3
Cognate Elective ¹		3
Term Credit Hours:		17
Second Semester		Credit Hours
CAE 310	Structural Analysis	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 311	Introduction to Ordinary Differential Equations	3
MAE 303	Thermodynamics I	3
MTH 211	Calculus III	3
Term Credit Hours:		16
Year Three		
First Semester		Credit Hours
CAE 320	Concrete Structures	3
CAE 330	Fluid Mechanics	3
ARC 501	Architecture Design and Theory I	6
ARC 511	Drawing	3
Cognate Elective ¹		3
Term Credit Hours:		18
Second Semester		Credit Hours
CAE 321	Steel Structures (ARC 532)	3

CAE 380	Electrical and Illumination Systems for Buildings (ARC 563)	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals (ARC 562)	3
ARC 502	Architecture Design and Theory II	6
ARC 513	Computing	3
Term Credit Hours:		18
Summer (Required 10-week semester)		
ARC 503	Architectural Design and Theory III	6
Term Credit Hours:		6
Year Four		
First Semester		Credit Hours
CAE 480	Plumbing and Life Safety For Buildings	3
ARC 504	Architecture Design and Theory I	6
ARC 517	Construction Documents	3
Technical Elective ²		3
Cognate Elective ¹		3
Term Credit Hours:		18
Second Semester		Credit Hours
CAE 370	Geotechnical Engineering I	3
CAE 371	Geotechnical Laboratory	1
CAE 402	Professional Engineering Practice	3
CAE 460	Construction Management (Arch Elective)	3
ARC 531	Building Technology II: Structural Systems	3
ARC 568	History of Architecture II: Baroque through Contemporary	3
Term Credit Hours:		16
Year Five		
First Semester		Credit Hours
CAE 403	Senior Design Project I - Civil Architectural	1
CAE 470	Foundations and Earth Retaining Systems	3
CAE 480	Plumbing and Life Safety For Buildings	3
CAE 481	Building Mechanical Systems II: HVAC Systems	3
ARC 608	Architecture Design	6
ARC 620	Architecture Theory	3
Term Credit Hours:		19
Second Semester		Credit Hours
CAE 404	Senior Design Project II - Civil Architectural	2
ARC 609	Architecture Design	6
Architecture Elective		3
Cognate Elective ¹		3
Cognate Elective ¹		3
Term Credit Hours:		17

Year Six		
First Semester		
ARC 652	Management of Professional Practice, Environmental Building Systems I	3
ARC 699	Directed Research	6
	Architecture Elective	3
	Cognate Elective ¹	3
Term Credit Hours:		15
Second Semester		
CAE 581	Energy-Efficient Building Design	3
ARC 610	Architecture Design Degree Project	6
	Architecture Elective	3
Term Credit Hours:		12
Total Credit Hours:		203

¹ To be selected from approved lists of People and Society (PS)/Arts and Humanities (HA). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours). Students are advised to select the HA Cognate that includes the following courses: ARC 230 or ARC 630, ARC 268 or ARC 476 and ARC 594.

² To be selected from approved list of Technical Electives

Honors

Henry Adams Medal

Awarded in conjunction with the American Institute of Architects to the highest-ranking graduating student for scholarship and excellence in a professional architecture program.

Henry Adams Certificate

Awarded in conjunction with the American Institute of Architects to the second highest-ranking graduating student for scholarship and excellence in a professional architecture program.

Other honors, distinctions, and awards are presented annually for excellent student performance.

Minor in Architecture

A minor in architecture is available to non-architecture majors as an option in the undergraduate architecture program. The purpose of the minor is to provide a general understanding and appreciation of the discipline of architecture. The minor does not satisfy professional requirements in architecture but does offer an introductory basis for further study at the undergraduate or graduate level. The program requires 12 credit hours in architecture courses.

Four architecture electives from the following list of courses may be taken to complete the requirements for the minor.

ARC 121	Architecture and Culture	1
ARC 122	Architecture and Behavior	1
ARC 141	On-Site Survey of European Architecture and Urbanism	3-6

ARC 223	Architecture and the Environment	1
ARC 267	History of Architecture I: Ancient, Medieval and Renaissance	3
ARC 268	History of Architecture II: Baroque through Contemporary	3
ARC 292	Introduction to Architecture Design I	3
ARC 293	Introduction to Architecture Design II	3
ARC 294	Introduction to the Development of Architecture	3
ARC 323	On Site Study of Selected Architecture and Urbanism	3-6
ARC 324	On Site Graphic Analysis of Selected Architecture and Urbanism	3
ARC 371	Ancient Architecture	3
ARC 373	Early Christian, Byzantine, and Medieval Architecture	3
ARC 475	Colonial Architecture	3
ARC 476	19th and 20th Century Architecture	3
ARC 481	Special Problems	1-3
ARC 551	Contemporary Theories of Architecture	3
ARC 554	Architecture of South Florida	3
ARC 572	Selected Topics in World Architecture	3
ARC 574	Renaissance Architecture	3
ARC 581	Special Problems	3
ARC 582	Special Problems	3
ARC 583	Special Problems	3
ARC 584	Special Problems	1-3
ARC 585	Special Problems	1-3
ARC 586	Special Problems	1-3
ARC 590	History of Cities	3

Arts and Sciences

<http://www.as.miami.edu>

Introduction

The College of Arts and Sciences at the University of Miami is a community of scholars and students that encourages the quest for a deeper understanding of the human experience and fosters a personal commitment to lifelong learning, intellectual growth, and the enduring values of the liberal arts.

The College is dedicated to helping students develop analytical and communication skills, creative abilities, and a sense of civic responsibility needed in an increasingly complex society. It strives to provide them with a rigorous grounding in their chosen field, an awareness of the interconnectedness of disciplines, and an exposure to the discovery of new knowledge.

The College seeks to create an intellectual environment that enhances individual growth and supports scholarly activities and creative endeavors that augment human knowledge and understanding.

Degree Programs

The College of Arts and Sciences offers courses leading to the degrees of:

- Bachelor of Arts
- Bachelor of Science
- Bachelor of Fine Arts
- Bachelor of Liberal Arts

Graduates with one of these degrees will have had a sound liberal arts introduction to the major fields of human knowledge. In addition to this background, each bachelor's candidate has the opportunity to select an area of academic or of occupational interest. Professional or pre-professional curricula leading to certification in teaching, or to dentistry, medicine, law, etc., can be built into the degree program.

Academic Policies

The College of Arts and Sciences follows the general university academic policies outlined in the General Academic Information section of this Bulletin.

Academic Appeal Policy and Procedures

The College's Faculty Committee on Academic Appeals (FCAA) is responsible for reviewing and conducting hearings on appeals related to exceptions to academic policy under the authority of the College of Arts and Sciences. Appeals **must** be submitted directly by the student from their student UM email account. Appeals will not be accepted from parents/guardians, doctors, attorneys, or anyone else other than the student. Please read below for a list of acceptable and unacceptable appeal requests. **All appeals related to course drops/enrollment adjustments MUST be submitted within 30 calendar days from the semester end date noted on the academic calendar for the semester in question.** Transcripts will not be altered once a student has graduated and has a conferred degree. Appeal decisions will be delivered to students' UM email account within 2 to 3 business weeks upon receipt of the appeal. All appeal decisions are final and non-negotiable.

The student maintains full responsibility for the impact of an appeal decision, especially as it relates to their account, financial aid, visa status, academic progress, and graduation timeline.

Steps to Submit an Acceptable Appeal:

1. Draft an email to the Assistant Dean of Academic Services – see website for contact information. as.miami.edu/advising.
2. The appeal email must briefly describe the situation, the reason/justification for the request, the specific request/action, the specific year/term/course ID as applicable to the type of appeal, and the student's name/ID.
3. Appeals must be accompanied by supporting documentation, if applicable to the type of appeal. Documentation must be submitted as an attachment to the appeal email. It is the responsibility of the student to determine what documentation best supports their appeal case. We will not pre-approve documentation before submission of the appeal. We will only accept documentation from the student submitting the appeal.

Appealable Actions for Committee Review:

1. Request for retroactive drop of one, or more, courses after the last date to drop without a W, and/or after the last day to drop a class for the semester in question. **This type of appeal is only considered for cases of extreme, unforeseen circumstances or medical emergencies that can be documented.** Retroactive drop action can **NOT result in a complete withdrawal (all enrolled classes dropped)**.
2. Request for waiver of the 45 credit hour residency requirement
 - a. Appeal must include the institution where credits will be/were taken, the year/term to be/were taken, and the exact number of credits to be considered for waiver.
 - b. This process **does not** preapprove transfer equivalencies or guarantee transferability of courses. Students are responsible for adhering to all necessary policies and procedures related to transferring courses to UM.
3. Substitution for, or waiver from College of Arts and Sciences' General Education Requirements (not University general education requirements – see below).

The following requested actions are not appealable through the College of Arts and Sciences FCAA:

1. Adjustment of academic record/transcript after graduation and a conferral of the degree: See University Bulletin
2. Retroactive withdrawals for Fall/Spring semesters
 - a. The University has a formal withdrawal policy found here: http://www.miami.edu/index.php/cane_success_center/withdrawal/
3. Retroactive withdrawals for summer sessions that alters the effective date of the withdrawal
 - a. See withdrawal policy linked above
4. Grade Appeals, including incomplete grades that are now IF grades
 - a. See Faculty Senate Appeals process in Bulletin here: <http://www.miami.edu/index.php/academicbulletin/>
5. Waiver of University General Education Requirements as defined by the Bulletin: No appeals process available
6. Substitution for/waiver from any requirements related to a major or minor: Under respective department authority

7. Excused absences from a course(s): Absences are under the authority of individual instructors
8. Credit Only Option after deadline: No appeals process available

Requirements for Graduation

Bachelor of Arts and Bachelor of Science Degrees

Candidates for degrees in the College of Arts and Sciences must complete the credit hours of work and achieve the quality point average specified for students in the University at large. These requirements are indicated in the *Academic Procedures and Information* section of this Bulletin. Candidates must also complete the General Education requirements of the University, i.e., the *Proficiencies*: English Composition, Advanced Writing and Communication, and Quantitative Skills; completion of a cognate in each of the three areas: Arts & Humanities, People & Society, and Science, Technology, Engineering & Mathematics. The university offers a large number and range of cognates. Additionally, each major and minor fulfills the cognate requirement in one Area of Knowledge.

I. Additional Proficiencies and Areas of Knowledge Requirements

In addition to the university's general education requirements, the college has the following requirements and provisos:

Bachelor of Science

- Second Language Proficiency: Degree candidates must earn at least 3 credit hours of a language other than English at the 200 level or higher.
- Advanced Writing and Communication Proficiency: Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline.
- Mathematics Proficiency: Degree candidates must complete a calculus sequence: MTH 161-MTH 162, MTH 140-MTH 141-MTH 162, or MTH 171-MTH 172.
- Computing or Statistics Proficiency: Degree candidates must earn at least 3 credit hours in either
 1. a computing course approved by the major department; or
 2. a statistics course approved by the major department.
- Natural Science Area of Knowledge: Degree candidates must earn at least 3 credit hours in Natural Science, in one of the following departments: Biology, Chemistry, Geological Sciences or Physics. These credit hours must be earned in courses that count toward a major in that department. These credit hours may double count with any other requirement.

Bachelor of Arts

- Second Language Proficiency: Degree candidates must earn at least 3 credit hours of a language other than English at the 200 level or higher.
- Advanced Writing and Communication Proficiency: Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline.
- Mathematics Proficiency: Degree candidates must earn at least 3 credit hours in a Mathematics course numbered MTH 108 or higher.

- Natural Science Area of Knowledge: Degree candidates must earn at least 3 credit hours in Natural Science: Anthropology (only APY 203), Biology, Chemistry, Ecosystem Science and Policy (only ECS 111, ECS 112, ECS 202), Geography (only GEG 120), Geological Sciences, Marine Sciences (except MSC 313, MSC 314), Physical Sciences, and Physics. These credit hours may double count with any other requirement.

Bachelor of Fine Arts

- Advanced Writing and Communication Proficiency: Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline.
- Mathematics Proficiency: Degree candidates must earn at least 3 credit hours in a Mathematics course numbered MTH 108 or higher.

Bachelor of Liberal Arts

- Advanced Writing and Communication Proficiency: Degree candidates must complete at least four writing courses, and at least one writing course must be in the student's major discipline.
- None

Details of the Second Language Proficiency

Second language requirements can be fulfilled through courses offered in the departments of Modern Languages and Literatures (Arabic, Chinese, French, German, Hebrew, Italian, Japanese, Portuguese, and Spanish, except for courses numbered 310-319), Classics (Latin and Greek), and Teaching and Learning in the School of Education (American Sign Language). Special 100- and 200-level Spanish courses are required of heritage Spanish speakers who choose to fulfill the language requirement by taking Spanish. Courses taken in order to meet second language requirements, including necessary prerequisite courses, cannot be used in cognates taken to fulfill the Areas of Knowledge requirement.

Students who graduated high school at an institution in which the primary language of instruction and the primary language of school administration was not English, are eligible for exemption from the CAS second language requirement. Exemption will be granted by CAS Office of Student Advising. To be granted the exemption, the student must have on file the equivalent of a high school diploma from such an institution.

Details of the Advanced Writing and Communication Proficiency

Degree candidates must complete at least four writing courses, and at least one writing course must be in one of the student's major disciplines (not applicable to BLA students who do not select a major). Students should consult the bulletin section of their major to find out which writing-intensive courses are acceptable to the discipline.

Individual writing course offerings may make the writing component independent of the rest of the course. As such the the writing component might be optional, the writing component might not contribute to the overall grade, and writing credit might be awarded even if the overall grade is a fail.

Transfer students may use a maximum of two transfer courses towards the writing requirement.

Separation of Proficiencies and Areas of Knowledge

Courses taken to fulfill the proficiency requirements cannot be used in cognates taken to fulfill the Areas of Knowledge requirement.

II. Major and Minor Fields (B.A. and B.S degrees)

B.A. and B.S. degree candidates must choose a major offered in the college by one of the disciplines with an undergraduate academic program in the college, and at least one other minor or major from any of the disciplines in the university. B.S. degree candidates must choose a major from one the STEM fields: Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Ecosystem Science and Policy, Geological Sciences, Mathematics, Microbiology and Immunology, Neuroscience, Physics, Psychology. B.A. degree candidates must choose at least one major or minor from a field other than the STEM fields: Biochemistry and Molecular Biology, Biology, Chemistry, Computer Science, Geological Sciences, Mathematics, Microbiology and Immunology, Neuroscience, Physics, Computer Information Systems, and Engineering. The majors and minors taken by a student must come from different fields of study. Multiple majors and minors may be taken from departments and programs that offer multiple fields of study. To find the requirements for majors and minors, consult this bulletin under the discipline concerned, and confer with the designated departmental representatives. Any student who does not make satisfactory progress towards a major may be required to change or relinquish candidacy for the degree.

Individual courses may be used to satisfy the requirements of multiple majors and minors. However, a minimum combined total number of credit hours must be completed in courses required for the majors and minors. The minimum number of credit hours is 24 times the number of majors, plus 9 times the number of minors.

III. Additional Bachelor of Fine Arts Requirements

B.F.A. degree candidates must satisfy the requirements of a major as determined by the Department of Art and Art History or the Department of Theatre Arts. B.F.A. studio majors must minor in Art History. Students must maintain at least a GPA of 3.0 in their major, and an overall GPA of 2.0 or above as specified in departmental and program sections of this bulletin.

IV. Additional Bachelor of Liberal Arts Requirements

B.L.A. degree candidates must complete 120 credit hours with an overall GPA of 2.0 or above. At least 60 of the 120 credit hours must be in 300, 400, or 500-level courses. Of these 60 credit hours, 30 credit hours must be completed in the College of Arts and Sciences. No more than 40 credit hours in 300-level or higher courses may be earned in any one department, and no more than 52 total credit hours may be earned in any one department. Up to 30 of the 120 credit hours may be courses from other schools and colleges of the university except for those courses expressly excluded from recognition by the college. Students may, but are not required to, elect a major in a department. If a student fulfills the departmental requirements for the major, it will be recorded on the official transcript. No minor may be elected.

V. Other Requirements

General Electives

Beyond the general education and major/minor courses, all students must complete sufficient general electives to reach a total of 120 credit hours. General electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses.

Credit Only

Only general electives may be taken under this option. Courses that are used to satisfy the major, the minor, the distribution requirements of the College and the general education requirements of the University may not be taken for credit only.

Exemption

Exemption from a course or courses refers specifically to the following:

1. credit by examination through the Advanced Placement (AP) or International Baccalaureate (IB) programs;
2. advanced placement by proficiency examinations or test scores, with no credit earned;
3. advanced standing and/or placement, with credit earned.

Transfer Credit Hours

Credit hours transferred from other institutions may not count towards the completion of a major or minor without the written approval of the department or program.

Independent Major

The Independent Major allows students to pursue a BA or a BS degree in the College of Arts and Sciences, depending on the field of study and in consultation with the Guidance Committee. Students will fulfill all requirements for such degrees.

Students may begin to develop a proposal for the IM when they have reached sophomore standing. The proposal should explain why existing majors are inappropriate or inadequate to satisfy the student's interests. Students will be ineligible for declaring the IM upon reaching senior standing, that is, they must declare as a junior and spend at least two (2) full semesters in residence at UM in the IM. Students will require a cumulative UM GPA of 3.5 or higher to be eligible for the IM.

A student's Guidance Committee typically will comprise two tenured or tenure-track faculty, typically from different departments, who represent the disciplinary breadth of the courses selected for the IM. A third Guidance Committee member might be appropriate when the proposed course of study encompasses expertise from three Departments or disciplines. The Guidance Committee Chair, who has primary oversight responsibility regarding satisfactory completion of the major, will serve as the primary advisor for the student's senior research/creative project under most circumstances, and must be a tenure-track faculty. Exceptions to the Chair serving as the primary advisor might include situations where there are co-advisors.

The IM proposal must include at least thirty (30) credit hours of coursework beyond those needed to fulfill General Education requirements. Of those thirty (30), at least six (6) must be at the 300 level; additionally, six (6) credit hours will be satisfied by a Capstone project/thesis in the last two (2) semesters of the Bachelor's degree. Because many courses have variable availability and conflicts are inevitable, strong proposals will identify more than 30 credit hours of coursework before being submitted to the Advisory Committee for approval. If a student wishes to pursue the IM as a double-major, the Advisory Committee should give particular attention to the appropriateness of the student's plan of study; no double-counting of credit hours will be allowed between the two majors.

PreLaw Preparation

Although no specific curriculum is required in preparation for Law School, the Pre-Law Committee of the American Bar Association strongly recommends that students considering a career in Law should have a well-balanced education. This education should include courses requiring intensive writing, logical reasoning and critical thinking and reading skills.

Prelaw Advising provides a variety of services to all students interested in attending Law School. For more information, please contact the Office of Student Academic Services in Ashe 200. These services include:

1. Pre-Law Advising: confidential advising in preparation for law school (i.e. application process, general information, discussion of your concerns).
2. The Pre-Law Manual: information about requirements, preparation etc., for law school.
3. Pre-Law Newsletter: information about programs and events.
4. LSAT and LSDAS registration booklets (for juniors and seniors).
5. Campus-wide programs for pre-law students such as Law Day.
6. Programs and seminars in coordination with other University of Miami departments such as: School of Law Career Planning Center, School of Law Center for Ethics and Public Service, Toppel Career Planning and Placement, the Counseling Center, and the Reading and Study Skills Center.

In order to take advantage of the services listed above a student should complete a Pre-Law registration card at the beginning of the academic year.

Other

The Max and Peggy Kriloff Fund is a fund that provides travel support for students earning degrees from the College of Arts and Sciences. The fund provides support for students to present papers, or posters at professional conferences worldwide. Students will need to fill out an application form available at the following link; <http://www.as.miami.edu/academics/undergraduate-studies/scholarships/> and submit it, along with the necessary supporting documentation to the Office of Graduate and Administrative Services in the College of Arts and Sciences.

Foote Fellows

Foote Fellows pursuing degrees in the College of Arts and Sciences are exempt from all University-wide and College-specific general education requirements. They are eligible for priority admission into the daVinci program, first-year seminars, and internships in the Dean's office. Opportunities to learn by doing, through research or tutorials, as well as seed money for students interested in developing a business plan or a prototype are also available to A&S Foote Fellows. Questions? Go to Ashe 200 for answers!

DaVinci Program

The da Vinci Program encourages high-achieving, intellectually curious students to rethink the map of human knowledge. It emphasizes connections between humanistic and scientific inquiry and their modes of understanding: objectivity, critical analysis, self-reflexivity, the nature of proof, authority, and the logic and rhetoric of written expression. It also helps define the distinctive elements that humanities classes can offer to STEM-minded students: a chance to reflect on questions of human

values, ethics, and aesthetics. At the same time, it introduces humanities students to conceptually new means of investigating the traditional fields.

Students are invited in the program before their first year and they take a seminar per semester in each of the first four semesters of study. A capstone experience marks the conclusion of their undergraduate career.

PRISM Program

The Advanced Program in Integrated Science and Math (PRISM) brings together top first-year students interested in the natural sciences. The program is designed for those who plan on pursuing postgraduate education and a career in science or medicine (Ph.D./M.D. track). Our outstanding faculty, lab directors, graduate assistants, and caring advisors are here to encourage integrated learning in STEM disciplines. PRISM students are exposed to new developments in science and are encouraged to become actively engaged in research during their undergraduate experience. PRISM classes are advanced versions of the typical track done by a first-year natural science student, so there are no additional classes to complete.

Aerospace Studies

<http://www.miami.edu/aerospace-studies>

Dept. Code: AIS

Introduction

Air Force Reserve Officer Training Corps (AFROTC)

AFROTC is a nationwide program that allows students to pursue commissions (become officers) in the United States Air Force (USAF) while simultaneously attending college. AFROTC classes are held on college campuses throughout the United States and Puerto Rico; students can register through normal course registration processes.

AFROTC consists of four years of Aerospace Studies classes (Foundations of the USAF, Evolution of USAF and Space Power, Air Force Leadership Studies, and National Security Affairs/Preparation for Active Duty), and a corresponding Leadership Laboratory for each year (where students apply leadership skills, demonstrate command and effective communication, develop physical fitness, and practice military customs and courtesies). College students enrolled in the AFROTC program (known as "cadets") who successfully complete both AFROTC training and college degree requirements will graduate and simultaneously commission as Second Lieutenants in the Active Duty Air Force.

For more information on AFROTC course descriptions, please review <http://miami.edu/>. For more information on the AFROTC program, please review <http://www.as.miami.edu/afrotc/>.

Enrollment

There is no military obligation to enroll in AFROTC. To enroll students must meet the following criteria:

- Be a U.S. citizens or resident alien, or be able to become a U.S. citizen prior to attending Field Training the summer following sophomore year
- Be full-time college students, enrolled in 12 credit hours per semester
- Be able to participate in a demanding physical fitness program

- Be able to pass a Department of Defense Medical Examination
- Have solid moral character
- Maintain AFROTC minimum required grade point average

Scholarships

More than 60% of Air Force ROTC scholarships are awarded to undergraduate students in engineering or other scientific and technical disciplines. However, students in every degree program enjoy scholarship opportunities, as the Air Force seeks to engage students who excel both academically and militarily. Scholarships are awarded in increments of two, three, and four years. Air Force ROTC offers several types of scholarships. Type 1 covers full tuition and most required fees. Type 2 covers tuition and fees, but is capped at \$18,000 annually. Type 7 scholarships are designated for in-state tuition-level institutions. All types of awards provide an allowance for books and a monthly non-taxable stipend. All scholarship cadets are required to meet academic, military, and physical fitness standards to earn and maintain scholarship benefits.

Additionally, University of Miami undergraduates enrolled in the Air Force ROTC program are assured a combined University grant and/or scholarship award during the fall and spring semesters equal to 25% of the University's tuition charge for a maximum of four years. The subsidy is not available during the summer term. Students must maintain continuous enrollment in the AFROTC program, must maintain satisfactory academic progress to continue receiving the subsidy, and full time enrollment in one of the University's undergraduate degree programs is required. No application is required. Awards are made automatically based on information provided by the University's AFROTC detachment.

Benefits

All AFROTC cadets receive uniforms, books and equipment for ROTC classes at no cost. Upon being commissioned a Second Lieutenant in the Air Force, you will receive a starting salary and allowances worth more than \$58,000 annually¹. Free medical and dental care, 30 days paid annual vacation and educational benefits are also part of the compensation package.

¹ Based on 2013 Pay Chart and Miami FL Housing Allowance for an O-1

Educational Objectives

AIS 101/AIS 102 Foundations of the United States Air Force (Lecture 1, Leadership Lab* 0)

Aerospace Studies AIS 101/AIS 102 is a survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: Air Force heritage, military customs and courtesies, career opportunities, Air Force Core Values, interpersonal communications, and team building. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

AIS 201/AIS 202 The Evolution of USAF Air and Space Power (Lecture 1, Leadership Lab* 0)

Aerospace Studies AIS 201/AIS 202 is a survey course designed to examine general aspects of the employment of air and space power through a historical perspective. Historical examples assist in

understanding the development of Air Force distinctive capabilities and missions. In addition, the students continue discussing the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders. Students also continue to develop communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

AIS 301/AIS 302 Air Force Leadership Studies (Lecture 3, Leadership Lab* 0)

Aerospace Studies AIS 301/AIS 302 teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

AIS 401/AIS 402 National Security Affairs and Preparation for Active Duty (Lecture 3, Leadership Lab* 0)

Aerospace Studies AIS 401/AIS 402 is a course designed to examine national security process, regional studies, advanced leadership ethics, and Air Force Doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism with a continuing emphasis on the refinement of communication skills.

A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

Minors

Minor in Aerospace Studies

- Aerospace Studies (p. 66)

Minor in Aerospace Studies

- A minor in Aerospace Studies consists of 16 credit hours.
- You must take all AIS courses listed under the Aerospace Course Listing.
- A grade of C- or higher, with an overall GPA of 2.0, is required in each course taken for the minor.

Africana Studies

<http://www.as.miami.edu/africanastudies>

Dept. Code: AAS

Introduction

The Program in Africana Studies (AAS) provides opportunities for students to learn about the experiences of people of African descent in North and South America, the Caribbean and continental Africa. Courses

are presently offered leading to a major or minor in Africana Studies. Students are encouraged to pursue these courses, even if they are not majors or minors, in order to achieve a balanced education in keeping with the stated goals of the University of Miami.

Educational Objectives

1. To help students research, acquire, and disseminate information about the historical and social experiences of Africans and people of African descent on all sides of the Atlantic basin, but with special emphasis on the United States.
2. To facilitate students' understanding of the multi-cultural, multi-ethnic, globalized society of our time.
3. To help students think critically about the global black experience.
4. To prepare students for graduate work and professional careers.

Departmental Honors

Carter G. Woodson Award - Best all-round student who combines intellectual excellence and community service.

Writing Requirement

To satisfy the College of Arts & Sciences writing requirement in the discipline, students majoring in Africana Studies should take at least one English course or one History course related to Africana Studies and is listed as an advanced writing course.

Majors

Major in Africana Studies

- B.A. in Africana Studies (p. 67)

Minors

Minor in Africana Studies

- Africana Studies (p. 67)

B.A. in Africana Studies

- A major in Africana Studies consists of 30 credit hours.
- Twelve of the 30 credit hours must be completed at the 300 level or above.
- A grade of C- or better with an overall GPA of 2.0 is required in each course taken for the major.

Africana majors must complete the following core courses:		
AAS 150	Introduction to Africana Studies	3
AAS 490	Senior Seminar in Africana Studies	3
HIS 201	History of Africa, I (to 1800)	3
HIS 209	African-American History to 1877	3
or HIS 210	African-American History, 1877-PRESENT	3
Select one Caribbean Studies course from the following:		3
ENG 361	Caribbean Literature	
APY 385	Caribbean Cultures	
GEG 212	Geography of Middle America and the Caribbean	
HIS 318	Modern Caribbean History	

The remaining courses must be selected from the list of acceptable courses approved by the program, in any school or college within the university.	15
Total Credit Hours	30

Minor in Africana Studies

- A minor in Africana Studies consists of 15 credit hours.
- A grade of C- or higher with an overall GPA of 2.0, is required in each course taken for the minor.
- A minimum of six credit hours must be numbered 300 or higher.

Africana minors must complete the following courses:		
AAS 150	Introduction to Africana Studies	3
HIS 201	History of Africa, I (to 1800)	3
or HIS 209	African-American History to 1877	3
The remaining courses must be selected from the list of acceptable courses approved by the program, in any school or college within the university.		9
Total Credit Hours		15

American Studies

<http://www.as.miami.edu/americanstudies/>

Dept. Codes: AMS

Introduction

The **Program in American Studies at the University of Miami** fosters the interdisciplinary study of American culture and society, and explores the place of the United States in an increasingly interconnected world. Our faculty come from a wide range of fields, including history, literature, political science, religion, art, philosophy, law, music, ethnic studies, anthropology, architecture, sociology, communications, and education. What unites them is the commitment to examining the U.S. from multiple perspectives, highlighting the diversity of people, cultures, and experiences that have shaped the past and present United States. The Program places analysis of globalization at its center, and encourages a hemispheric perspective that allows students and faculty to explore interests in the United States, the Caribbean, Latin America, the Pacific Rim, and other border crossings.

Educational Objectives

The undergraduate curriculum in American Studies encourages students to bridge the divide between disciplines by examining specific themes and topics in an engaging, dynamic, interdisciplinary manner. By exposing students to courses that place questions of cultural diversity, regional difference, ethnic and racial identity, gender and sexuality, class dynamics, and popular culture at the forefront of intellectual investigation, the Program in American Studies enables them to situate their own experiences in a wider context. It also exposes them to a multiplicity of perspectives that inform our understanding of the United States and its place in a global society. The Program encourages its majors to study abroad, and faculty members help students plan their curriculum to make that option feasible.

Departmental Honors

American Studies majors with a cumulative GPA of at least 3.5 in AMS courses and an overall GPA of at least 3.0 may earn departmental honors by completing AMS 505. Candidates for departmental honors are responsible for finding a faculty member to serve as thesis advisor. Students then must complete a thesis proposal of approximately 500 words that must be approved by the thesis advisor and the program director. The format and length of the thesis will vary according to the nature of the project. Students would take AMS 501 in the fall semester of the senior year and AMS 505 in the spring to complete the honors thesis.

Advance Writing and Communication Requirement

To satisfy the College of Arts & Sciences writing requirement in the discipline, students majoring in American Studies should take at least one English course or one History course related to the American Studies discipline listed as an advanced writing course.

Majors

Major in American Studies

- B.A. in American Studies (p. 68)

Minors

Minor in American Studies

- American Studies (p. 68)

B.A. in American Studies

A major in American Studies consists of at least 30 credit hours in American Studies courses (core, co-listed, or cross-listed) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in AMS courses. These credit hours must include at least 18 at the 300 level or above. All majors must complete AMS 101; AMS 310; at least two other AMS core courses; at least one course in American history, and at least one course in American literature.

Students must take three courses, chosen in consultation with an American Studies advisor, in a specialized area of American Studies (200 level or higher). Students may work in areas including, but not limited to, Ethnic Studies, Caribbean Studies, Latino/a Studies, Environmental Studies, Communication Studies, Women's Literature, Urban Studies, Africana Studies, Religious Studies, or Material Culture Studies. At least one of these courses must be either comparative or non-U.S.-based.

Students must take courses from at least three different departments in order to fulfill the requirements for the major.

In addition, all majors must complete AMS 501. This capstone course can take the form of an individual research project or an internship at a local cultural or civic institution. For the research option, students will identify an appropriate faculty member to supervise and grade the project, and then obtain approval from the program director before proceeding with the project. The student must produce a substantial written report or research paper, the format of which will be determined by the faculty member and student in consultation with the program director. For the internship option, students will partner with any number of local institutions and produce a creative and/or scholarly project for

evaluation. The internship will be arranged through the program director, in consultation with the Butler Center and/or the Office of Civic and Community Engagement. The final product will be evaluated by the program director.

Minor in American Studies

A minor in American Studies consists of at least 15 credit hours in American Studies courses (core, co-listed, or cross-listed) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in AMS courses.

Select 9 credit hours at the 300 level or above	9
AMS 101 Introduction to American Studies	3
AMS 310 The United States In The World	3
Select at least one additional AMS core course	3
Select at least one course in American history or American literature	3
Total Credit Hours	21

Anthropology

<http://www.as.miami.edu/anthropology>

Dept. Code: APY

Introduction

Anthropology is the scientific study of humankind, from its beginnings to the present. Of the many sciences that study aspects of humans and their behavior, only anthropology attempts to understand and integrate the entire panorama of human biology and culture in all times and places.

The **Anthropology Department** offers a wide range of courses for students in pursuit of the Bachelor of Arts degree, from the basic four fields of cultural anthropology, linguistics, physical anthropology, and archaeology, to advanced study of topics such as Maya archaeology, medical anthropology, Caribbean cultures, primatology, and the evolution of language.

Anthropological training concentrates on broadly transferable skill areas such as understanding human diversity, building research skills for collecting and making sense of information, and communicating effectively. The skills developed through completing a degree in anthropology are useful for living and working in today's world, which increasingly means interacting with people from many different cultural backgrounds and nations.

The field is especially suited to a multi-ethnic, multi-lingual, and multi-cultural urban center such as Miami, and the research programs of the department faculty reflect the compositions and concerns of the larger community.

Anthropological knowledge has taken an increasing role in the solution of practical problems in public health, cultural resource management, economic development in the Third World, business relations with immigrant and overseas populations, State and Federal programs, and many other areas.

Educational Objectives

Students who graduate from our program in anthropology will have achieved:

1. Basic familiarity with each of the four subfields of our discipline: archaeology, cultural anthropology, linguistic anthropology, and physical or biological anthropology.
2. Extended familiarity with one or more of these subfields in terms of knowledge of content, e.g. area ethnology in Latin America and/or the Caribbean; topical knowledge such as substance use and abuse, gender, food, primate behavior, art, ritual, museums and collections, material culture, and/or world languages; and methodological skills involving field research in one or more of the subfields.
3. The ability to articulate the anthropological view of the human condition in terms of an operational definition of culture and a holistic perspective on how humans behave.
4. Sufficient skill in research to be able to produce a research paper based on original anthropological investigation.

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in anthropology should take at least two courses designated as W (writing intensive) offered in the department.

Degree Programs

The Department of Anthropology offers a **major** and a **minor** in the University's array of Bachelor of Arts Degrees.

Departmental Honors

A student with junior or senior standing and a cumulative grade point average of 3.5 or higher may earn honors in anthropology by completion of a qualifying thesis paper encompassing an original research agenda under the direction of a member of the faculty in the Department of Anthropology. The scope of work will be set in a thesis proposal submitted to the adviser and approved in writing. The student will submit a copy of the completed thesis to the Department upon final approval by the Thesis Adviser.

Medical Anthropology Track

The courses listed below constitute a medical anthropology track that may be pursued by anthropology majors. In addition to the required four subfield courses (APY 201-APY 202-APY 203-APY 204), the medical anthropology track may consist of any six of the following list of courses.

APY 205	Medicine, Health Care In Society,Medicine, Health Care in Society	3
APY 391	Gender in Ancient Cultures	3
APY 315	Folk and Alternative Medicine	3
APY 416	Bioarchaeology-Peopling the past	3
APY 392	Sex and Culture	3
APY 421	Interpreting Bodies	3
APY 393	Drugs and Culture	3
APY 397	Violence And Ritual	3
CLA 233	Ancient Medicine	3
APY 413	Medical Anthropology	3
APY 501	Methods of Anthropological Research	3-6
APY 502	Field Studies in Anthropology	3-6

APY 512	Advanced Medical Anthropology	3
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors	3
SOC 211	Quantitative Methods for Sociologists (incl. lab)	3
APY 307	Human Adaptation	3
APY 310	Primate Behavior and Adaptation	3
APY 360	Anthropology of Food	3
APY 414	Forensic Anthropology I: Human Osteology	3
APY 415	Forensic Anthropology II: Fieldwork	3

Majors

Major in Anthropology

- B.A. in Anthropology (p. 69)

Minors

Minor in Anthropology

- Anthropology (p. 69)

B.A. in Anthropology

A major in Anthropology consists of 30 credit hours in Anthropology, passed with a grade of C- or higher with an overall GPA of 2.0.

APY 201	Principles of Archaeology (or approved alternatives)	3
APY 202	Principles of Cultural Anthropology (or approved alternatives)	3
APY 203	Principles of Physical Anthropology (or approved alternatives)	3
APY 204	Principles of Linguistic Anthropology (or approved alternatives)	3
APY 484	Anthropological Theory	3
A minimum of five additional anthropology courses at the 300 level or higher		15
Total Credit Hours		30

Majors are strongly encouraged to enroll in one of our many fieldwork opportunities or to obtain training in field methods specific to their interests. The remainder of the program will be developed with the student's departmental adviser. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in anthropology should take at least two courses designated as W (writing intensive) offered by the department.

Minor in Anthropology

A minor in Anthropology consists of 15 or more credit hours, passed with a grade of C- or higher with an overall GPA of 2.0 including any two 200-level anthropology courses. Appropriate courses offered in other departments may also be counted toward the minor with approval of the Director of Undergraduate Studies.

Art and Art History

<http://www.as.miami.edu/art>

Dept. Codes: ART, ARH

Educational Objectives

The Department of Art and Art History provides facilities and instruction to serve equally the needs of the general student for participation in and appreciation of the visual arts and those of students with specialized interests and abilities preparing for careers in the production, teaching, utilization, and interpretation of Art and Art History.

Degree Programs

The Department of Art and Art History offers two degrees:

- the Bachelor of Arts, with tracks in:
 - Art History
 - General Study
 - Studio Art
- the Bachelor of Fine Arts in Studio Art, which allows for primary and secondary concentrations in:
 - Painting
 - Sculpture
 - Printmaking
 - Photography/Digital Imaging
 - Graphic Design/Multimedia
 - Ceramics

The B.A. requires a minimum of 36 credit hours in the department with a grade of C or higher. The B. A. major is also required to have a minor outside the department. Minor requirements are specified by each department and are listed in the Bulletin. The B.F.A. requires a minimum of 72 credit hours in the department, a grade of C or higher in each course, a successful portfolio review, and at least a 3.0 average in departmental courses. The B.F.A. major is not required to have a minor outside the department. To satisfy the College of Arts and Sciences writing requirement, students majoring in Art or Art History, for all degree programs, must complete at least one course in Art History designated as a writing course.

Departmental Honors

In order to be eligible for Departmental Honors, candidates must have completed at least nine credit hours at the 300 level or above, and must have a GPA of 3.5 in all their major courses and a 3.5 overall average GPA. Both GPAs must be maintained in order to graduate with Departmental Honors.

During their junior year, candidates for Honors must request admission to Departmental Honors from the Department Chair, and identify an exhibition/thesis faculty supervisor.

In addition to fulfilling the regular major requirements, students must register in their senior for six credits of Independent Study at the 500 level. Art majors will be expected to work on an exhibition project. Art history majors will be expected to research and write an Honors thesis.

The Department Chair and the faculty supervisor will determine whether the completed exhibition project or thesis merits Departmental Honors.

Audit

Due to the nature of studio courses, it is not possible for a student to audit courses offered in the studio areas.

Majors

Majors in Art and Art History

- B.A. in Art History (p. 70)
- B.A. in General Study (p. 70)
- B.A. in Studio Art (p. 71)
- B.F.A. in Art (p. 71)

Minors

Minor in Art and Art History

- Art and Art History (p. 71)

B.A. in Art History

Foundation Courses		
Select any two ART courses		6
Art History Foundation Courses		
ARH 131	Survey of Western Art I	3
ARH 132	Survey of Western Art II	3
Area of Study		
Art History:		24
Select seven courses from 200 level or higher		
Select one art history seminar course		
Total Credit Hours		36

B.A. in General Study

Foundation Courses		
ART 101	Introduction to Drawing I	3
ART 104	Introduction To 3D Techniques In Clay, Glass, Metal, Wood	3
ART 109	Introduction to Electronic Media	3
Art History Courses		
ARH 131	Survey of Western Art I	3
ARH 132	Survey of Western Art II	3
Select one additional course from 100, 200, or 300 level		3
General Study Courses		
Select any six courses from the following areas:		18
Art History		
Drawing		
Painting		
Sculpture		
Printmaking		
Graphic Design/Multimedia		
Photography/Digital Imaging		
Ceramics/Glass		
Total Credit Hours		36

B.A. in Studio Art

Foundation Courses		
ART 101	Introduction to Drawing I	3
ART 104	Introduction To 3D Techniques In Clay, Glass, Metal, Wood	3
ART 109	Introduction to Electronic Media	3
Art History Courses		
ARH 131	Survey of Western Art I	3
ARH 132	Survey of Western Art II	3
Select one additional course at the 100, 200, or 300 level		3
Studio Art Courses		
Select six Studio courses from the following areas:		18
Drawing		
Painting		
Sculpture		
Printmaking		
Graphic Design/Multimedia		
Photography/Digital Imaging		
Ceramics/Glass		
Total Credit Hours		36

B.F.A. in Art

Portfolio Review

All students who anticipate graduating with a Bachelor of Fine Arts (BFA) degree must submit a portfolio consisting of 15-20 images of their work. Instructions for submitting this folio can be found on the department website. Students can apply as incoming freshmen or anytime within their first years. NO STUDENT IS OFFICIALLY CONSIDERED A BFA CANDIDATE UNTIL THE PORTFOLIO IS APPROVED BY THE FACULTY. If the BFA portfolio is not submitted at the proper time or fails to be passed by the faculty, the student will be advised and registered as a Bachelor of Arts (BA) candidate.

BFA Exhibition

Unless otherwise instructed, each BFA candidate will take part in an exhibition of work screened and approved by a faculty member from their area of specialization, accomplished as an art major at the University of Miami, in the Fall or Spring semester of the senior year. The BFA exhibitions are held in the College Gallery.

At the time the candidates BFA exhibition is hung, a formal critique will be arranged between the student and the art faculty.

BFA Course Requirements

General Foundation Courses		
ART 101	Introduction to Drawing I	3
ART 104	Introduction To 3D Techniques In Clay, Glass, Metal, Wood	3
ART 109	Introduction to Electronic Media	3
Art History Courses		
ARH 131	Survey of Western Art I	3
ARH 132	Survey of Western Art II	3

ARH 343	Modern Art	3
or ARH 344	Contemporary Art	
Select an additional two courses from 100, 200, or 300 level		6
ARH 346	History of Graphic Design (required for Graphic Design/ Multimedia majors.)	
ARH 107	History of Photography (required for Photography majors.)	
Art Electives		
Select 12 credit hours to be taken in the Department outside of area of specialization.		12
Areas of Concentration		
Primary concentrations		
Select six courses from the sequence:		18
Painting		
Printmaking		
Graphic Design/Multimedia		
Photography/Digital Imaging		
Ceramics		
Sculpture		
Secondary concentrations		
Select six courses from the sequence:		18
Painting		
Printmaking		
Graphic Design/Multimedia		
Photography/Digital Imaging		
Ceramics		
Sculpture		
Introductory Art Studio:		
ART 103	Two-Dimensional Design	
ART 104	Introduction To 3D Techniques In Clay, Glass, Metal, Wood	
Drawing:		
ART 105	Figure Drawing	
ART 107	Introduction to Drawing III	
ART 305	Intermediate Figure Drawing	
Total Credit Hours		72

BFA Minor in Art History

All BFA studio majors automatically minor in art history. A minor outside the department is not required.

A BFA student is limited to a maximum of 21 credit hours in any one studio area – Painting, Printmaking, Graphic Design/Multimedia, Photo/Digital, Ceramics, and Sculpture.

Students must maintain at least a 3.0 average in their major.

Minor in Art and Art History

BFA Minor in Art History

All BFA studio majors automatically minor in Art History. A minor outside the department is not required.

A BFA student is limited to a maximum of 21 credits in any one studio area - Painting, Printmaking, Graphic Design, Multimedia, Photography/ Digital Imaging, Ceramics, or Sculpture.

Students must maintain at least a 3.0 average in their major.

Minor

A minor in Art and Art History consists of 15 credit hours (9 of which must be from the University of Miami) in any departmental courses. All courses must be passed with a C or higher.

Astronomy

Astronomy

For courses in Astronomy see PHYSICS (p. 122), in particular PHY 110 and PHY 545.

Biochemistry and Molecular Biology

<http://biomed.miami.edu/>

Dept. Code: BMB

(Code for the major is either Track 1: BCHM or Track 2: BCHN)

Introduction

Biochemistry is the chemistry of life. It includes or has large areas of overlap with molecular biology, biophysics, structural biology, cell biology, metabolism, neuroscience, nutrition, genetics, etc. It tries to explain what happens in living organisms and how biological processes are regulated. It is a relatively young science. Our understanding is still developing and students can learn something new every day. An Undergraduate Major in one of our two tracks, Track 1: Biochemistry and Molecular Biology (BCHM) or Track 2: Biochemistry and Nutrition (BCHN), provides an excellent preparation for:

1. Medical School
2. Graduate Studies in all basic medical sciences: Biochemistry, Molecular Biology, Cell Biology, Genetics, Neurobiology, Microbiology, Immunology, Pharmacology, Biophysics, Physiology, Bio-informatics, Biology, Nutrition, Environmental Science, and others.
3. Industry: Biotechnology, Pharmaceutical, Food Production, Food processing, and others.
4. Allied Health Professions: Nutrition, Dentistry, Forensics, Veterinary Medicine, Toxicology, Clinical Chemistry, Environmental Science, and others.
5. Non-Health Professions: Chemistry, Physics, Scientific Publishing, Patent Law, and others.

Interesting Articles

Kornberg A, "How I became a biochemist." *IUBMB Life*. 2002; 53: 3: 185-6. 12102176

Kornberg A, "Biochemistry matters." *Nat Struct Mol Biol*. 2004; 11: 6: 493. 15164002

Educational Objectives

The undergraduate program in Biochemistry & Molecular Biology strives to provide

1. superior training in nutrition, biochemistry and molecular biology and
2. encouragement for self-study and research to students seeking a B.S. degree.

As part of a research-oriented university, the department, through its students, creates new knowledge. As a result of our teaching efforts, the new B.S.'s created will be able to matriculate into professional and graduate schools or to find positions in teaching professions and/or industry. In addition, the department serves the community by providing expertise in matters related to nutritional and medical biochemistry. For example, it teaches biochemistry to pre-medical and other pre-health students across a wide variety of life science related majors including biology, microbiology, neuroscience, and biomedical engineering.

Degree Programs

As a member of the College of Arts & Sciences, the Department of Biochemistry and Molecular Biology offers an undergraduate B.S. degree. As a member of the Miller School of Medicine, it offers the following graduate degrees: Ph.D., Executive Ph.D., dual B.S.-Ph.D., and dual M.D.-Ph.D. Also, it offers a Molecular Medicine Pathway for M.D. students.

Departmental Honors

Departmental honors can be earned by biochemistry majors who have:

1. Successfully completed two semesters of research (5 or 6 credit hours of BMB 545). This research must be described in a brief thesis that needs to be approved by three BMB faculty members.
2. A 3.5 or higher grade point average in all BMB courses.
3. A 3.3 or higher grade point average in all courses taken at the University of Miami.

Dual Degree Honors Program

The Honors Program in Biochemistry & Molecular Biology (HPBMB) is offered to mature high school seniors with strong academic ability and achievement who seek careers in biological or biomedical science. Students can earn both a Bachelor of Science (BS) and a Doctor of Philosophy Degree (PhD) in approximately 6 years. For information see http://www.miami.edu/admission/index.php/undergraduate_admission/academics/dual_degree_honors/.

Majors

Major in Biochemistry and Molecular Biology

- B.S. in Biochemistry and Molecular Biology or Nutrition (p. 73)

Minors

Minor in Biochemistry and Molecular Biology

- Biochemistry and Molecular Biology (p. 75)

B.S. in Biochemistry and Molecular Biology or Nutrition

Major

The Bachelor of Science (B.S.) degree in either BCHM or BCHN requires 16 total credits of BMB courses: 10 credits of required BMB courses plus six credits of elective BMB courses. At least two elective BMB credits must come from a BMB lab course, either BMB 145, BMB 245, BMB 402, or BMB 545. To satisfy the College of Arts and Sciences writing requirement in the discipline, BMB majors must complete for writing credit (W) either BMB 507, BMB 511, or BMB 545. For all students, a grade of C or better must be earned in each BMB course. For current UM students to declare either major or minor in BMB, a UM cumulative grade point average of 2.9 is required. For transfer students to declare either major or minor in BMB, a grade point average of 3.5 is required. The Department will make its own independent determination on a case-by-case basis concerning the equivalency of courses taken at other universities. The two possible academic tracks, BCHM and BCHN, differ by two required upper level BMB lecture courses.

Required BMB Courses	
Students must complete all four BMB lecture courses listed in either Track 1 or Track 2:	10
Track 1 (BCHM)	
BMB 401 Biochemistry For The Biomedical Sciences	
BMB 506 Biomedical Case Studies	
BMB 507 Protein Structure, Function, & Biology ¹	
BMB 509 Molecular Biology Of The Gene	
Track 2 (BCHN)	
BMB 401 Biochemistry For The Biomedical Sciences	
BMB 506 Biomedical Case Studies	
BMB 417 Biochemistry of Food and Nutrition	
BMB 519 Nutrition And Genetics	
Elective BMB Courses	
Students in either Track 1 or 2 must complete at least six credits of elective BMB courses. At least two elective BMB credits must come from a BMB lab course, either BMB 145, BMB 245, BMB 402, or BMB 545.	6
BMB 145 Introduction To Bmb Research	
BMB 151 Freshman Seminar	
BMB 245 Introduction To Bmb Or Nutrition Research	
BMB 251 Sophomore Seminar	
BMB 402 Principles Of Experimental Biochemistry & Molecular Biology	
BMB 411 Readings In Bmb	
BMB 501 Senior Seminars	
BMB 511 Topics In Bmb ¹	
BMB 545 Research Problems In Bmb ¹	
Biology ²	
BIL 150 General Biology	5
& BIL 151 and General Biology Laboratory	
BIL 160 Evolution and Biodiversity	5
& BIL 161 and Evolution and Biodiversity Laboratory	

BIL 255 Cellular and Molecular Biology	3
BIL 250 Genetics	3
Chemistry ³	
CHM 121 Chemistry For The Biosciences I	5
& CHM 113 and Chemistry Laboratory I	
CHM 221 CHM211 Chemistry for the Biosciences II	5
& CHM 114 and Chemistry Laboratory II	
CHM 222 CHM212 Chemistry for the Biosciences III	5
& CHM 205 and Organic Chemistry Laboratory I	
CHM 206 Organic Chemistry Laboratory II	1
Physics ⁴	
PHY 101 College Physics I	5
& PHY 106 and College Physics Laboratory I	
PHY 102 College Physics II	5
& PHY 108 and College Physics Laboratory II	
Mathematics ⁵	
MTH 161 Calculus I	4
MTH 162 Calculus II	4
Statistics or Computer ⁶	
PSY 292 Introduction To Biobehavioral Statistics For Non-Majors	3
or CSC 120 Computer Programming I	
Total Credit Hours	69

¹ Writing credit (W) may be obtained in this course.

² These courses may be taken more than once for additional credits.

³ PRISM students take designated sections of the traditional chemistry series: CHM 111/CHM 113, CHM 112/CHM 114, CHM 201/CHM 205, and CHM 202/CHM 206, which satisfy the requirement for obtaining the Minor in Chemistry. The indicated three semester "Chemistry for the Biosciences" series is preferred, since students will be prepared for independent BMB research at a more early stage.

⁴ PRISM students take PHY 201/PHY 106 and PHY 202/PHY 108. A more advanced physics course series can be substituted (e.g., PHY 205, PHY 206/PHY 208, PHY 207/PHY 209).

⁵ PRISM students take MTH 171 and MTH 172.

⁶ PRISM students take CSC 210.

B.S. In Biochemistry and Molecular Biology (BCHM)

Sample Curriculum with Preferred CHM 121/CHM 221/CHM 222 Series

Freshman Year	
Fall	Credit Hours
BIL 150 General Biology	4
BIL 151 General Biology Laboratory	1
CHM 121 Chemistry For The Biosciences I	4
CHM 113 Chemistry Laboratory I	1
MTH 161 Calculus I	4
ENG 105 English Composition I	3
Term Credit Hours:	17
Spring	
BIL 160 Evolution and Biodiversity	4

BIL 161	Evolution and Biodiversity Laboratory	1
CHM 221	CHM211 Chemistry for the Biosciences II	4
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Term Credit Hours:		17
Sophomore Year		
Fall		
CHM 222	CHM212 Chemistry for the Biosciences III	4
CHM 205	Organic Chemistry Laboratory I	1
PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
SOC 101	Introduction to Sociology	3
PSY 110	Introduction to Psychology (P&S Cognate Elective 1) ¹	3
Term Credit Hours:		16
Spring		
BMB 401	Biochemistry For The Biomedical Sciences	3
BMB 506	Biomedical Case Studies	1
CHM 206	Organic Chemistry Laboratory II	1
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors (P&S Cognate Elective 2) ¹	3
Term Credit Hours:		13
Junior Year		
Fall		
BMB 507	Protein Structure, Function, Biology ²	3
BMB 411	Readings In Bmb	1
BIL 255	Cellular and Molecular Biology	3
SPA 102	Elementary Spanish II (or other language)	3
APY 413	Medical Anthropology (P&S Cognate elective 3) ¹	3
A&H Cognate Elective 1 ¹		3
Term Credit Hours:		16
Spring		
BMB 402	Principles Of Experimental Biochemistry Molecular Biology	2
BMB 509	Molecular Biology Of The Gene	3
BMB 511	Topics In Bmb ²	2
BIL 250	Genetics	3
SPA 201	Intermediate Spanish I (or other Language)	3
A&H Cognate Elective 2 ¹		3
Term Credit Hours:		16

Senior Year		
Fall		
BMB 545	Research Problems In Bmb ²	3
BMB 501	Senior Seminars	1
A&H Cognate Elective 3 ¹		3
Elective		3
Elective		3
Term Credit Hours:		13
Spring		
BMB 545	Research Problems In Bmb ²	3
BMB 501	Senior Seminars	1
Elective		3
Elective		3
Elective		3
Term Credit Hours:		13
Total Credit Hours:		121

¹ P&S (People & Society) and A&H (Arts and Humanities) Cognate Electives.

² BMB 507, BMB 511, and BMB 545 may be taken either with or without writing credit (W). BMB 511 and BMB 545 may be taken as either 2- or 3-credit hour courses. Variations of the above program are feasible for students entering with advanced standing on the basis of placement tests or transfer credit hours with permission of the biochemistry advisor.

B.S. in Biochemistry and Nutrition (BCHN)

Sample Curriculum with Preferred CHM 121/CHM 221/CHM 222 Series

The curriculum is essentially the same as BCHM, except BMB 417 is substituted for BMB 507 and BMB 519 is substituted for BMB 509.

B.S. In Biochemistry and Molecular Biology (BCHM)

Sample Curriculum with Traditional CHM 111/CHM 112/CHM 201/CHM 202

Freshman Year		
Fall		
		Credit Hours
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 161	Calculus I	4
ENG 105	English Composition I	3
Term Credit Hours:		16
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 162	Calculus II	4
ENG 106	English Composition II	3
Term Credit Hours:		16
Sophomore Year		
Fall		

CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
SOC 101	Introduction to Sociology	3
PSY 110	Introduction to Psychology (P&S Cognate Elective 1) ¹	3
Term Credit Hours:		15
Spring		
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
BMB 251	Sophomore Seminar	1
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors (P&S Cognate Elective 2) ¹	3
Term Credit Hours:		13
Junior Year		
Fall		
BMB 401	Biochemistry For The Biomedical Sciences	3
BMB 506	Biomedical Case Studies	1
BIL 255	Cellular and Molecular Biology	3
SPA 102	Elementary Spanish II (or other Language)	3
APY 413	Medical Anthropology (P&S Cognate Elective 3)	3
A&H Cognate Elective 1 ¹		3
Term Credit Hours:		16
Spring		
BMB 402	Principles Of Experimental Biochemistry Molecular Biology	2
BMB 411	Readings In Bmb	1
BIL 250	Genetics	3
SPA 201	Intermediate Spanish I (or other Language)	3
A&H Cognate Elective 2 ¹		3
Elective		3
Term Credit Hours:		15
Senior Year		
Fall		
BMB 507	Protein Structure, Function, Biology ¹	3
BMB 545	Research Problems In Bmb	3
BMB 511	Topics In Bmb	3
BMB 501	Senior Seminars	1
A&H Cognate Elective 3 ¹		3
Elective		3
Term Credit Hours:		16
Spring		

BMB 509	Molecular Biology Of The Gene	3
BMB 545	Research Problems In Bmb	3
BMB 501	Senior Seminars	1
Elective		3
Elective		3
Term Credit Hours:		13
Total Credit Hours:		120

¹ P&S (People & Society) and A&H (Arts and Humanities) Cognate Electives.

² BMB 507, BMB 511, and BMB 545 may be taken either with or without writing credit (W). BMB 511 and BMB 545 may be taken as either 2- or 3-credit hour courses. Variations of the above program are feasible for students entering with advanced standing on the basis of placement tests or transfer credit hours with permission of the biochemistry advisor.

B.S. in Biochemistry and Nutrition (BCHN)

Sample Curriculum with Traditional CHM 111/CHM 112/CHM 201/CHM 202

The curriculum is essentially the same as BCHM, except BMB 417 is substituted for BMB 507 and BMB 519 is substituted for BMB 509.

Minor in Biochemistry and Molecular Biology

10 credit hours in either Track 1: BCHM or Track 2: BCHN.

BMB 401	Biochemistry For The Biomedical Sciences ¹	3
BMB 506	Biomedical Case Studies ¹	1
Select 6 credit hours from remaining BMB courses		6
Total Credit Hours		10

¹ Students must have all the courses that are a prerequisite for BMB 401 and BMB 506.

Students should become familiar with the credit hour sharing rules. Credit hours for a minor cannot be used for a major. Credit hours can be shared between two majors.

The Department will make its own independent determination on a case-by-case basis concerning the equivalency of courses taken at other universities.

A grade of C or better must be earned in each Biochemistry and Molecular Biology course.

Biology

<http://www.bio.miami.edu>

Dept. Code: BIL

Introduction

The Department of Biology offers undergraduate programs for students interested in a natural science education that will prepare them for careers in biological research, medicine and other health-related fields,

teaching, environmental management and other fields that require a broad base of biological knowledge.

Educational Objectives

The Department of Biology trains students to understand and use the scientific method, and to engage in critical thinking and experimental design. We strongly encourage original laboratory and/or field research under the mentorship of biology faculty. The Bachelor of Science in Biology prepares the student for further training in natural science, such as biology graduate school, as well as medical, veterinary, dental or other health-care professions. The Bachelor of Arts degree prepares the student for a career in more humanities-related fields such as teaching or environmental law.

Degree Programs

Two undergraduate degrees are available in Biology: the B.S. and A.B.

Both require a **major** in Biology of 34 credit hours with a minimum grade of C- in each course and an overall GPA of 2.0.

Departmental Honors

Honors Program

See HONORS PROGRAMS (p. 52) elsewhere in this Bulletin for minimal requirements. In addition to the grade point averages specified in the minimal requirements, the following program constitutes the Biology Departmental Honors Program:

Select a minimum of two of the following: ¹	4
BIL 495 Projects in Biology	
BIL 496 Projects in Biology	
BIL 497 Projects in Biology	
Complete a senior thesis, of superior quality, on the results of the research.	
BIL 498 Senior Thesis	
Select research colloquium:	
BIL 499 Research Colloquium	
Select a minimum of two BIL credit hours from the following:	2
BIL 299 Seminar in Research Problems	
BIL 374 Seminar in Biology	
BIL 375 Seminar in Biology	
BIL 402 Seminar In Biology	
Select a minimum of one course in the Department of Biology at the 500 level	3
An overall GPA of 3.3 and a biology GPA of 3.5.	

¹ Projects in Biology involve a research project carried out under the supervision of a member of the Department of Biology faculty or alternative faculty approved by the Office of Undergraduate Research.

Advanced placement, and in certain situations, course credit hour can be earned through the College Entrance Examination Board program, placement examinations, and departmental proficiency examinations.

For Graduate programs, consult the Graduate School section of this Bulletin.

Variations within the above program may be permitted by the Department Chair in special cases.

Majors

Majors in Biology

- B.S. in Biology (p. 77)
- B.A. in Biology (p. 76)

Minors

Minor in Biology

- Biology (p. 78)

B.A. in Biology

The B.A. degree is recommended for students involved in interdisciplinary programs and for entrance to those professional schools and specific biological careers not requiring a B.S. degree with a major in Biology. In addition to the College of Arts and Sciences degree requirements, the B.A. requirements are as follows:

Biology		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BIL Electives		24
At least three of which must be at the 400-level or higher		
Up to eight credit hours toward the major, but not the minor, may be selected from the following:		8
Courses numbered 300 or higher in BMB, MBF or MIC		
BME 305	Biomedical Technology	
CSC 548	Bioinformatics Algorithms	
MSC courses numbered 300 or higher with a biological topic		
Chemistry		
Select one of the following options:		4
Option 1: Choose CHM 103, CHM 105 *OR* CHM 111, CHM 113		
CHM 103	Chemistry for Life Sciences I (Lecture) & CHM 105 and Chemistry for Life Sciences I (Laboratory)	
CHM 111	Principles of Chemistry I & CHM 113 and Chemistry Laboratory I	
PLUS choose CHM 104, CHM 106 *OR* CHM 201, CHM 206		
CHM 104	Chemistry for Life Sciences II (Lecture) & CHM 106 and Chemistry for Life Sciences II (Laboratory)	
CHM 201	Organic Chemistry I (Lecture) & CHM 205 and Organic Chemistry Laboratory I	
Option 2: Choose Chemistry for the BioSciences Three-semester Sequence.		
CHM 121	Chemistry For The Biosciences I & CHM 113 and Chemistry Laboratory I	
CHM 221	CHM211 Chemistry for the Biosciences II & CHM 114 and Chemistry Laboratory II	
CHM 222	CHM212 Chemistry for the Biosciences III & CHM 205 and Organic Chemistry Laboratory I	

Minor		
A minor in a department other than natural science.		
B.S. in Biology		
The B.S. degree is recommended in preparation for graduate schools, professional schools, marine biology, and high school or college teaching. In addition to the College of Arts and Sciences general degree requirements, the B.S. requirements are as follows:		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BIL 330	Ecology	3
or BIL 432	Ecology in the Galapagos	
BIL 360	Comparative Physiology	3
Additional BIL electives		12
At least three credit hours of which must be at the 400-level or higher		
Two biology laboratory or field courses beyond BIL 151, BIL 161 are required as part of the additional BIL electives. Lab/field courses in approved departments other than Biology (e.g., MIC, MSC, NEU) may be counted towards this lab requirement.		
Up to eight credit hours toward the major, but not the minor, may be selected from the following:		8
Courses numbered 300 or higher in BMB, MBF or MIC		
BME 305	Biomedical Technology	
CSC 548	Bioinformatics Algorithms	
RSM 521	Object-Oriented Programming And Agent-Based Modelling	
MSC courses numbered 300 or higher with a biological topic		
A maximum of two credit hours of the following may be applied towards the major		2
BIL 371	Readings in Biology	
BIL 372	Readings in Biology	
A maximum of six credit hours of the following may be applied towards the major ¹		6
BIL 495	Projects in Biology	
BIL 496	Projects in Biology	
BIL 497	Projects in Biology	
A maximum of two credit hours of the following (no more than one of each option) may be applied towards the major.		2
BIL 281	Undergraduate Learning Intern in Biology	
BIL 381	Workshop Leaders in Biology I ²	
BIL 382	Workshop Leaders in Biology II	
BIL 481	Undergraduate Teaching Assistant Training in Biology	
Statistics or Computer Language/Programming		
Select one statistics or one computer language/programming course from the following: ³		3
BIL 311	Biostatistics	
BIL 511	Biometry	
ECS 204	Environmental Statistics	
IEN 311	Applied Probability And Statistics	
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors	
CSC 120	Computer Programming I	
Chemistry		
Select one of the following Options:		
Option 1: Standard Chemistry Sequence (addition of CHM 202, CHM 206 will fulfill the minor in Chemistry)		12
CHM 111	Principles of Chemistry I	4
& CHM 113	and Chemistry Laboratory I (recommended to be taken in the first year)	
CHM 112	Principles of Chemistry II	4
& CHM 114	and Chemistry Laboratory II (recommended to be taken in the first year)	
CHM 201	Organic Chemistry I (Lecture)	
& CHM 205	and Organic Chemistry Laboratory I (recommended to be taken in the second year)	
Option 2: Three-semester Chemistry Sequence (recommended for life sciences major; includes the minor in Chemistry)		15
CHM 121	Chemistry For The Biosciences I	
CHM 221	CHM211 Chemistry for the Biosciences II	
CHM 222	CHM212 Chemistry for the Biosciences III	
CHM 113	Chemistry Laboratory I	
CHM 114	Chemistry Laboratory II	
CHM 205	Organic Chemistry Laboratory I	
Physics		
Two semesters of college physics with laboratory or three semesters of university physics with laboratory		
Minor		
A minor in chemistry, ecosystem science and policy, physics, geological sciences, marine sciences, biochemistry and molecular biology, computer science, mathematics, or microbiology and immunology		
Total Credit Hours		90

¹ Only one course may be counted towards the laboratory course requirement for the B.S. degree

² A maximum of one credit hour may be applied towards the major or minor. These courses may be taken more than once each for *general elective credit only*, but only two credits from these options may count towards the major or minor.

³ This will fulfill the mathematics/statistics/computer programming requirement under the College of Arts and Sciences General degree requirements for the Bachelor of Science.

Minor in Biology

A biology minor consists of nine credit hours of BIL at the 200-level or higher *taken in residence at the University of Miami*. (Note: All courses in the minor must be in BIL. Courses from BMB, MBF, MIC, or BME, or other natural sciences approved as electives in the BIL *major* may not be counted towards the *minor*.)

Overall GPA in the BIL minor courses must be a minimum of 2.0.

All credit hours required for a Biology minor must be earned in residence at the University of Miami.

Chemistry

<http://www.as.miami.edu/chemistry>

Dept. Code: CHM

Introduction

Each undergraduate chemistry degree program requires:

Core Courses		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
One year of Calculus		
At least two semesters of Physics Plus Lab		
Total Credit Hours		16

The requirements for a major are flexible and should conform to the objectives of the student. A grade of C- or higher must be earned in all courses taken for major or minor credit hour, and the Chemistry GPA must be 2.00 or higher. Credit hours earned in CHM 381 and CHM 382 **do not count** toward the major or minor.

Educational Objectives

The mission of the Bachelor's degree program in the Chemistry Department is to promote an understanding and appreciation of the role of chemistry in modern society, especially as it relates to and integrates with other biological and physical sciences and societal issues facing humanity today such as the environment, health issues and technological advances.

Degree Programs

Three programs lead to degrees with a chemistry major:

1. The B.A. degree
2. The B.S. degree
3. The B.S. degree with certification by the American Chemical Society Committee for Professional Training of Chemists.

Departmental Honors

Honors in Chemistry may be earned by students who complete the B.S. degree in chemistry, plus at least five credit hours of CHM 488 and one credit hour of CHM 490, all with an average grade of at least 3.30. A written Honors Thesis and oral defense on the subject of the Honors Research must be presented by the student and approved by a Department Honors Committee.

Writing Requirement

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Chemistry should take CHM 320 or ENG 233.

Credit for Courses at the 100- and 200-Level

Credit hour may be earned in only one of the courses CHM 103, CHM 111 or CHM 151. Credit hour may not be earned in both CHM 104 and CHM 201.

Majors

Majors in Chemistry

- B.A. in Chemistry (p. 78)
- B.S. in Chemistry (p. 79)
- Certified B.S. in Chemistry (p. 79)

Minors

Minor in Chemistry

- Chemistry (p. 80)

B.A. in Chemistry

<http://www.as.miami.edu/chemistry/>

The **B.A.** degree requires 27 credit hours of chemistry. This major is designed for premedical students, high school science teachers, and others who choose a non-science minor. It may be combined with business courses in an interdisciplinary program. Variations within the program below may be recommended by the Department. Transfer students must complete a minimum of half of the required major credit hours in residence in the Department. Students should make certain that math and physics prerequisites are fulfilled in a timely manner.

Core Courses		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II	1
CHM 214	Quantitative Analytical Chemistry	3
One year of Calculus		
At least two semesters of Physics Plus Lab		
CHM 331 or CHM 360	Physical Chemistry for Premedical Students Physical Chemistry I (Lecture)	3

Electives	
Select sufficient credit hours of the following:	5
CHM 316 Instrumental Analytical Chemistry	
CHM 320 Instrumental Methods in Chemistry and Biochemistry	
CHM 365 Physical Chemistry II (Lecture)	
CHM 401 Environmental Chemistry	
CHM 441 Inorganic Chemistry (Lecture)	
CHM 520 Physical Organic Chemistry	
BMB 401 Biochemistry For The Biomedical Sciences	
Total Credit Hours	27

B.S. in Chemistry

<http://www.as.miami.edu/chemistry/>

Core Courses	
CHM 111 Principles of Chemistry I	3
CHM 112 Principles of Chemistry II	3
CHM 113 Chemistry Laboratory I	1
CHM 114 Chemistry Laboratory II	1
CHM 201 Organic Chemistry I (Lecture)	3
CHM 202 Organic Chemistry II (Lecture)	3
CHM 205 Organic Chemistry Laboratory I	1
CHM 206 Organic Chemistry Laboratory II	1
CHM 214 Quantitative Analytical Chemistry	3
Choose One of the Following:	8
MTH 161 Calculus I & MTH 162 and Calculus II	
MTH 171 Calculus I & MTH 172 and Calculus II	
Choose One of the Following:	10-11
PHY 101 College Physics I & PHY 102 and College Physics II & PHY 106 and College Physics Laboratory I & PHY 108 and College Physics Laboratory II	
PHY 205 University Physics I & PHY 210 and Honors University Physics II-III & PHY 208 and University Physics II Lab & PHY 209 and University Physics Iii Lab	
PHY 205 University Physics I & PHY 206 and University Physics II & PHY 207 and University Physics III & PHY 208 and University Physics II Lab & PHY 209 and University Physics Iii Lab	
Advanced Courses	
CHM 316 Instrumental Analytical Chemistry	3
CHM 320 Instrumental Methods in Chemistry and Biochemistry	2
CHM 360 Physical Chemistry I (Lecture)	3
CHM 364 Physical Chemistry (Laboratory I)	1
CHM 365 Physical Chemistry II (Lecture)	3
CHM 441 Inorganic Chemistry (Lecture)	3

BMB 401 Biochemistry For The Biomedical Sciences	3
Electives	
CHM 317 The Chemistry of Food and Taste.	3
CHM 401 Environmental Chemistry	
Any 500-level CHM course	
Total Credit Hours	58-59

The **B.S.** degree requires 40 credit hours of chemistry. This major meets the minimum entrance requirements of many graduate programs in chemistry. Variations within the above program may be recommended by the Department. Transfer students must complete a minimum of half of the required major credit hours in residence in the Department. Students should make certain that math and physics prerequisites are fulfilled in a timely manner. For students who plan to do graduate work in physical chemistry, a double minor is recommended: Mathematics and Computer Science through 310 and 311, Physics through 350 and 360.

Certified B.S. in Chemistry

<http://www.as.miami.edu/chemistry/>

The American Chemical Society **certified B.S.** degree consists of:

Core Courses	
CHM 111 Principles of Chemistry I	3
CHM 112 Principles of Chemistry II	3
CHM 113 Chemistry Laboratory I	1
CHM 114 Chemistry Laboratory II	1
CHM 201 Organic Chemistry I (Lecture)	3
CHM 202 Organic Chemistry II (Lecture)	3
CHM 205 Organic Chemistry Laboratory I	1
CHM 206 Organic Chemistry Laboratory II	1
CHM 214 Quantitative Analytical Chemistry	3
Choose One of the Following:	8
MTH 161 Calculus I & MTH 162 and Calculus II	
MTH 171 Calculus I & MTH 172 and Calculus II	
Choose One of the Following:	10-11
PHY 205 University Physics I & PHY 210 and Honors University Physics II-III & PHY 208 and University Physics II Lab & PHY 209 and University Physics Iii Lab	
PHY 205 University Physics I & PHY 206 and University Physics II & PHY 207 and University Physics III & PHY 208 and University Physics II Lab & PHY 209 and University Physics Iii Lab	
Advanced Courses	
CHM 316 Instrumental Analytical Chemistry	3
CHM 320 Instrumental Methods in Chemistry and Biochemistry	2
CHM 360 Physical Chemistry I (Lecture)	3
CHM 364 Physical Chemistry (Laboratory I)	1
CHM 365 Physical Chemistry II (Lecture)	3

CHM 464	Physical Chemistry (Laboratory II)	1
CHM 441	Inorganic Chemistry (Lecture)	3
CHM 442	Inorganic Chemistry (Laboratory)	1
BMB 401	Biochemistry For The Biomedical Sciences	3
CHM 488	Undergraduate Research	2
CHM 490	Honors Research	1
Electives		3
CHM 317	The Chemistry of Food and Taste.	
CHM 401	Environmental Chemistry	
Any 500-level CHM course		
Total Credit Hours		63-64

Variations within the above programs may be recommended by the Department. Transfer students must complete a minimum of half of the required major credit hours in residence in the Department. Students should make certain that math and physics prerequisites are fulfilled in a timely manner. For students who plan to do graduate work in physical chemistry, a double minor is recommended: Mathematics and Computer Science through 310 and 311, Physics through 350 and 360.

Minor in Chemistry

<http://www.as.miami.edu/chemistry/>

A minor in chemistry consists of 16 credits in chemistry courses, 8 of which must be at the 200 level or above taken at the University of Miami, exclusive of CHM 381, CHM 382, CHM 488 and CHM 490.

Classics

<http://www.as.miami.edu/classics>

Introduction

All culture and civilizations have their classics: those works of art that are seen as the best of their kind, have withstood the test of time, and embody the symbolic values of their society. In the Western tradition, the study of 'Classics' has focused upon the languages, thoughts, literatures, and cultures of ancient Greece and Rome, and their impact on the whole subsequent history of the Western world.

The study of Classics has been conceived in unusually broad terms; it is intended to encompass everything that can be known about the ancient Mediterranean world. There is room in Classics for the study of fields as disparate as literature, science, sculpture, history, architecture, religion, philosophy, theater, economics, music -- in short, the entire panorama of human endeavor. It is no wonder that the study of Classics has always tended to attract some of the liveliest and most brilliant intellects; and it is equally unsurprising that students majoring in Classics find themselves extremely well-prepared for undertaking practically any type of career, whether that be in politics, law, medicine, teaching, publishing, research of all kinds, journalism, banking, or the corporate world. A degree in Classics marks the UM graduate as a person of superior analytical and critical skills, one who has proved able to cope with a rigorous academic curriculum, and who is exceptionally educated in the most fundamental aspects of what it means to be human. Thus, Classics is at the core of the humanities.

Educational Objectives

The educational objectives of the Department of Classics may be stated in a variety of ways, and on a number of levels. In terms of linguistic competency, students majoring (or minoring) in Classics are required to reach an appropriate level of fluency in reading ancient Greek or Latin, or both. In terms of cultural literacy, students of the Classics are educated within a rigorous curriculum exposing them to the great literary works and material cultures of ancient Greece and Rome. In terms of critical thinking, students of the Classics are trained to hone the skills of memory, analysis, and synthesis, skills that they will be able to apply for the rest of their lives in any realm of thought or action whatsoever.

The goal of an education in Classics is to foster and inculcate an ever-burgeoning awareness of what Cicero referred to as *humanitas* -- in short, everything it is to be human. It is the mission of Classics to expose its students to the greatest thoughts and endeavors of the human race, and to encourage them to think about what that greatness consists in, and how to enlarge upon it. The profoundest educational objective of the Department of Classics is to preserve and study all that is important about the past, in order best to prepare for the future.

Degree Programs

The Department of Classics offers the Major and the Minor in Classics.

Major in Classics

The undergraduate Major in Classics at UM has four possible tracks. Greek, Latin, Greek and Latin, and Classical Civilization. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Classics should take three courses marked W from the list of GRE, LAT, and CLA courses offered in the catalogue.

General Education Rubrics

Courses in Classics labeled 'LAT' or 'GRE' and above the 201 level -- that is, LAT 202, GRE 202, and higher -- satisfy General Education requirements under the 'Literature' requirement of the 'Humanities' rubric.

Some courses in Classics labeled CLA satisfy General Education requirements under the 'Literature' requirement, while others do so under the 'People and Society' requirement. These are as follows:

Literature		
CLA 224	The Heroic Journey	3
CLA 246	Ancient Rhetorical Theory	3
CLA 310	Survey of Ancient Greek Literature and Culture	3
CLA 311	Survey of Classical Latin Literature and Culture	3
CLA 315	The Classical Epic Tradition	3
CLA 322	Monsters and Fantastical Creatures in Western Antiquity and Other Cultures	3
CLA 340	Greek Tragedy	3
CLA 360	Women In Greek And Roman Antiquity	3
People & Society		
CLA 221	Sports & Society In The Ancient World	3
CLA 222	Sexuality and Gender in the Ancient World	3
CLA 232	Topics in Ancient Law, Scandalous Trails from the Ancient Legal World	3
CLA 233	Ancient Medicine	3

CLA 241	Greek Civilization	3
CLA 242	Roman Civilization	3
CLA 301	Ancient Greece	3
CLA 302	The Hellenistic Age	3
CLA 303	The Roman Republic	3
CLA 304	The Roman Empire	3
CLA 323	The Ancient World on Screen	3
CLA 325	The Vampire in Folklore, Fiction, and Film	3
CLA 370	Self and Other in the Ancient World	3

Departmental Honors

A student may earn Honors in Classics by completing a 'capstone' project with a grade of B or higher. This project can be the senior thesis (CLA 495 and 496; 6 credits) or an Independent Study course (LAT 491, GRE 491, or CLA 491; 3 credits) that includes a substantial research paper.

Either project must be supervised by a faculty member in the Classics Department. In order to qualify for a 'capstone' project, the student must have by the end of the junior year a minimum GPA of 3.5 in the Classics major and 3.3 overall.

In addition, Classics Majors, Classics Minors, and other students who meet certain academic criteria are eligible for membership in Eta Sigma Phi, the National Honors Society for Classics.

Majors

Majors in Classics

B.A. in Classics with Tracks in:

- Greek (p. 81)
- Latin (p. 81)
- Latin and Greek (p. 81)
- Classical Civilization (p. 81)

Minors

Minor in Classics

- Classics (p. 81)

B.A. in Classics - Classical Civilization Track

Select one of the following Options:	9
Option 1:	
LAT 101 Elementary Latin I	
LAT 102 Elementary Latin II	
LAT 201 Intermediate Latin I	
Option 2:	
GRE 101 Elementary Ancient Greek I	
GRE 102 Elementary Ancient Greek II	
GRE 201 Intermediate Ancient Greek I	
Select one additional course (202 and above) in either Latin (LAT) or Greek (GRE)	3
Select six Classics-in-translation (CLA) courses	18
Total Credit Hours	30

B.A. in Classics - Greek Track

GRE 101 Elementary Ancient Greek I	3
GRE 102 Elementary Ancient Greek II	3
GRE 201 Intermediate Ancient Greek I	3
Select five additional courses in Greek (GRE 202 and above)	15
Select two Classics-in-translation (CLA) courses	6
Total Credit Hours	30

B.A. in Classics - Latin Track

LAT 101 Elementary Latin I	3
LAT 102 Elementary Latin II	3
LAT 201 Intermediate Latin I	3
Select five additional courses in Latin (LAT 202 and above)	15
Select two Classics-in-translation (CLA) courses	6
Total Credit Hours	30

B.A. in Classics - Latin and Greek Track

LAT 101 Elementary Latin I	3
LAT 102 Elementary Latin II	3
LAT 201 Intermediate Latin I	3
GRE 101 Elementary Ancient Greek I	3
GRE 102 Elementary Ancient Greek II	3
GRE 201 Intermediate Ancient Greek I	3
Select two additional courses in Latin (LAT 202 and above)	6
Select two additional courses in Greek (GRE 202 and above)	6
Select two Classics-in-translation (CLA) courses	6
Total Credit Hours	36

Minor in Classics

Courses that qualify for the minor in Classics are taught each semester. A grade of C-minus or better is required in each course taken for the minor, as well as an overall GPA of 2.0 or higher.

Select one of the following:	3
3 credit hours in a Greek (GRE) course	
3 credit hours in a Latin (LAT) course	
Select 12 credit hours in Greek (GRE), Latin (LAT), or Classics-in-translation (CLA) courses in any combination desired	12
Total Credit Hours	15

Computer Science

<http://www.cs.miami.edu>

Dep't Code: CSC

Introduction

The Department of Computer Science offers undergraduate and graduate education in Computer Science, and performs research in various areas of Computer Science. The Department has faculty with strong accomplishments in the fields of algorithm engineering, automated

reasoning, bioinformatics, computational complexity, computational geometry & computer graphics, cryptography & network security, data mining, molecular computation, multimedia systems, music information retrieval, robotics, scientific computing, semantic web, and wireless & mobile computing.

Educational Objectives

The Department of Computer Science educates students in the science of software development: the analysis of domain problems, the development of algorithms and programs, the use of specialist computing techniques, the system-software and hardware platforms, and the production and deployment of efficient and robust computer software. Instruction ranges from introductory programming classes and laboratories, through to research in various areas of computer science.

Degree Programs

The Department of Computer Science offers

- a Bachelor of Science (BS) major
- a Bachelor of Arts (BA) major
- a 5-year Bachelor of Science + Master of Science (BS+MS)
- a minor

Computer Science as a Second Major

A second major in Computer Science is available to all students. A second major in Computer Science requires completion of the requirements of either the Bachelor of Science version or the Bachelor of Arts version.

Writing within the Discipline

To satisfy the College of Arts and Sciences writing requirement in the discipline, students whose first major is Computer Science must take at least one of the following courses for a writing credit: CSC 431, CSC 405, ENG 233.

Departmental Honors

In addition to the University's requirements for Departmental Honors, Departmental Honors in Computer Science requires completing a major and 6 additional approved credit hours (all CSC 4XX and CSC 5XX courses are approved). The major or additional credit hours must include at least 3 credit hours from CSC 410 and CSC 411.

Notes

- A grade of C- or better in all CSC courses is required in a major or minor.
- An overall GPA of 2.5 or better in all CSC courses is required in a major or minor. This GPA is computed using only courses from this department. If a course is repeated only the highest grade for the course is used.
- For a Computer Science major, at least 15 credit hours of CSC courses must be completed at the University of Miami.
- For a Computer Science minor, at least 9 credit hours of CSC courses must be completed at the University of Miami.

Majors

Majors in Computer Science

- B.S. in Computer Science (p. 82)
- B.A. in Computer Science (p. 83)
- Second Major in Computer Science (p. 84)

Minors

Minor in Computer Science

- Computer Science (p. 84)

Joint

Joint Degrees in Computer Science

- Five-Year B.S. + M.S. in Computer Science (p. 84)

Bachelor of Science in Computer Science

Students must complete the *Core*, a *Track*, and the *Science & Ethics* requirements.

Core Computer Science Courses		
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures And Algorithm Analysis	3
CSC 322	System Programming	3
CSC 427	Theory Of Computing	3
CSC 431	Introduction To Software Engineering	3
Core Mathematics Courses		
MTH 161	Calculus I (or equivalent - MTH 140 and MTH 141, MTH 151, or MTH 171)	4
MTH 162	Calculus II (or equivalent - MTH 172)	4
MTH 210	Introduction to Linear Algebra	3
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Tracks		
Select one of the following Tracks:		17
Comprehensive Track: ^{1,2}		
CSC 419	Programming Languages	
CSC 421	Principles Of Computer Operating Systems	
CSC 423	Database Systems	
CSC 424	Computer Networks	
Select a minimum of 5 credit hours of approved electives		
Flexible Track: ¹		
Select a minimum of 17 credit hours of approved electives		
Computational Science Track: ³		
CSC 210	Computing for Scientists	
CSC 528	Introduction to Parallel Computing	
CSC 547	Computational Geometry	
CSC 548	Bioinformatics Algorithms	
CSC 410	Computer Science Project Planning	
or CSC 411	Computer Science Project Implementation	
MTH 320	Introduction to Numerical Analysis	
or MTH 520	Numerical Linear Algebra	

BIL 150	General Biology ⁴
or BIL 151	General Biology Laboratory
Cryptography and Security Track: ³	
CSC 421	Principles Of Computer Operating Systems
CSC 424	Computer Networks
CSC 507	Data Security and Cryptography
CSC 410	Computer Science Project Planning
or CSC 411	Computer Science Project Implementation
Select one of the following:	
MTH 461	Survey Of Modern Algebra
MTH 505	Theory of Numbers
MTH 561	Abstract Algebra I
Select a minimum of 2 credit hours of approved electives	
Graphics and Games Track: ³	
CSC 329	Introduction to Game Programming
CSC 529	Introduction to Computer Graphics
CSC 545	Introduction to Artificial Intelligence
CSC 410	Computer Science Project Planning
or CSC 411	Computer Science Project Implementation
Select a minimum of 5 credit hours of approved electives ⁵	
PHY 101	College Physics I ⁶
or PHY 205	University Physics I
Science & Ethics Requirement	
An approved two semester sequence of courses with laboratory ⁷	
PHI 115	Social and Ethical Issues in Computing
Approved Electives	
Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX ⁸	
BTE 360	Systems Analysis and Design
BTE 465	Web Application Development
ECE 414	Computer Organization and Design
ECE 514	Computer Architecture
ECE 537	Principles of Artificial Intelligence
ECE 548	Machine Learning
ECE 553	Neural Networks
ECE 572	Object-Oriented and Distributed Database Management Systems
ECE 574	Agent Technology
ECE 577	Data Mining
MTH 320	Introduction to Numerical Analysis
MTH 505	Theory of Numbers
MTH 520	Numerical Linear Algebra
MTH 521	Numerical Methods In Differential Equations
MTH 524	Introduction to Probability Theory
MTH 525	Introduction to Mathematical Statistics
Total Credit Hours	57

¹ Available to all students.

² The Comprehensive Track provides coverage of the topics in Computer Science prescribed by the Association of Computing Machinery curriculum and the ABET Computing Accreditation Commission.

³ Requires permission of the Director of Undergraduate Studies.

⁴ The courses used to meet the Science requirement must include BIL 150 and BIL 151.

⁵ In addition to the generally approved electives, MMI 504 and MMI 505 are approved for the Graphics and Games track.

⁶ The courses used to meet the Science requirement must include either PHY 101 or PHY 205.

⁷ Courses may be taken in Biology, Chemistry, or Physics..

⁸ Maximally 6 credit hours from CSC 40X Computer Science Practicum, and maximally 6 credit hours from CSC 481.

Bachelor of Arts in Computer Science

Students must complete the *Core* and *Electives*.

Core Computer Science Courses		
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 322	System Programming	3
CSC 431	Introduction To Software Engineering	3
Core Mathematics Courses		
MTH 161	Calculus I (or equivalent - MTH 140 and MTH 141, MTH 151, or MTH 171)	4
MTH 309	Discrete Mathematics I	3
Electives		
Select 9 approved credit hours of the following:		9
Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX		
CSC 119	Computers and Society	
or BTE 320	Introduction to Programming	
or BTE 410	Information Systems and Technology	
or JMM 341	Web Design	
or GEG 199	Introduction to GIS (Geographic Information Systems)	
or MSC 321	Scientific Programming in the Atmospheric Sciences	
BIL 552	Bioinformatics Tools	
BTE 360	Systems Analysis and Design	
BTE 423	Database Management Systems	
BTE 430	Business Networks	
BTE 465	Web Application Development	
ECE 368	Internet Computing I	
ECE 414	Computer Organization and Design	
ECE 514	Computer Architecture	
ECE 537	Principles of Artificial Intelligence	
ECE 548	Machine Learning	
ECE 553	Neural Networks	
ECE 570	Network Client-Server Programming	
ECE 572	Object-Oriented and Distributed Database Management Systems	
ECE 574	Agent Technology	

ECE 576	Internet and Intranet Security	
ECE 577	Data Mining	
ECE 579	Mobile Computing	
MTH 320	Introduction to Numerical Analysis	
MTH 505	Theory of Numbers	
MTH 520	Numerical Linear Algebra	
MTH 521	Numerical Methods In Differential Equations	
MTH 524	Introduction to Probability Theory	
MTH 525	Introduction to Mathematical Statistics	
MMI 505	Current Trends In Music Engineering I (for Music Engineering students only)	
Total Credit Hours		33

Computer Science as a Second Major

A second major in Computer Science is available to all students. A second major in Computer Science requires completion of the requirements of a Computer Science major, either the Second Major in Computer Science, Fundamentals (p. 83) or the Second Major in Computer Science, with Tracks (p. 82).

Five-Year B.S. + M.S. in Computer Science

The 5-year Bachelor of Science + Master of Science program in Computer Science provides research training for students who wish to work in a computing research lab, or possibly continue to PhD studies.

Students must complete the requirements for a Bachelor of Science in Computer Science, and the requirements for a 30 credit hour Master of Science in Computer Science (p. 395) with thesis. No credit hours may be counted towards both requirements.

Students enter the "MS-phase" of the program when they have met the following requirements:

- They have achieved senior status, i.e., earned 89 credit hours towards their Bachelor of Science in Computer Science.
- Within the requirements for a Bachelor of Science in Computer Science, they have completed the prerequisites for entry into the regular Master of Science program, i.e.:

CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures And Algorithm Analysis	3
CSC 427	Theory Of Computing	3
MTH 161	Calculus I	4
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3

- They have completed 3 credit hours of CSC 410/CSC 411 in a research-oriented project.
- They have a GPA of at least 3.0 in the CSC courses taken towards their BS in Computer Science.

- They have advised the Director of Graduate Studies of their eligibility for the MS-phase.

Students in the MS-phase must complete 3 further credit hours of CSC 410/CSC 411 in a research-oriented project, as part of their Bachelor of Science in Computer Science (this project will normally be the starting point for the Master of Science research). Students in the MS-phase may take 600 level courses that count towards completing the requirements for the Master of Science in Computer Science. When students have completed the requirements for a Bachelor of Science in Computer Science they will be awarded that degree, and when they have completed the requirements for the Master of Science in Computer Science they will be awarded that degree. Students in the MS-phase must submit their GRE scores before they are admitted to graduate student status.

Incoming students can be admitted to the program if their mathematics placement is MTH 108 or higher. Existing Bachelor of Science in Computer Science students can switch into the program when they have met the requirements for entering the MS-phase of the program. Students can be removed from the program if they have not met the prerequisites for admission to the MS-phase by the time they have achieved senior status. If a student is removed or decides to withdraw from the program, any 600 level courses taken may be used to fulfill the requirements for a Bachelor of Science in Computer Science.

Minor in Computer Science

A minor in Computer Science requires completion of the following:

Core Courses		
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
Electives		
CSC 3XX	Any 300-level Computer Science course	3
Select 6 approved credit hours of the following:		6
Any CSC 2XX, CSC 3XX, CSC 4XX, CSC 5XX		
CSC 119	Computers and Society	
or BTE 320 Introduction to Programming		
or BTE 410 Information Systems and Technology		
or JMM 341Web Design		
or GEG 199 Introduction to GIS (Geographic Information Systems)		
or MSC 321 Scientific Programming in the Atmospheric Sciences		
BIL 552	Bioinformatics Tools	
BTE 360	Systems Analysis and Design	
BTE 423	Database Management Systems	
BTE 430	Business Networks	
BTE 465	Web Application Development	
Total Credit Hours		17

Criminology

<http://www.as.miami.edu/sociology>

Introduction

The major in Criminology provides a comprehensive understanding of crime and the criminal justice system. The major prepares students to assume roles of leadership in this critical area of modern society.

Courses are designed to review theory, research, and applications of knowledge regarding delinquency and crime, as well as to understand the manner in which offenders are processed. Students learn about the nature and extent of crime, different types of crime, and theories to explain crime. In addition, detailed analyses are made of the functions of the law, police, courts, and correctional systems and the ways in which these are linked to broader aspects of society. Students may also minor in Criminology. The Criminology major and minor are administered through the Department of Sociology.

Educational Objectives

CRIMINOLOGY courses have several broad objectives, including:

1. General education and development of critical thinking skills.
2. Undergraduate preparation for pursuing careers in such fields as law and society, in the local and state criminal justice systems (e.g., juvenile probation officer, pretrial services officer, crime analyst for criminal justice agencies), or in federal agencies (e.g., DEA).
3. Preparation for graduate study in criminology, criminal justice, sociology, or other social and behavioral sciences.
4. Preparation for law school.

Degree Programs

Students may earn a Bachelor of Arts degree in Criminology. The Department of Sociology also offers graduate degrees in Sociology (M.A., Ph.D.) with emphases in criminology and in other areas (race/ethnic relations and medical sociology).

Departmental Honors

Graduation with Departmental Honors is available to eligible students who fulfill the following:

1. Students desiring Departmental Honors in Criminology must maintain an overall GPA of 3.3 and a GPA of 3.5 in Criminology. They must also achieve a minimum of B in all Criminology courses. For transfer students, the Department uses the cumulative, combined GPA calculated by the Office of the Registrar.
2. A student seeking Departmental Honors is required to write an independent research paper which is submitted to the Undergraduate Committee in the Department of Sociology. The nature of the independent research project is determined by the faculty member(s) with whom the student works. This project is done in SOC 498 & SOC 499. The student should have the same professor for all six credit hours.
3. Recruitment of eligible students is by departmental invitation during a student's junior year.

Advanced Writing and Communication Requirements

To satisfy the College of Arts and Sciences Advanced Writing and Communication requirement, all Criminology majors must take 4 writing-designated courses, including 1 writing-designated course in the SOC area. Writing courses are regularly offered within the department; however, it is the student's responsibility to plan accordingly

to incorporate a designated SOC writing-designated course into their graduation plans.

Alpha Phi Sigma

Majors, minors, and other students who meet certain academic criteria are eligible for membership in Alpha Phi Sigma, the National Criminal Justice Honor Society. Alpha Phi Sigma sponsors events that enhance the academic and social life of the department.

Majors

Major in Criminology

- B.A. in Criminology (p. 85)
- Criminology & Sociology Double Major; Combined Minor (p. 132)

Minors

Minor in Criminology

- Criminology (p. 85)
- Criminology & Sociology Double Major; Combined Minor (p. 132)

B.A. in Criminology

The major in Criminology consists of 31 credit hours, including:

Required Courses		
SOC 101	Introduction to Sociology	3
SOC 210	Introduction to Social Research ¹	3
SOC 211	Quantitative Methods for Sociologists ²	3
SOC 212	Quantitative Methods Lab	1
SOC 371	Criminology	3
SOC 470	Theories of Deviant Behavior	3
SOC 271	Criminal Justice	3
or SOC 370	Juvenile Delinquency	
Elective Courses		
Select four other courses offered by the Department		12
Total Credit Hours		31

¹ EPS 452 can be substituted for SOC 210 only by students who are also enrolled in the School of Education.

² PSY 291 can be substituted for SOC 211 only by students who are also majoring or minoring in Psychology. SOC 212 remains a requirement.

Other Requirements

- A minimum final grade of C- in all courses offered by the Department
- A minimum cumulative GPA of 2.0 in all courses offered by the Department
- A minimum of **16 credit hours must be earned in residency** in the Department; thus, only a maximum of **15 credit hours** can be transferred from other institutions as eligible for the CRIMINOLOGY major.

Minor in Criminology

A minor in Criminology requires a minimum of 15 credit hours, including:

Required Courses		
SOC 101	Introduction to Sociology	3
SOC 371	Criminology	3
Elective Courses		
Select three other courses offered by the Department, of which one must be 300-level or higher		9
Total Credit Hours		15

Other Requirements

- A minimum final grade of C- in all courses offered by the Department
- A minimum cumulative GPA of 2.0 in all courses offered by the Department
- A minimum of 9 credit hours must be earned in residency in the Department; thus, only a maximum of 6 credit hours may be transferred from other institutions as eligible credit hours for the Criminology major.

Economics

Introduction and Educational Objectives

Economics uses the idea of optimizing behavior to provide a unified framework for studying human action. The economics curriculum is designed to give students an understanding of economic theory and its application to a wide range of problems. The program provides excellent preparation for careers in business, government, and international agencies. It is particularly recommended for students planning graduate study or professional training in fields such as law, business, international studies, public administration, and economics.

Degree Programs

A student pursuing the Economics major through the College of Arts and Sciences must meet the degree requirements set forth in this Academic Bulletin (p. 62). Additionally, a student pursuing the Economics major will select one of two possible tracks: Political Economy (the People and Society track) or Quantitative Economics (the Science, Technology, Mathematics, and Engineering track).

Members of the Department are prepared to counsel students in the selection of courses and in other matters relating to the preparation for careers. Economics may be the major area of specialization of a candidate for the Master of Arts (p. 429) and Doctor of Philosophy (p. 420) degrees. Consult the Graduate Academic Programs section of the Bulletin for the general requirements of these programs.

Majors

Major in Economics

- Economics (p. 86)

Minors

Minor in Economics

- Economics (p. 87)

Major in Economics

A student pursuing the major in Economics through the College of Arts and Sciences will select one of two possible tracks: Political Economy

(the People and Society track) or Quantitative Economics (the Science, Technology, Mathematics, and Engineering track).

Economics Major, Political Economy Track (P&S)

The **Political Economy** track consists of a minimum of 24 credit hours of Economics courses according to the following:

Core Courses		
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
Required Courses		
ECO 300	Microeconomic Theory And Applications ^{1,2}	3
or ECO 302	Micro Economic Theory	
ECO 303	Macro Economic Theory ³	3
Elective Courses		
Select two, three, or four courses (6-12 credit hours) from the following:		6-12
ECO 307	Public Finance and Fiscal Policy	
ECO 311	Labor Economics (I)	
ECO 345	Environmental Economics	
ECO 351	Economics of Developing Countries	
ECO 371	Latin America And The Global Economy	
ECO 379	ECONOMICS OF POVERTY	
ECO 386	Health Economics	
ECO 403	Contemporary Issues in Monetary Economics	
ECO 420	Economic Growth	
ECO 441	International Trade Theory	
ECO 442	International Monetary Economics	
ECO 460	Industrial Organization	
ECO 499	Special Topics (Energy Economics; Global Economics:Trade and Financial Flows; Global Economics, Energy, and Commodity Markets; Managerial Economics; The Economics of China)	
ECO 521	Graduate Macroeconomic Theory	
ECO 532	History of Economic Thought	
Students who have completed ECO 302 may select a maximum of two electives (0-6 credit hours) from the following:		0-6
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 510	Mathematical Economics And Applications ⁴	
ECO 512	Mathematical Economics (II)	
ECO 520	Econometrics	
ECO 533	Advanced Microeconomic Theory	
Additional options in this category include ECO 499 (Special topics: Forecasting or Special Topics: Information Economics)		
Total Credit Hours		24

¹ All advanced courses in Economics (300-500 levels) require ECO 300 or the more technical version, ECO 302, as a pre-requisite.

² Additional pre-requisite for ECO 300: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher

Additional pre-requisite for ECO 302: MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

³ Additional pre-requisite for ECO 303: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher

⁴ Additional pre-requisite for ECO 510: MAS 202 or MAS 311 or IEN 311 or MTH 224

Note: All specific coursework for the major in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.

Economics Major, Quantitative Economics Track (STEM)

The **Quantitative Economics** track consists of a minimum of 24 credit hours of Economics courses according to the following:

Core Courses		
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
Required Courses		
ECO 302	Micro Economic Theory ^{1, 2}	3
ECO 303	Macro Economic Theory ²	3
Elective Courses		
Select four courses (12 credit hours) from the following:		12
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 499	Special Topics (Information Economics or Forecasting only)	
ECO 510	Mathematical Economics And Applications ³	
ECO 512	Mathematical Economics (II)	
ECO 520	Econometrics	
ECO 533	Advanced Microeconomic Theory	
Total Credit Hours		24

¹ All advanced courses in Economics (300-500 levels) require ECO 302 as a pre-requisite.

² Additional pre-requisite for ECO 302 and for ECO 303: MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

³ Additional pre-requisite for ECO 510: MAS 202 or MAS 311 or IEN 311 or MTH 224

Note: All specific coursework for the major in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.

Minor in Economics

Arts and Sciences students may minor in economics. (p. 164)

Ecosystem Science and Policy

<http://www.cesp.miami.edu>

Dept. Code: ECS

Introduction

The undergraduate program in Ecosystem Science and Policy (ECS) is offered by the Leonard and Jayne Abess Center for Ecosystem Science and Policy. The goal of the program is to educate the next generation of environmental leaders. The ECS program provides students with a broad background in environmental issues from a variety of perspectives, along with in-depth education in an area of specialization.

Educational Objectives

The ECS major offers a series of problem-based learning courses, culminating in a capstone course in the senior year. Courses emphasize integration of science and policy approaches to real-world environmental issues. This preparation gives students both the theoretical background and technical skills to pursue environmental careers in, teaching and research, as well as for careers in government and private industries concerned with the environment.

Degree Programs

The Ecosystem Science and Policy program offers two undergraduate degree major programs: a Bachelor of Science (B.S.) and a Bachelor of Arts (B.A.). The minor consists of 15 credit hours. Majors are required to complete either an environmentally related internship or a research project with the Center for Ecosystem Science and Policy or with other UM faculty.

Only those courses passed with a grade of "C-" or better in the ECS core may be applied to the major or minor. All ECS majors are required to maintain an overall cumulative grade point average of 2.5 or better.

Majors

Majors in Ecosystem Science and Policy

- B.S. in Ecosystem Science and Policy (p. 89)
- B.A. in Ecosystem Science and Policy (p. 87)

Minors

Minor in Ecosystem Science and Policy

- Ecosystem Science and Policy (p. 92)

Certificates

Certificate in Ecosystem Science and Policy

- Sustainability (p. 90)

B.A. in Ecosystem Science and Policy

The B.A. degree in Ecosystem Science and Policy is recommended in preparation for careers in law, government and business, including professional schools and careers in government and private industries concerned with the environment. Students pursuing the B.A. may choose to have the major fulfill either the STEM or People & Society cognate; they will need to complete the other cognate plus the Arts & Humanities cognate. Students with a second major in another school or college

should consult their advisors regarding requirements for that major. Any course used to fulfill one ECS requirement cannot be used to fulfill another; however, courses other than the ECS core can be used to fulfill requirements for a cognate, minor, or second major. Students whose primary college is Arts & Sciences are required to complete four courses designated as "Writing Intensive" (also known as "W") courses. Those seeking a B.A. degree in ECS must complete at least two, but as many as four, ECS courses designated as "W". These include ECS 113, ECS 301, ECS 302, ECS 402, and ECS 403. Up to two "W" courses may be selected from other departments. Students whose primary degree is in another school or college should follow its writing requirements.

ECS Core Courses		
ECS 111	Introduction to the Earth's Ecosystem	3
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 113	Introduction to Environmental Policy	3
ECS 201	Seminar Series in Contemporary Environmental Issues I	1
or ECS 202	Seminar Series in Contemporary Environmental Issues II	1
ECS 232	Ecological Principles and Environmental Applications	3
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
ECS 302	Perspectives on Environmental Decision Making	3
ECS 401	Internship	3
or ECS 402	Thesis	3
ECS 403	Interdisciplinary Approaches	3
Science Core Courses		
Geological Sciences:		
Select one of the following:		3-6
GSC 102	Evolution of the Biosphere	
GSC 103	Evolution of the Modern Earth's Environment	
GSC 106	Geological Influences on Society	
GSC 110	The Earth System	
& GSC 114	and Earth Processes Lab	
GSC 111	Earth System History	
Marine Science:		
MSC 101	Survey of Oceanography	3
or MSC 111	Introduction to Marine Science	
Electives:		
Environmentally-related science elective(s) to total 3 credits ¹		3
Mathematics Courses		
MTH 108	Precalculus Mathematics II (or higher)	3
Select one of the following Statistics courses:		3
ECS 204	Environmental Statistics	
MSC 204	Environmental Statistics	
BIL 311	Biostatistics	
MTH 224	Introduction to Probability and Statistics	
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors	
Social Science Core Courses		

GEG 199	Introduction to GIS (Geographic Information Systems)	3
Select one of the following:		3
ECO 211	Economic Principles and Problems	
ECO 212	Economic Principles and Problems	
POL 201	Introduction to American National Government	
POL 202	Introduction To Comparative Politics	
POL 203	Introduction to International Relations	
Select one of the following:		3
APY 201	Principles of Archaeology	
APY 202	Principles of Cultural Anthropology	
APY 203	Principles of Physical Anthropology	
APY 204	Principles of Linguistic Anthropology	
Select three credit hours of environmentally-related People & Society electives: ²		3
Select three credit hours of environmentally-related People & Society electives at 300 level or higher: ²		3
APY 418	Seminar in Anthropology	
APY 435	Anthropology of Nature and Environment	
ARC 594	Geographic Information Systems in Urban Design	
ECO 345	Environmental Economics	
ECO 351	Economics of Developing Countries	
GEG 311	Drinking Water: Past, Present, And Future	
GEG 341	Geography of Population and Development	
GEG 370	Conservation of Resources	
GEG 371	Environmental Geography: Current Issues	
GEG 391	Intermediate GIS (Geographic Information Systems)	
GEG 392	Remote Sensing of the Environment	
GEG 491	GIS and Environmental Modeling	
GEG 511	Field Studies in Geography	
GEG 522	Urbanization in the Developing World	
HIS 368	Nature and the Environment in American History	
INS 322	Economics of Development and the Environment	
INS 421	Poverty and the Environment	
LAS 302	Interdisciplinary Topics in Latin American and Caribbean Studies-Travel Course	
MAF 501	Political Ecology of Marine Management	
MAF 502	Economics of Natural Resources	
MAF 510	Environmental Planning and the Environmental Impact Statement	
MAF 518	Coastal Zone Management	
POL 314	Legislative Processes	
SOC 210	Introduction to Social Research	
Total Credit Hours		54-57

¹ Additional courses may be approved by the ECS program.

² APY, ARC, ECO, ECS, GEG, HIS, INS, LAS, MAF, POL, SOC

B.S. in Ecosystem Science and Policy

The B.S. degree in Ecosystem Science and Policy is recommended for students intending to attend graduate or professional schools in pursuit of research or academic careers (including secondary or higher education). It is also suitable for those preparing for technical careers in government and private industries concerned with the environment. Students pursuing the B.S. may choose to have the major fulfill either the STEM or People & Society cognate; they will need to complete the other cognate plus the Arts & Humanities cognate. Students with a second major in another school or college should consult their advisors regarding requirements for that major and school or college. Any course used to fulfill one ECS requirement cannot be used to fulfill another; however, courses other than the ECS core can be used to fulfill requirements for a cognate, minor, or second major. Students whose primary college is Arts & Sciences are required to complete four courses designated as "Writing Intensive" (also known as "W") courses. Those seeking a B.S. degree in ECS must complete at least two, but as many as four, ECS courses designated as "W". These include ECS 113, 301, 302, 402, and 403. Up to two "W" courses may be selected from other departments. Students whose primary degree is in another school or college should follow its writing requirements.

ECS Core Courses		
ECS 111	Introduction to the Earth's Ecosystem	3
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 113	Introduction to Environmental Policy	3
ECS 201	Seminar Series in Contemporary Environmental Issues I	1
or ECS 202	Seminar Series in Contemporary Environmental Issues II	
ECS 232	Ecological Principles and Environmental Applications	3
or BIL 330	Ecology	
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
ECS 302	Perspectives on Environmental Decision Making	3
ECS 401	Internship	3
or ECS 402	Thesis	
ECS 403	Interdisciplinary Approaches	3
ECS electives at the 300 level or higher		6
In addition, students must take the following courses, which may fulfill cognate or second major requirements:		
Science Core Courses		
A science course at the 110 level or above with lab (BIL, GSC, MSC, PHY)		4
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	4
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	4
CAE 240	Environmental Pollution	3
or CAE 340	Introduction to Environmental Engineering	
Complete one of the following ECS science tracks:		9-15
Environmental Chemistry Track: ¹		

Select three of the following (must include 2 labs):		
CHM 201	Organic Chemistry I (Lecture) & CHM 205 and Organic Chemistry Laboratory I	
CHM 202	Organic Chemistry II (Lecture) & CHM 206 and Organic Chemistry Laboratory II	
CHM 360	Physical Chemistry I (Lecture) & CHM 364 and Physical Chemistry (Laboratory I)	
CHM 365	Physical Chemistry II (Lecture) & CHM 464 and Physical Chemistry (Laboratory II)	
CHM 401	Environmental Chemistry	
Environmental Health Track: ²		
Select three of the following:		
CHM 201	Organic Chemistry I (Lecture) & CHM 205 and Organic Chemistry Laboratory I	
MIC 301	Introduction to Microbiology and Immunology	
MIC 322	Medical Parasitology	
Geology Track: ³		
GSC 260	Earth Materials	
Select two of the following:		
GSC 360	Depositional and Diagenetic Systems	
GSC 380	Paleontology and Stratigraphy	
GSC 410	Environmental Geochemistry	
GSC 420	Geophysics	
GSC 480	Structural Geology	
GSC 550	Hydrogeology	
Geospatial Certificate Track: ⁴		
GEG 199	Introduction to GIS (Geographic Information Systems)	
GEG 391	Intermediate GIS (Geographic Information Systems)	
GEG 392	Remote Sensing of the Environment	
Select two of the following:		
GEG 491	GIS and Environmental Modeling	
GEG 545	Special Topics (Web-GIS)	
GEG 545	Special Topics (Advanced SAR Techniques and Applications)	
GEG 545	Special Topics (GIS in Public Health)	
Mathematics Track: ⁵		
MTH 359	Mathematical Models in Biology and Medicine	
Select two of the following:		
MTH 210	Introduction to Linear Algebra	
MTH 310	Multivariable Calculus	
MTH 311	Introduction to Ordinary Differential Equations	
Mathematics Courses		
Select one of the following:		5-8
MTH 151	Calculus I for Engineers & MTH 162 and Calculus II	
MTH 161	Calculus I & MTH 162 and Calculus II	
MTH 171	Calculus I & MTH 172 and Calculus II	
Select one of the following Statistics courses:		3

ECS 204	Environmental Statistics	
MSC 204	Environmental Statistics	
BIL 311	Biostatistics	
MTH 224	Introduction to Probability and Statistics	
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors	
Social Science Core Courses		
Select one of the following Economics/Political Science courses for BS:		3
ECS 377	Topics in Environmental Economics and Development	
ECO 211	Economic Principles and Problems	
ECO 212	Economic Principles and Problems	
INS 102	Global Economics	
INS 421	Poverty and the Environment	
MSC 345	Economics of Natural Resources and the Environment	
POL 201	Introduction to American National Government	
POL 202	Introduction To Comparative Politics	
POL 203	Introduction to International Relations	
Select one of the following ECS social science skills courses for BS: ⁶		3
BSL 212	Introduction to Business Law	
BSL/MSC 314	Ocean Law	
STC 114	Principles of Advertising	
JMM 106	Visual Design	
JMM 341	Web Design	
ECS 376	Topics in Environmental Communication	
ECS 377	Topics in Environmental Economics and Development	
EPS 321	Understanding Human Service Organizations	
FIN 300	Fundamentals of Finance for Non-Finance Majors	
FIN 302	Fundamentals of Finance	
GEG 120	Physical Geography	
GEG 199	Introduction to GIS (Geographic Information Systems)	
INS 503	Int Relations Topics (e.g., Role of Foreign Aid in International Development)	
LAS 502	Research Design in Latin American Studies	
MGT 303	Operations Management	
MGT 353	Introduction to Entrepreneurship	
MKT 201	Foundations of Marketing	
PHI 110	Critical Thinking	
PHI 215	Logic and Law	
POL 314	Legislative Processes	
POL 342	State and Local Government and Politics	
POL 353	Interest Groups and Lobbying	
POL 524	Non-Profit Organizations: Law, Policy, and Management	

SOC 210	Introduction to Social Research	
Total Credit Hours		68-77

- ¹ Note: CHM 111/CHM 113, CHM 112/CHM 114 must be taken before the Chemistry concentration. Fulfillment of the Chemistry concentration earns a Chemistry minor.
- ² Note: BIL 150/BIL 151, BIL 160/BIL 161 and CHM 121, CHM 221, CHM 222 should be taken before the Environmental Health concentration.
- ³ Note: GSC 110/GSC 114 and GSC 111 should be taken before the Geology concentration. This plus the Geology concentration earns a minor in Geological Sciences.
- ⁴ Note: Fulfillment of the Geospatial Certificate PLUS GEG 110 earns a geography minor. This minor does NOT qualify for an Arts and Sciences B.S.; students completing the geospatial certificate concentration must complete an additional minor in one of the following for an Arts and Sciences B.S.: Biology, Chemistry, Computer Science, Geology, Marine Science, Mathematics, Physics.
- ⁵ Note: Calculus II must be taken before the Mathematics concentration. Fulfillment of the Mathematics concentration earns Mathematics minor.
- ⁶ Note: ECS B.S. majors without a second major must take a GIS course, e.g., GEG 199.

Certificate in Sustainability

The certificate program is intended to equip students with knowledge and skills for implementing positive change through environmentally responsible practices in various fields; to serve as a curricular adjunct to sustainable initiatives at UM; to foster a culture of conservation at the University; to enhance students' preparation for a variety of careers, including engineering, architecture, business, marketing, government, and more; and to affirm UM's commitment to sustainability and complement its efforts to enhance environmental education.

To obtain the sustainability certificate, students will complete the People & Society cognate "Global Sustainability: Living on a Finite Planet." (For details on the cognate, see below or use the cognate search engine at: https://canelink.miami.edu/psc/PUMIAJ/EMPLOYEE/HRMS/c/UMSR266_MENU.UMSR266_COGNSRCH.GBL)

The Global Sustainability cognate will earn students 9 of the 18 credit hours needed for the Sustainability Certificate.

In addition, students will take 9 more credit hours from courses included in the cognate or from a list of approved courses (see below). Students may take the additional 9 credit hours to align with their major or minor, or individual interests (e.g., energy, green buildings, natural resource management). Note that some courses on the list may require one or more prerequisites. It is the responsibility of students to obtain any permissions for waivers of prerequisites from the appropriate parties in a given School or College. Courses not on the list below may be substituted; students should obtain permission for substitutions in advance from the director or assistant director of ECS.

Students must be enrolled full time and all courses for the Certificate must be passed with no lower than a "C" grade. Students who successfully complete the program will receive a notation on their transcripts that they have received the Sustainability Certificate.

Cognate: Global Sustainability: Living on a Finite Planet

Area of Knowledge: People and Society

Responsible Academic Unit: MSC Marine & Atmospheric Science

This cluster consists of three linked groups. Group one introduces human impacts on the natural world. Group two discusses environmental politics and policies. Group three considers societal implications of living on a finite planet.

Select exactly three of the following option groups:	
Option Group: Human Impacts on Natural World	
Select exactly one course from the following:	
ECS 111	Introduction to the Earth's Ecosystem 3
GSC 103	Evolution of the Modern Earth's Environment
MSC 220	Climate and Global Change
Option Group: Environmental Politics & Policy	
Select exactly one course from the following:	
ECS 113	Introduction to Environmental Policy 3
ECS 372	Special Topics in Ecosystem Science and Policy
GEG 371	Environmental Geography: Current Issues
POL 322	Environmental Politics and Policy
MSC 340	Ocean Policy
MSC 313	Coastal Law
MSC 346	Climate Science and Policy
Option Group: Social Implications	
Select exactly one course from the following:	
ARC 223	Architecture and the Environment 3
INS 322	Economics of Development and the Environment
INS 421	Poverty and the Environment
ECO 345	Environmental Economics
MSC 345	Economics of Natural Resources and the Environment
ECS 310	Sustainable Living
GEG 311	Drinking Water: Past, Present, And Future
GEG 341	Geography of Population and Development
Total Credit Hours	9

Prerequisite Courses

- GEG 371 has a prerequisite of 1 course in physical geography or ecology, or permission of instructor; the ecology requirement should be filled by most of the courses in option group 1
- POL 322 has a prerequisite of POL 201 or POL 202; it is only offered in Summer
- MSC 340 has a prerequisite of MSC 111
- ARC 223 has a prerequisite of ARC 102 and ARC 122
- INS 322 has a prerequisite of INS 102 or ECO 211 and ECO 212, or permission of instructor
- INS 421 has a prerequisite of INS 102 or permission of instructor
- ECO 345 has a prerequisite of ECO 211 and ECO 302
- MSC 345 has a prerequisite of ECO 211

- GEG 341 has a prerequisite of any 100 level GEG course.

Additional Courses

In addition to completing the "Global Sustainability" cognate, students must take at least 9 more credit hours to earn the sustainability certificate. Any courses within the "Global Sustainability" cognate not being used to satisfy the cognate may count for the certificate. Students may also choose courses from the list below. The list includes courses specific to various areas of study (e.g., engineering) that may require one or more prerequisites. Please see the relevant School/Department descriptions in this Bulletin for further details.

College of Arts and Sciences		
Anthropology		
APY 307	Human Adaptation	3
APY 360	Anthropology of Food	3
APY 387	Cultural Evolution	3
APY 435	Anthropology of Nature and Environment	3
Biology		
BIL 103	Introduction to Ecology.	3
BIL 220	Evolution and Disease	3
BIL 330	Ecology	3
BIL 332	Tropical Ecology	3
BIL 433	Conservation in Practice	3
Ecosystem Science and Policy		
ECS 201	Seminar Series in Contemporary Environmental Issues I	1
ECS 202	Seminar Series in Contemporary Environmental Issues II	1
ECS 301	Tools for Environmental Decision-Making: The Quantitative Perspective	3
ECS 302	Perspectives on Environmental Decision Making	3
ECS 433	Conservation in Practice	3
ECS 501	Interdisciplinary Environmental Theory	3
Geography		
GEG 370	Conservation of Resources	3
GEG 522	Urbanization in the Developing World	3
GEG 530	Resources and Society	3
Geological Sciences		
GSC 106	Geological Influences on Society	3
GSC 107	Natural Disasters - Hollywood Vs. Reality	3
GSC 550	Hydrogeology	3
History		
HIS 229	Consumer Society: A Global History	3
HIS 368	Nature and the Environment in American History	3
International Studies		
INS 101	Global Perspectives	3
INS 102	Global Economics	3
INS 201	Globalization and Change in World Politics	3
Latin-American Studies		

LAS 320	Special Topics in Latin American and Caribbean Environment	3
LAS 321	Latin American Environmental Issues	3
LAS 520	Interdisciplinary Topics in Latin American and Caribbean Environments	3
LAS 521	Latin American Environmental Issues	3
Political Science		
POL 323	Global Warming, Politics and the European Union	6
POL 370	Global Energy Politics	3
POL 531	Global Environmental Politics	3
POL 545	Environmental Policy Making	3
Sociology		
SOC 341	Social and Cultural Change	3
School of Business		
Economics		
College of Engineering		
Civil and Architectural Engineering		
CAE 240	Environmental Pollution	3
CAE 340	Introduction to Environmental Engineering	3
CAE 430	Water-Resources Engineering I	3
CAE 530	Water Resources Engineering II	3
CAE 560	Sustainable Construction	3
CAE 581	Energy-Efficient Building Design	3
Rosensteil School of Marine and Atmospheric Science		
Marine Affairs		
MAF 501	Political Ecology of Marine Management	3
MAF 510	Environmental Planning and the Environmental Impact Statement	3
MAF 518	Coastal Zone Management	3
MAF 520	Environmental Law	3
Marine Science		
MSC 300	Water Resources: History, Management, and Policy	3
MSC 410	Marine Conservation Science	3
RSMAS-General		
RSM 520	Climate and Society	3
RSM 570	Carbon and Climate	3

Minor in Ecosystem Science and Policy

A minor in ECS is 15 credit hours and includes:

ECS 111	Introduction to the Earth's Ecosystem	3
ECS 113	Introduction to Environmental Policy	3
Select nine more credit hours in ECS (6 of which are at the 300-level or above)		9
Total Credit Hours		15

Education

Degree in Teacher Education for Elementary and Secondary Schools

The School of Education in conjunction with the College of Arts and Sciences and the School of Music offers a degree program in teacher education. Students majoring in Elementary may choose to earn their degree through the School of Education or the College of Arts and Sciences.

The program in Secondary Education enables a student to teach in a secondary school in the areas of English, Mathematics, Biology, Economics, Geography, History, International Studies or Political Science. Students wishing to earn certification in Secondary Education must complete a Bachelor of Arts or a Bachelor of Science degree in the College of Arts and Sciences with a major in Secondary Education.¹

¹ For specific information regarding required coursework, field experiences, and State requirements, please see an academic advisor in the School of Education.

Other

All education programs are approved by the State of Florida Department of Education. For specific information regarding required coursework, please see an education advisor.

Minors

Minor in Education

- Traditional Education (p. 92)

Certificates

Certificate in Education

- Professional Training Option (p. 92)

Minor in Traditional Education

The requirements for a minor in education consist of 15 credit hours passed with a C or higher, with an overall GPA of 2.5 in courses selected from the list of acceptable TAL departmental courses. A minimum of six credit hours must be numbered 300 or higher. This minor does not lead to teaching credentials.

Professional Training Option Certificate

The Professional Training Option (PTO) is a Florida Department of Education approved pathway for non-education majors to complete the Professional component, one of the requirements to become a certified teacher in the State of Florida.

The PTO minor ranges from 17-18 credit hours. Upon completion of the program participants will receive a Certificate of Completion. UM transcripts will indicate that the student has completed a Florida State approved PTO program. Program completers will be eligible to apply for a Temporary Teaching Certificate in the State of Florida.

PTO Minor Courses

TAL 101	Social and Technological Foundations of Education.	3
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TAL 103	Psychological Foundations of Education	3
TAL 404	Content Area Literacy in the Secondary Classroom	3
TAL 305	Classroom and Behavior Management	3
TAL 540	Instruction and Assessment in the Secondary School.	3
Select one of the following (appropriate for the subject area):		1-3
TAL 506	Issues and Strategies for ESOL	
TAL 524	Education and the Arts	
TAL 541	Instruction in Secondary English.	
TAL 542	Instruction In Secondary Mathematics	
TAL 543	Instruction In Secondary Science	
TAL 544	Instruction In Secondary Social Studies	
Total Credit Hours		16-18

affords them a knowledge of our literary heritage in all of its historical and cultural dimensions.

Degree Programs

The major in English leads to the degree of Bachelor of Arts.

Major in English

Students majoring in English must earn 30 credit hours in English courses (36 credit hours for Departmental Honors) and must meet the requirements for one of the tracks described below:

- The English Literature Major (p. 94),
- The Creative Writing Concentration (p. 95),
- The Concentration in British Literary History (p. 95), or
- The Women's Literature Concentration (p. 95).

Credit hours earned for courses in freshman composition (ENG 105, ENG 106, ENG 107, and ENG 208) may not be applied toward the total number of credit hours required for the major. In each English course, the English major must earn a grade of C- or better, with an overall GPA in the major of 2.0 or better.

Students pursuing both a major and a minor (or two majors) offered by the Department of English may double-count a maximum of two English courses toward the fulfillment of their degree requirements. They must also have an additional major or minor in a department other than English.

All students majoring in English must take at least one Writing (W) course offered by the Department of English.

Minor

The Department of English offers two minors:

- The Minor in English (p. 96) and
- The English Minor in Creative Writing (p. 96).

Students pursuing both a major and a minor (or two majors) offered by the Department of English may double-count a maximum of two English courses toward the fulfillment of their degree requirements. They must also have an additional major or minor in a department other than English.

Departmental Honors in Literature

Students interested in seeking Departmental Honors in English should consult the Director of Undergraduate Studies in English, normally before the end of the junior year.

To enter the program a student must have achieved by the end of the junior year at least a 3.5 average in English courses and a 3.3 average overall. In addition to fulfilling the requirements for the English Literature Major, the candidate for Departmental Honors must:

1. Take at least three literature courses numbered 400 or above in fulfilling requirement #2 of the English Literature Major.
2. Complete a six-credit-hour Senior Thesis. This thesis is a documented essay of about 10,000 words on a literary subject. The student undertaking a Senior Thesis normally registers in ENG 497 for the first semester of the project, and in ENG 498 for the second semester.

Engineering

<http://www.miami.edu/engineering>

Minor in Engineering

The College of Engineering offers the student in the College of Arts and Sciences a variety of 15 credit hour minors designed to give the student a basic understanding of the technologies that support and shape our civilization. Minors may be elected in Architectural, Civil, Computer, Electrical, Environmental, Industrial, or Mechanical Engineering. The student is given considerable freedom in choosing courses in accordance with the student's interests.

Faculty in the College is prepared to assist students seeking Engineering minors in the preparation of programs of study.

More detailed descriptions of these minors will be found in the COLLEGE OF ENGINEERING (p. 225) section of this Bulletin.

English

<http://www.as.miami.edu/english>

Dept. Code: ENG

Introduction

The English Department offers programs for students interested in a liberal arts education. While many English majors direct their studies toward careers in law, creative writing, secondary education, or university teaching and scholarship, an English major is just as valuable to students considering careers in business, journalism, or any of the health professions. Students who would like to learn more about any of these programs are encouraged to consult the Director of Undergraduate Studies in the Department of English, Ashe Bldg. 321.

Educational Objectives

English as a discipline offers an opportunity for a general humanistic education, and it develops skills in communication and analysis essential in most careers. An education in English teaches students to write, to think critically, to weigh values, and to communicate ideas. At the same time, it develops their creativity and aesthetic understanding, and

The student must receive a grade of B or higher in both courses in order to qualify for honors. **(6 credit hours)**

3. While taking ENG 497 and ENG 498, participate in any workshops offered by the English Department for students engaged in independent research projects.
4. Receive for the thesis a recommendation for honors by the director of the Senior Thesis and by one other faculty reader from the Department of English.
5. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credit hours

Departmental Honors in Creative Writing

To enter the program a student must have achieved by the end of the junior year at least a 3.5 average in English courses (including courses in creative writing) and a 3.3 average overall. In addition to meeting the requirements for the Creative Writing Concentration, the candidate for Departmental Honors must:

1. Take at least three literature courses numbered 400 or above in fulfilling requirement #3 of the Creative Writing Concentration.
2. Complete a six-credit-hour Senior Creative Writing Project. The student undertaking this project normally registers in ENG 497 for the first semester of the project, and in ENG 498 for the second semester. The student must receive a grade of B or higher in both courses in order to qualify for honors. **(6 credit hours)**
3. Receive for the project a recommendation for honors by the director of the Senior Creative Writing Project and by one other faculty reader designated by the Director of Creative Writing.
4. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credit hours

Departmental Honors in Women's Literature

To enter the program a student must have achieved by the end of the junior year at least a 3.5 average in English courses and a 3.3 average overall. In addition to fulfilling the requirements for the Women's Literature Concentration, the candidate for Departmental Honors must:

1. Take at least three literature courses numbered 400 or above in fulfilling requirements #2 and #3 of the Women's Literature Concentration.
2. Complete a six-credit-hour Senior Thesis. This thesis is a documented essay of about 10,000 words on a literary subject. The student undertaking a Senior Thesis normally registers in ENG 497 for the first semester of the project, and in ENG 498 for the second semester. The student must receive a grade of B or higher in both courses in order to qualify for honors. **(6 credit hours)**
3. While taking ENG 497 and ENG 498, participate in any workshops offered by the English Department for students engaged in independent research projects.
4. Receive for the thesis a recommendation for honors by the director of the Senior Thesis and by one other faculty reader from the Department of English.

5. Achieve an average in the major of at least 3.5, and an overall average of at least 3.3.

Total: 36 credit hours

Majors

Majors in English

- B.A. in English (p. 94)
- B.A. in English with Concentrations in:
 - Creative Writing (p. 95)
 - British Literary History (p. 95)
 - Women's Literature (p. 95)

Minors

Minors in English

- English (p. 96)
- Creative Writing (p. 96)

B.A. in English

Requirements for the English Literature Major are as follows:

1. Select ONE of the following (N.B., ENG 210 may NOT be used to fulfill this requirement):	3
ENG 201 World Literary Masterpieces I	
ENG 202 World Literary Masterpieces II	
ENG 205 Jewish Literature	
ENG 211 English Literature I	
ENG 212 English Literature II	
ENG 213 American Literature I	
ENG 214 American Literature II	
ENG 215 English and American Literature by Women	
ENG 260 African-American Literature	
ENG 261 Literature of the Americas	
2. Select FIVE LITERATURE courses numbered 300 or above. At least TWO must be numbered 400 or above. The courses must be distributed as follows:	15
Select two courses numbered 300 or above in literature before 1700	
Select two courses numbered 300 or above in literature between 1700 and 1900	
Select one course numbered 300 or above in literature since 1900	
3. Select FOUR additional English courses other than freshman composition ¹	12
Total Credit Hours	30

¹ i.e., any four courses designated ENG and numbered 200 or above, excluding ENG 208.

All students majoring in English must take at least one Writing (W) course offered by the Department of English.

B.A. in English - Concentration in British Literary History

Requirements for the Concentration in British Literary History are as follows:

ENG 211	English Literature I	3
ENG 212	English Literature II	3
Select EIGHT courses numbered 300 or above, at least FOUR of which must be numbered 400 or above. These courses must be distributed as follows:		24
Select one course numbered 300 or above on Shakespeare		
Select one course numbered 300 or above on literary theory or the history of criticism		
Select two additional courses numbered 300 or above in British literature (or a combination of British and other literatures) before 1800		
Select two additional courses numbered 300 or above in British literature (or a combination of British and other literatures) after 1800		
Select two electives numbered 300 or above		
Recommended Courses		
Select ancillary courses in Art History, Music, History, and Philosophy, in consultation with a departmental advisor		
Total Credit Hours		30

All students majoring in English must take at least one Writing (W) course offered by the Department of English.

B.A. in English - Concentration in Creative Writing

Students who declare a major in English with a Creative Writing Concentration should meet with the Director of Creative Writing.

Requirements for the Creative Writing Concentration are as follows:

1. Select one of the following workshop tracks:		12
Fiction Track		
ENG 290	Beginning Fiction Workshop	
ENG 390	Intermediate Fiction Workshop	
Select one of the following options:		
ENG 404	Creative Writing (Prose Fiction) (TO BE TAKEN TWICE)	
OR		
ENG 404	Creative Writing (Prose Fiction) & ENG 408 and Writing Autobiography ¹	
Poetry Track		
ENG 292	Beginning Poetry Workshop	
ENG 392	Intermediate Poetry Workshop	
Select one of the following options:		
ENG 406	Creative Writing (Poetry) (TO BE TAKEN TWICE)	
OR		

ENG 406	Creative Writing (Poetry) & ENG 408 and Writing Autobiography ²	
2. Select one of the following (N. B., ENG 210 may NOT be used toward the fulfillment of this requirement):		3
ENG 201	World Literary Masterpieces I	
ENG 202	World Literary Masterpieces II	
ENG 205	Jewish Literature	
ENG 211	English Literature I	
ENG 212	English Literature II	
ENG 213	American Literature I	
ENG 214	American Literature II	
ENG 215	English and American Literature by Women	
ENG 260	African-American Literature	
ENG 261	Literature of the Americas	
3. Select FOUR LITERATURE courses numbered 300 or above, at least TWO of which must cover literature earlier than 1900. TWO of the four courses must be numbered 400 or above.		12
4. Select one additional LITERATURE course numbered 200 or higher		3
Total Credit Hours		30

¹ In this option, ENG 404 is to be taken once.

² In this option, ENG 406 is to be taken once.

All students majoring in English must take at least one Writing (W) course offered by the Department of English.

B.A. in English - Concentration in Women's Literature

Students considering this concentration may want to take a special Women's Studies section of ENG 106 in the freshman year.

Requirements for the Women's Literature Concentration are as follows:

1. ENG 215	3
2. Select FOUR literature courses numbered 300 or above, at least TWO of which must be numbered 400 or above. These courses must be distributed as follows:	12
Select two courses in literature before 1700	
Select two courses in literature between 1700 and 1900	
3. Select FIVE additional English courses other than freshman composition¹	15
4. Select THREE of the courses in 2 and 3, above, from the following list: ENG 372, ENG 373, ENG 374, ENG 490, ENG 494, or any English course numbered 200 or above (other than ENG 215) that is combined with a course in Women's and Gender Studies	
5. Recommended Courses	
Select ancillary courses in Women's and Gender Studies, in consultation with a departmental advisor	
Total Credit Hours	30

¹ i.e., any five courses designated ENG and numbered 200 or above, excluding ENG 208.

All students majoring in English must take at least one Writing (W) course offered by the Department of English.

Minor in Creative Writing

Students may declare an English Minor in Creative Writing through their school or college. Submitting materials to the Creative Writing Program is not required for the minor. The student completes, with a grade of C- or better in each course and with an overall GPA in the minor of 2.0 or better, at least 15 credit hours at the 200-level or above beyond the credits earned for freshman composition. The 15 credit hours must be distributed as follows:

ENG 209	Creative Writing	3
Select one LITERATURE course at the 200-level, excluding ENG 210		3
ENG 219	Cw Beginning Mixed Genre Workshop	3
ENG 391	Cw Intermediate Mixed-Genre Workshop	3
Select one LITERATURE course at the 300-level or above		3
Total Credit Hours		15

Students pursuing both a major and a minor (or two majors) offered by the Department of English may double-count a maximum of two English courses toward the fulfillment of their degree requirements. They must also have an additional major or minor in a department other than English.

Minor in English

The student minoring in English completes, with a grade of C- or better in each course and with an overall GPA in the minor of 2.0 or better, at least 15 credit hours at the 200-level or above beyond the credits earned for freshman composition. The 15 credit hours must be distributed as follows:

Select one LITERATURE course at the 200-level	3
Select one LITERATURE course at the 200-level or the 300-level	3
Select one LITERATURE course at the 400-level	3
Select TWO additional English courses other than freshman composition ¹	6
Total Credit Hours	15

¹ i.e., any two courses designated ENG and numbered 200 or above, excluding ENG 208.

Students pursuing both a major and a minor (or two majors) offered by the Department of English may double-count a maximum of two English courses toward the fulfillment of their degree requirements. They must also have an additional major or minor in a department other than English.

Geography and Regional Studies

<http://www.as.miami.edu/geography>

Dept. Code: GEG

Introduction

Geography is the science of place and space. Geographers ask where things are located on the surface of the earth, why they are located where they are, how places differ from one another, and how people interact with the environment. There are two main branches of geography: human geography and physical geography. Human geography is concerned with the spatial aspects of human existence. Physical geographers study patterns of climates, land forms, vegetation, soils, and water. Thus, Geography links the social sciences and natural sciences.

Geographers use many tools and techniques in their work, and geographic technologies are increasingly among the most important emerging fields for understanding our complex world. They include Geographic Information Systems (GIS), Remote Sensing, Global Positioning Systems (GPS), online mapping such as Google Earth, statistics, and others.

Geographers work in many different areas, such as environmental management, education, disaster response, city and county planning, community development, and more. Geography is an interdisciplinary field that offers diverse career opportunities.

The relevance and prestige of Geography as a discipline was helped enormously during the past 20 years by four key developments:

1. the emergence of "globalization" as a phenomenon requiring analysis and explanation;
2. the increasing recognition of space and place in cognate social and physical sciences;
3. deepening concern for nature-society interactions and issues of environmental sustainability and development; and,
4. the development of geographic information systems (GIS and GIScience) and remote sensing technologies and their widespread adoption by organizations in both the public and private sectors.

Educational Objectives

Geography offers specializations in areas such as

- Geographic Information Systems and Remote Sensing
 - Medical Geography and Global Health
 - Urban Geography and International urbanization
- Environmental Studies
- International and Regional Development

Geography offers courses on the Middle East, Africa, South America, and other regions.

Geography offers courses that provide training in indispensable skills for everyone entering the present-day labor market:

- Research Methodology
- Statistics
- Computer Cartography
- Geographic Information Systems (GIS)
- Remote Sensing of the Environment

Study Abroad

Majors are strongly encouraged to study abroad. Study abroad at carefully selected institutions will complement the student's curriculum and area of specialization, will enhance fluency in a foreign language, and will result in heightened affinity for a foreign culture. The study abroad experience need not result in credit overloads or extended time spent in the program.

Degree Programs

The major in Geography leads to Bachelor of Arts degree.

Departmental Honors in Geography

The Department of Geography encourages its majors and minors to intensify and deepen their knowledge of Geography through its Departmental Honors Program. The program is designed to give our students the opportunity to explore various topics and problems in Geography that are of particular interest to them, to work more closely with faculty in the department, to develop skills in research and thesis preparation, and in some cases to prepare for graduate work in Geography or other disciplines.

Minimum requirements for the program are as follows:

1. a cumulative grade point average of at least 3.30;
2. a cumulative grade point average in Geography of at least 3.50; and
3. a thesis that is approved by departmental faculty.

Students have 3 options for writing the thesis.

1. Students may take 6 credit hours of independent study (GEG 525) with one or more departmental faculty.
2. Students may take a 3 credit hour course offered at the 300-level or above and 3 credit hours of independent study (GEG 525).
3. In exceptional circumstances, a student's thesis may be written as part of the requirements for earning 6 credit hours in Geography at the 300-level or above.

In all three cases, the thesis must be a single, coherent work of scholarship through which the student earns 6 credit hours in Geography over the course of two semesters.

A Geography faculty member must serve as the Honors thesis advisor, and a second reader, who may be from another department, must be selected in consultation with the thesis advisor. The thesis must be at least 30 pages in length (double spaced, 12 point font), not including tables and figures. Once the topic and committee are secured, students should turn in their signed Departmental Honors Thesis Form to the main office of the Geography Department. This form must be signed by the Director of Undergraduate Studies and submitted by October 15 for fall graduation and February 15 for Spring graduation.

In addition to completing the written thesis, students must orally present the results of their work to faculty and students at a special honors colloquium to be held at the end of the semester.

Majors

Majors in Geography and Regional Studies

- B.A. in Geography as a First Major (p. 97)

- B.A. in Geography as a Second Major (p. 97)

Minors

Minor in Geography and Regional Studies

- Geography (p. 98)

Certificates

Certificate in Geography and Regional Studies

- Geospatial Technology (p. 97)

B.A. in Geography as a First Major

1. Students must complete at least 30 credit hours in Geography with a grade of C- or higher.
2. The overall GPA in courses counted toward the major must be 2.00 or higher.

Select three of the following:		9
GEG 105	World Regional Geography	
GEG 110	Introduction to Human Geography	
GEG 120	Physical Geography	
GEG 199	Introduction to GIS (Geographic Information Systems)	
GEG 501	Place, Region, Nature	3
Total Credit Hours		12

3. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Geography must take GEG 501.

B.A. in Geography as a Second Major

1. Students must take at least 24 credit hours in geography courses with a grade of C- or higher.
2. The overall GPA in courses counting toward the major must be 2.00 or higher.
3. Of the coursework at the 200-level or higher in Geography, no more than 6 credit hours may count double towards the other major.

Select two of the following:		6
GEG 105	World Regional Geography	
GEG 110	Introduction to Human Geography	
GEG 120	Physical Geography	
GEG 199	Introduction to GIS (Geographic Information Systems)	
GEG 501	Place, Region, Nature	3
Total Credit Hours		9

Geospatial Technology Certificate

This Certificate Program is designed to benefit students who seek to enhance their skills in geospatial technologies, especially Geographic Information Systems (GIS) and satellite remote sensing. Students will be exposed to standard software tools used in the industry (ArcGIS), as well as satellite image data. Students who earn the Certificate will enhance their employment prospects and/or advance their careers in geospatial

technology, particularly in job settings that stress the use of satellite remote sensing and vector-based GIS.

The Certificate requires a minimum of 15 credit hours, including 3 core courses and 2 or more electives completed with at least a C- grade in each course. Students may also receive up to 6 credit hours toward the certificate for past course work completed at UM or other accredited colleges and universities within the past 3 years. At most one course may be taken for credit only.

GIS Certificate Program Core Courses		
GEG 199	Introduction to GIS (Geographic Information Systems)	3
or GEG 591	Introduction to GIS (Geographic Information Systems) for graduate students	
GEG 391	Intermediate GIS (Geographic Information Systems)	3
or GEG 592	Advanced Environmental Remote Sensing	
GEG 392	Remote Sensing of the Environment	3
or GEG 592	Advanced Environmental Remote Sensing	
GIS Certificate Program Electives		
Select a minimum two of the following:		6
GEG 280	Introduction to Cartography and Computer Mapping	
GEG 301	Topics in Geography (when offered as a GIS topic)	
GEG 481	Introduction to Quantitative Methods	
or GEG 580	Introductory Quantitative Methods for Geographical Analysis.	
GEG 491	GIS and Environmental Modeling	
GEG 525	Topics in Geography	
GEG 535	Internship in Geography	
GEG 545	Special Topics (when offered as a GIS topic)	
GEG 582	Advanced Quantitative Methods	
GEG 585	Advanced Cartography	
GEG 595	Web Gis	
GEG 681	Advanced Spatial Statistics	
Total Credit Hours		15

Note that all courses from the Certificate Program can be double counted toward the major.

Students are encouraged to find a suitable internship experience with the Career Planning and Placement Center or with the GIS Program Director. Upon approval by the GIS Program Director, 3 to 4 credit hours may be earned with an internship (GEG 535).

For more information e-mail terghazar@miami.edu to make an appointment.

Minor in Geography

1. Students must complete at least 15 credit hours in Geography with a grade of C- or higher.
2. At least 6 credit hours must be at the 300-level or higher.

Geological Sciences

<http://www.as.miami.edu/geology>

Dept. Code: GSC

Introduction

Geological Sciences is concerned with Planet Earth, its origin, evolution, structure, internal and surface processes, mineral resources, environmental preservation, global dynamics, paleoclimate reconstruction, and life history. Geologists use their knowledge of chemistry, biology, physics and mathematics to solve Earth problems.

Educational Objectives

Geological Sciences undergraduates are prepared for careers in industry as well as graduate study in geosciences, the environmental sciences, and marine sciences. Career paths include research and teaching, as well as employment in the petroleum and mineral industries and in industries and government organizations concerned with energy resources, geodynamics, the marine environment, conservation, and climate change.

Degree Programs

The Department of Geological Sciences offers three undergraduate degree major programs and two double major programs:

- Bachelor of Science (B.S.)
- Bachelor of Arts (B.A.) in Geological Sciences
- Five-year Master of Science Program (M.S.)
- Geological Sciences/Marine Science (Double Major)
- Geological Science/Ecosystem Science and Policy (Double Major)

For the Geoscience Graduate Program please see the Department of Marine Geosciences (p. 520) at the RSMAS campus.

Double Major

Double majors are offered in cooperation with the Marine and Atmospheric Science Program and the Ecosystem Science and Policy Program.

Marine Science (MSC)

This program consists of a major in the Geological Sciences and a major in Marine Science. Interested students should read the information under Marine and Atmospheric Science in this Bulletin and contact the Marine Science office (184 Cox Science or 305-284-2180) for details.

Ecosystem Science and Policy (ECS)

This program consists of a major in Geological Sciences and a major in Ecosystem Science and Policy (ECS). Interested students should read the information under ECS in this bulletin and contact the ECS office (058 Cox).

Departmental Honors

Honors in Geological Sciences may be earned by students in good standing within the University Honors program. In addition to their general requirements, a student must have an overall GPA of 3.0 or better, and also perform research beginning prior to their senior year, resulting

in a written Honor's Thesis and oral defense approved by the student's thesis advisor.

Writing and Communications Requirement

To satisfy the College of Arts and Sciences writing and communications requirement in the discipline, students majoring in Geological Sciences should take at least two of the following courses (GSC 114, GSC 310, GSC 462, GSC 560).

Majors

Majors in Geological Sciences

- B.S. in Geological Sciences (p. 99)
- B.A. in Geological Sciences (p. 99)

Minors

Minor in Geological Sciences

- Geological Sciences (p. 100)

Joint

Joint Degrees in Geological Sciences

- Five Year B.S./M.S. in Geological Sciences and Marine Geology (p. 100)

B.A. in Geological Sciences

The B.A. in Geological Sciences is recommended for science oriented students who plan to use an understanding of Earth systems in their professional careers but desire a broader liberal arts education or are pursuing a dual major outside the sciences. B.A. students must complete a core curriculum of 24-27 credit hours including:

Select two of the following:	6-7
GSC 101 Origin and Evolution of Planet Earth	
GSC 102 Evolution of the Biosphere or GSC 111 Earth System History	
GSC 103 Evolution of the Modern Earth's Environment (or GSC 120 series) or GSC 110 The Earth System	
GSC 114 Earth Processes Lab	2
GSC 260 Earth Materials	4
GSC 360 Depositional and Diagenetic Systems	4
GSC 482 Field Methods	2
Select eight additional credit hours at the 300 – 500 level with a grade of C- or better and with an overall GPA of 2.0	8
Students are strongly encouraged to take:	
GSC 580 Summer Field Geology	
GSC 231 Field Study of Reef Systems Through Time (offered during spring break) or GSC 311 Field Study of Volcanoes and Society	
Total Credit Hours	26-27

B.S. in Geological Sciences

The B.S. in Geological Sciences is recommended as preparation for graduate school and careers in professional research and science

teaching. As described in sections 3 and 4 below, a B.S. in Geological Science requires a strong foundation in mathematics and several applied sciences.

Core Curriculum ¹		
GSC 110	The Earth System	3
GSC 114	Earth Processes Lab	2
GSC 111	Earth System History	4
GSC 260	Earth Materials	4
GSC 360	Depositional and Diagenetic Systems	4
GSC 380	Paleontology and Stratigraphy	4
GSC 410	Environmental Geochemistry	3
or GSC 420	Geophysics	
GSC 440	Igneous and Metamorphic Petrology	4
GSC 480	Structural Geology	4
GSC 482	Field Methods	2
GSC 561	Colloquium - Current Topics in the Geosciences	1
Summer Field Course for B.S. Candidates		
GSC 580	Summer Field Geology (or an approved field course through another university) ²	4
Calculus		
Select one of the following:		8
MTH 161	Calculus I & MTH 162 and Calculus II	
MTH 171	Calculus I & MTH 172 and Calculus II	
Select either one semester of a computer course or a statistics course		3
Chemistry		
CHM 111	Principles of Chemistry I	3
Recommended Courses:		
CHM 112	Principles of Chemistry II	
CHM 113	Chemistry Laboratory I	
CHM 114	Chemistry Laboratory II	
College Physics		
PHY 101	College Physics I	8
& PHY 102	and College Physics II	
Recommended Courses in lieu of College Physics:		
PHY 205	University Physics I & PHY 206 and University Physics II	
Complete the "Required Areas of Study" of the College (see under COLLEGE OF ARTS AND SCIENCES in this Bulletin)		
Minor		
Select a Minor from the following:		
Biology		
Chemistry		
Computer Science		
Ecosystem Science and Policy		
Marine and Atmospheric Science		
Mathematics		

Physics	
Total Credit Hours	61

- ¹ Must complete with a grade of C- or better and with an overall GPA of 2.0.
- ² The field course (GSC 580 or an approved equivalent at another University) is required for B.S. students and encouraged for others in order to gain practical experience in the skills of observation, interpretation, measuring, sampling, mapping and report writing. This requirement, when completed, has proven to be a strong asset when applying for graduate work or employment.

Geological Sciences B.S. students desiring a minor in Ecosystem Science and Policy must take:

ECS 111	Introduction to the Earth's Ecosystem	3
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 113	Introduction to Environmental Policy	3
ECS 201	Seminar Series in Contemporary Environmental Issues I	1
or ECS 202	Seminar Series in Contemporary Environmental Issues II	1
Select six other science focused credit hours in ECS courses at the 300-level or above ¹		6
Total Credit Hours		15

- ¹ ECS 301, ECS 380 series, and ECS 580 series; and ECS 372 series with approval of Departmental Chair.

Five Year B.S./M.S. in Geological Sciences and Marine Geology

A 5-year B.S. /M.S. in Geological Sciences and Marine Geology allows qualified students to complete a master's degree in one year of study beyond the B.S.

The B.S. degree in Geological Sciences is offered through the Department of Geological Sciences in the College of Arts and Sciences. The Master of Science (M.S.) degree in Marine Geology and Geophysics is offered through the Division of Marine Geology and Geophysics in the Rosenstiel School of Marine and Atmospheric Science (RSMAS).

Undergraduate requirements are listed under the B.S. degree above with the Honors option. By the beginning of their junior year students should have obtained a graduate faculty advisor, selected an approved topic for research, and begun work on their senior thesis as preparation for the M.S. In the senior year, students will increase their focus on graduate courses and work closely with their graduate faculty advisor. Contact the Geological Sciences chair at the departmental office (305-284-4253) for more information.

Minor in Geological Sciences

The minor in Geological Sciences consists of 16 credit hours in courses numbered 110 or higher. A minimum grade of "C-" must be earned in each course with an overall GPA of 2.0.

History

<http://www.as.miami.edu/history>

Dept. Code: HIS

Introduction

History is the systematic study of the past. The study of history includes training in how to gather information, how to research issues and problems, how to analyze data and construct arguments, and how to communicate ideas in writing. These are essential skills, tools that are prized in the world beyond the university. A major in history is an excellent beginning and solid stepping stone to professional school and the business world. For goals ranging from law to journalism, and from medicine to the MBA, history serves as a versatile undergraduate major. Multinational businesses demand that their executives understand the peoples and cultures around them, and be able to communicate that understanding effectively. If an occupation demands critical thinking and analysis, a background in history is invaluable.

Educational Objectives

All history courses expose students to historical interpretation and critical analysis.

- Courses at the 100 and 200 levels are intended as introductions to broad fields of history and are open to students with no previous college-level history experience.
- All 300 level history courses are writing intensive, are graded principally through essay examinations and short papers, and count toward the fulfillment of the University of Miami writing across the curriculum requirement.
- Courses at the 400 level are programs of individual directed study. Permission of the instructor is required in each case, and such permission is normally given only to students who have completed a lower-level course with the faculty member in question.
- Courses at the 500 level require a 300 level history course as prerequisite. All 500 level courses deal extensively with the historiography of their particular subjects, and all require a written research project as a major component of the work of the course.
- To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in History will take two 500-level History seminars."

Degree Programs

The major in History leads to the degree of Bachelor of Arts.

Departmental Honors

History majors with a cumulative GPA of at least 3.6 in history courses may earn departmental honors by completing a research project of 6 credit hours judged worthy of honors by a departmental committee, provided that at least 6 courses worth 18 credit hours have been completed at the University of Miami.

Other

For the requirements of the M.A. and Ph.D. degrees in history see the Bulletin of the Graduate School.

Majors

Major in History

- B.A. in History (p. 101)

Minors

Minor in History

- History (p. 101)

B.A. in History

A major in history consists of at least 30 credit hours in history with a grade of C- or better in each course, and with a cumulative GPA of at least 2.0 in history courses. These credit hours may include history courses taken for general distribution requirements, and must include at least 18 credit hours at the 300 level or above, of which at least 6 credit hours must be taken in the form of 500-level seminars. (HIS 599 does not count). All courses for majors will be selected by students in consultation with advisors designated by the department.

Credit hours from other institutions may be counted toward the major or minor, and to general distribution requirements as appropriate, but departmental approval is required in each case. Students who complete the Advanced Placement course in either United States or European history and pass the examination with a grade of 4 or 5 may receive credit hour in the appropriate history courses. Students who complete the International Baccalaureate program and pass the higher level history examination with a grade of 6 or higher will receive 3 credit hours in the appropriate entry-level history course. (However, in some cases students will only receive elective credit hour). At least 18 credit hours of the major and at least 9 credit hours of the minor must be completed at the University of Miami.

The department offers a variety of study abroad options with credit hour toward the major or minor.

Minor in History

A minor in history consists of at least 15 credit hours in history with a grade of C- or better in each course, and with a cumulative GPA of at least 2.0 in history courses. These credit hours may include history courses taken for general distribution requirements, and must include at least 9 credit hours at the 300 level or above. Courses for minors should be selected in consultation with a departmental advisor.

International Studies

<http://www.as.miami.edu/international-studies>

Dept. Code: INS

Introduction

The International Studies major provides a focused educational experience aimed at familiarizing students with the key structural features and dynamics of the international system and preparing them to enter the growing international job market. Processes of globalization, in part driven by global capital flows, expanding trade and the unrelenting development of communication and information technologies, have affected virtually everyone in every country, often in ways we are just beginning to understand. These developments often pose serious

problems for government and other societal institutions, while also creating a demand for individuals who understand international processes. Jobs in virtually all sectors have acquired a decidedly international dimension, whether in trade, tourism, finance, public policy, government, or education. INS Graduates have moved on to the corporate world, the public sector, started their own businesses, or have continued their studies at the graduate level (i.e. Law, Business, and International Studies).

Educational Objectives

International Studies seeks to provide students with the ability to understand:

- International politics within the context of interstate relations and foreign policy.
- International economics and its sub-discipline international political economy, including such issues as trade and production, money and finance, and development.
- Social science research methods including qualitative, quantitative, comparative case study and formal modeling.

Students are encouraged to explore interdisciplinary options that further their understanding of international studies. This type of coursework can be taken in other disciplines offered at the university or taken outside the institution, either through exchange programs or other inter-institutional options provided by UM. Students will demonstrate the ability to synthesize the various thematic areas of the discipline through required participation in advanced seminars. Seminars will stress analytical participation, oral presentations and the ability to interpret and critique core theoretical readings.

Degree Programs

International Studies provides both a major and minor option for students. The flexibility of the program often allows students to double major without the need to extend their university studies. Students are encouraged to speak with the International Studies advisor to explore such possibilities. The major in International Studies leads to the degree of Bachelor of Arts.

Advanced Writing & Communication Requirements

Details of the Advanced Writing and Communication Proficiency:

Degree candidates must complete at least four writing courses, and at least one writing course must be in one of the student's major disciplines (not applicable to BLA students who do not select a major). Students should consult the bulletin section of their major to find out which writing-intensive courses are acceptable to the discipline

Individual writing course offerings may make the writing component independent of the rest of the course. As such the writing component might be optional, the writing component might not contribute to the overall grade, and writing credit might be awarded even if the overall grade is a fail.

Transfer students may use a maximum of two courses towards the writing requirement.

Departmental Honors

The Department of International Studies encourages its majors to intensify and deepen their knowledge of the field through its departmental honors program. The program is designed to give students the opportunity to explore various topics and problems in international studies that are of particular interest to them, to work more closely with departmental faculty, to develop skills in research and thesis preparation, and in some cases to prepare for graduate work in international studies and related fields.

Minimal requirements for the program are as follows:

1. a cumulative grade point average of at least 3.30;
2. a cumulative grade point average in international studies of at least 3.50; and
3. a thesis that is approved, with a grade of at least B+, by a member of the departmental faculty.

After reaching agreement with a member of the faculty who will serve as the honors thesis advisor, students writing a senior honors thesis will enroll in INS 418 and INS 419, Honors Thesis, for a total of six credit hours [the credit hours may be spread over two semesters or taken in a single semester]. The thesis itself is expected to be an extended, coherent work of scholarship on an issue of relevance in the field of international studies.

Majors

Major in International Studies

- B.A. in International Studies (p. 102)

Minors

Minor in International Studies

- International Studies (p. 103)

B.A. in International Studies

Requirements for the Major in International Studies (30 credit hours)

The International Studies major consists of three components:

1. *Core Requirements*
2. *Thematic Core*
3. *INS Electives*

Core Requirements		
INS 101	Global Perspectives ¹	3
INS 102	Global Economics	3
INS 201	Globalization and Change in World Politics ¹	3
INS 202	INS Methodology	3
Thematic Core		
Select a minimum of one course from each of the following four fields: ²		12
International Politics, Foreign Policy and Peace Studies:		
INS 341	Nationalism, Ethnicity and Conflict	
INS 540	National Security	
INS 542	Drug-Trafficking in the Americas	

INS 560	US Foreign Policy	
INS 561	Negotiation and Bargaining	
INS 566	US-Latin American Relations	
Comparative Studies of Politics and Societies in a Globalizing World:		
INS 330	Introduction of Comparative Studies	
INS 335	Democratization	
INS 533	Transnational Social Movements	
INS 534	Military, State and Society	
INS 565	The World Before European Domination	
INS 584	Latin American Thought	
International Economics, Political Economy and Development:		
INS 320	Global Economics II	
INS 321	Global Political Economy	
INS 322	Economics of Development and the Environment	
INS 420	Global Trade	
INS 520	Microeconomics for INS	
INS 571	International Development and Human Welfare	
International Law, Organizations, and Global Governance:		
INS 460	United Nations Seminar	
INS 570	Globalization and Health	
INS 573	Disasters, Terrorism and Global Public Health	
INS 591	The European Union	
INS 595	European Social Movements	
INS Electives and Interdisciplinary Options		
Select six credit hours of electives at the 300 level or above. ³		6
Total Credit Hours		30

¹ These courses must be completed before taking the Thematic Core courses.

² Additional classes will be counted toward the elective portion of the INS major, if taken. Other courses, including classes in other disciplines, may be taken with the approval of the INS Advisor.

³ With the approval of the INS Advisor, students may take courses from other departments outside of INS such as Geography and Regional Studies, History, Anthropology, Sociology, Political Science, Economics, Religion, Art History, Foreign Languages, Environmental Science, et cetera. Appropriate study abroad courses, an approved internship (INS 519), or an honors thesis (INS 418 & INS 419) may also be used to fulfill elective credit hour requirements.

Important Advising Notes for all International Studies Majors

1. **Double Counting:** Of the combined courses in the Thematic Core and the INS Electives, no more than 6 credit hours may count double towards a second major. A student may not count any course used to fulfill the requirements of the INS major toward a minor requirement.
2. **Study Abroad:** Students are strongly encouraged to study abroad for a summer, a semester, or an entire year, depending on the program. Study abroad at carefully selected institutions will complement the student's curriculum and area of specialization, will enhance fluency in the foreign language, and will result in heightened affinity for a

foreign culture. The study abroad experience need not result in credit hour overloads or extended time spent in the program.

- 3. Internship Credit Hour:** Students are encouraged to find a suitable internship during their undergraduate career. Upon approval by an advisor in the International Studies Undergraduate Program Office, 3 credit hours may be earned with an internship (INS 519), either toward the major or as elective credit hours (depending on the relevance of the particular internship to the INS major). The University's Toppel Career Planning and Placement Center regularly advertises internships.
- 4. Academic Standing:** Only courses in which a grade of C- or better is attained, may be counted towards the International Studies major and students must maintain a GPA of 2.75 or better in all major requirements (30 credit hours).

Minor in International Studies

Requirements for the Minor in International Studies (15 credit hours)

The International Studies Minor consists of two parts:

1. 6 credit hour set of introductory courses;
2. 9 credit hours in advanced courses.

Base Courses	
Select two of the following core requirements:	
INS 101	Global Perspectives
INS 102	Global Economics
INS 201	Globalization and Change in World Politics
INS 202	INS Methodology
Advanced Courses	
Select three INS courses at the 300-level or above in order to graduate with a minor in International Studies ¹	9
Total Credit Hours	9

¹ Advanced level courses from other departments may be taken if approved by the INS advisor. Only courses in which a grade of C- or better is attained may be counted towards the minor in International Studies, and students must maintain a GPA of 2.75 or better in all minor requirements (15 credit hours).

Judaic Studies

<http://www.as.miami.edu/judaic>

Dept. Code: JUS

Introduction

The George Feldenkreis Program in Judaic Studies is a broad, flexible, interdisciplinary program designed for undergraduates to gain an understanding of Jewish civilization and its diverse cultural experiences. The program, which is non-theological in orientation, is an academic exploration of the multi-faceted, socio-historical, 4,000-year record of the Jewish people. Courses taught by and combined with the program, highlight the variety of cultural, political, social, and religious experiences of Jews in different times and places.

Educational Objectives

The program is structured to provide an in-depth liberal arts education that will constitute a foundation for advanced academic study, professional careers in a variety of fields, and a more complex and rich understanding of the Jewish world. Judaic Studies courses meet distribution requirements for the Humanities and Social Sciences in the College of Arts and Sciences, the College of Engineering, the School of Communication, the School of Business, and the Frost School of Music.

Advanced Writing and Communication Requirement

Students majoring in Judaic Studies satisfy the college of Arts and Sciences "Writing requirement in the discipline" when they take any course in Jewish or Israeli literature offered by the Department of English.

Holocaust Survivors Service Internship (JUS 205/JUS 206)

Interns meet on a 1 to 1 basis with Holocaust survivor, who currently reside in South Florida, and gain experiences that will offer them valuable, once-in-a-lifetime opportunity to meet with survivors of the Holocaust. Students are expected to commit to two semesters of service for 3 credit hours each semester (A total of 6). Credit hours may be earned for JUS, REL, or Social Science requirements.

Students who participate in the program will assist Holocaust survivors as "friendly visitors." Student volunteers are scheduled to meet regularly each semester with a UM faculty member to share their experiences and to participate in enrichment activities.

Interns will also earn a stipend of up to \$250 per semester to cover any out of pocket expenses that may incur. This will be based on the number of visits to survivors.

The program is open to students of all denominations and backgrounds.

* Finger Printing and Background checks will need to be completed once registered for the program.

Majors

Major in Judaic Studies

- B.A. in the George Feldenkreis Program in Judaic Studies (p. 103)

Minors

Minor in Judaic Studies

- The George Feldenkreis Program in Judaic Studies (p. 104)

B.A. in the George Feldenkreis Program in Judaic Studies

JUS 231	Jewish Civilization: Society, Culture, and Religion	3
Any course in Jewish or Israeli Literature offered by the English Department.		
A course in Hebrew at the 200-level or higher (which can be used simultaneously to fulfill the College of Arts and Sciences Language requirement). ¹		

One course in Ancient Jewish History and Society and one course in Modern Jewish History and Society. Courses will be designated appropriately by the Program Director each semester.²

15 more credits (5 courses) in classes listed in the Judaic Studies Degree Audit or combined sections approved for JUS credit, 9 credits of which must be completed at the 300-level or higher. Students who complete HEB 201 need only complete 6 credits at the 300-level or higher.³

¹ Can be used simultaneously to fulfill the College of Arts and Sciences Language requirement.

² Courses will be designated appropriately by the Program Director each semester.

³ 12 credit hours of which must be completed at the 300-level or higher. Students who complete HEB 202 need only complete 9 credit hours at the 300-level or higher.

Honors in Judaic Studies consist of the above plus an Honors Thesis and one additional elective at the 300 level or higher.

A grade of "C-" or better must be attained in each course taken for the major with an overall GPA of 2.0.

Minor in the George Feldenkreis Program in Judaic Studies

One of the following 3 courses:

JUS 231	Jewish Civilization: Society, Culture, and Religion	3
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Any course in Jewish or Israeli Literature offered by the English Department.

GEG 272	Jewish Geography	3
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Four courses in Ancient/Modern Jewish History and Society (to be designated as such and published by the JUS Program Director each semester). Students are strongly encouraged to take at least one course in Ancient Jewish History and Society and at least one course in Modern Jewish History and Society.

Students are strongly encouraged to take HEB 101 as one of the above four courses.

A grade of "C-" or better must be attained in each course with an overall GPA of 2.0.

Latin American Studies

<http://www.as.miami.edu/las>

Dept. Code: LAS

Introduction

Latin American Studies offers an interdisciplinary approach to learning about the politics, economics, cultures, and societies of Latin America and the Caribbean. Undergraduate courses are offered in Africana Studies, American Studies, Anthropology, Architecture, Art and Art History, Biology, Communication, Economics, Geography, History, Journalism, International Studies, Marketing, English, Modern Languages

and Literatures, Music, Musicology, Political Science, Religious Studies, Sociology, and Women's and Gender Studies. The major in Latin American Studies is designed for the student who wants to acquire background knowledge about the area or who is interested in some aspect of Latin American and Caribbean affairs, such as government, law, business, research, journalism, education or public health. Students are strongly encouraged to spend at least one semester abroad on a program with a Latin American and/or Caribbean Studies component (see Office of International Education and Exchange Programs (p. 372))

Educational Objectives

The goal of the BA in Latin American Studies is to acquire, advance and disseminate knowledge of the history, literature, culture, politics, economics, and natural and social sciences of the regions within an interdisciplinary framework. This program also places special emphasis on the languages and cultures of Hispanophone, Francophone and Lusophone Americas, including the transnational study of Latin Americans, Caribbeans and their descendants in the United States. Students should leave the program with the following:

- the analytical and methodological tools needed to conduct interdisciplinary research;
- the ability to read, write and think critically about primary and secondary sources;
- a general knowledge of the different regions that comprise Latin America, the Caribbean and their Diaspora as well as a critical understanding that the geographic, political, and cultural boundaries that have traditionally defined the "area" as an object of study are not isomorphic and are connected to the interests of European and North American powers;
- a critical understanding of the competing ways in which Latin American and Caribbean peoples have represented themselves paying particular attention to race/ethnicity, class, gender and sexuality, language, religion, migration, transculturation, and other historical, social, economic, and political factors;
- a language competency in either French, Spanish, Portuguese, or Haitian Creole at an intermediate level and a beginning competency in a second language spoken in the region (either French, Spanish, Portuguese, Haitian Creole indigenous language of Latin America and the Caribbean);
- a "Beyond the Books" experience that will bridge the gap between the university and the surrounding communities, and will help solidify a long-term interest in and commitment to the regions.

Degree Programs

- Bachelor of Arts

Departmental Honors

The Latin American Studies Program invites its undergraduate majors and minors to apply for departmental honors and expand their knowledge of Latin America and the Caribbean. Admission into the departmental honors program is by invitation, but any student who believes her or himself qualified may apply to the academic director of Latin American Studies, preferably during the sophomore or early junior year. Candidates for departmental honors work closely with one faculty member for two semesters to engage in original research in an area of her/his choice. LAS majors and minors with a cumulative G.P.A. of at least 3.0 and an overall G.P.A. of at least 3.5 in the LAS major or minor may earn

departmental honors by completing two honors thesis courses, LAS 495 and LAS 496 (Honors I & II). Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as honors thesis advisor and obtain written approval of the Academic Director. The faculty member with whom the student works will help determine the nature of the independent research project. Candidates must complete a thesis (with a grade of at least a B+, which must be approved by the thesis advisor) and present the work at the LAS Annual Student Symposium or another similar event showcasing undergraduate research at the university.

Advanced Writing and Communication Requirement

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Latin American Studies should take at least one course with a "W" designation. These courses include (please refer to CaneLink or the LAS Course Booklet for details on courses that fulfill the writing requirement, as offerings change every semester):

LAS 101	Introduction to Latin American and Caribbean Studies	3
LAS 200	Introduction To Latina/O Studies	3
LAS 301	Interdisciplinary Topics in Latin American and Caribbean Studies	3
LAS 320	Special Topics in Latin American and Caribbean Environment	3
LAS 330	Special Topics in Latin American and Caribbean Religions	3
LAS 340	Special Topics in Latin American and Caribbean Economics	3
LAS 350	Special Topics in Latin American and Caribbean Art and Culture	3
LAS 360	Special Topics in Latin American and Caribbean Politics	3
LAS 370	Special Topics in Latin American and Caribbean Media and Communications	3
LAS 494	Independent Study in Latin American and Caribbean Studies	1-3
LAS 495	SENIOR HONORS THESIS I	3
LAS 496	SENIOR HONORS THESIS II	3

Requests for Information

Latin American Studies Program
University of Miami
1111 Memorial Drive
Coral Gables, FL 33146
Ph: 305.284.3034
Fax: 305.284.2796
lasgrad@miami.edu

Majors

Major in Latin American Studies

- B.A. in Latin American Studies (p. 105)
- B.A./M.A in Latin American Studies (Fellows in Latin American Studies) (p. 106)

Minors

Minor in Latin American Studies

- Latin American Studies (p. 107)

B.A. in Latin American Studies

Gateway Course		
LAS 101	Introduction to Latin American and Caribbean Studies	3
Advanced Language Proficiency in Spanish, French, Portuguese, or Haitian Creole		
Select one of the following:		3
SPA 203	Advanced Spanish	
FRE 203	Advanced French	
HAI 201	Intermediate Haitian Creole I (or equivalent)	
POR 202	Intermediate Portuguese II	
Secondary Language Competence in another Latin American or Caribbean Language		
Select one of the following:		3
SPA 105	Accelerated Elementary Spanish	
FRE 105	Accelerated Elementary French	
POR 105	Beginning Portuguese for Spanish Speakers	
HAI 102	Elementary Haitian Creole II (or equivalent)	
A Latin American, Caribbean, or Indigenous language course in the DILS program		
Upper Division LAS Courses		
Select two courses in Latin American history		6
Select six courses in classes listed in LAS or combined with LAS ¹		18
Select one of the following:		3
LAS 494	Independent Study in Latin American and Caribbean Studies	
LAS 501	Interdisciplinary In Latin American And Caribbean	
LAS 505	Internship in Latin American and Caribbean Studies	
LAS 506	Civic Engagement In Latin America	
Total Credit Hours		36

¹ 12 credit hours of which must be completed at the 300-level or higher. Courses that are not combined with LAS but do have a significant focus on Latin America may be taken with the approval of the academic director. A freshman seminar with a significant focus (25% or more) on Latin America or the Caribbean may be counted towards this requirement. SPA 203 and FRE 203 may be counted towards this requirement if not used to satisfy the aforementioned language requirements.

A C- or better for all major courses, with a GPA of 2.0 are required for successful completion of the LAS Major.

B.A./M.A in Latin American Studies (Fellows in Latin American Studies)

FILAS (Fellows in Latin American Studies)

In this highly selective Honors Program, students follow a rigorous, accelerated curriculum to complete a dual degree (B.A./M.A.) in Latin American and Caribbean Studies in five years. The program provides exciting collaborative research, travel, and work opportunities.

Working with UM's world-class faculty in various academic disciplines, *FILAS* participants design individualized curricula. In addition to the regular general education course requirements of the College of Arts and Sciences, *FILAS* students choose one focus track for their most advanced courses: Social Sciences, Literature & Culture, Communication, Environmental Studies, Public Health, or History. For broad-based, multi-disciplinary preparation, students choose courses that focus on Latin America and the Caribbean from the following categories (at least ten of these courses must be taken at the Master's level):

CAS GENERAL EDUCATION REQUIREMENTS	
English Composition ¹	6
ENG 105 English Composition I	
ENG 106 English Composition II	
Mathematics, Computing & Statistics ²	3
Second Language ³	
Writing Across the Curriculum ⁴	
Cognates ⁵	9
Advanced Language Proficiency in Spanish, French, Portuguese, or Haitian Creole	3
Select one of the following:	
FRE 203 Advanced French	
HAI 201 Intermediate Haitian Creole I	
POR 202 Intermediate Portuguese II	
SPA 203 Advanced Spanish	
Secondary Language Competence in another Latin American or Caribbean Language	3
Select one of the following:	
FRE 105 Accelerated Elementary French	
HAI 102 Elementary Haitian Creole II ((or equivalent))	
POR 105 Beginning Portuguese for Spanish Speakers	
SPA 105 Accelerated Elementary Spanish	
FILAS Specific Requirements	
Select one gateway seminar in Latin American Studies	3
Select two History courses	6
Select two International Studies courses	6
Select two Economics courses	6
Select two advanced Languages and Literatures courses (SPA, POR, FRE, or HAI)	6
Select seven courses in Study Abroad	21
Select one course as Internship in Latin America	3
Select five courses above the 300-level (third-year) in a range of disciplines	15
Select ten courses in one focus track	30

MA Phase Requirements		
GRE Exam in Semester 7 or 8		
LAS 601	Interdisciplinary In Latin American And Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Select two Regional Fundamentals courses		6
Select four electives from approved LAS or combined courses		12
LAS 810	Pre-candidacy thesis credits (students must enroll in two semesters of this 3-credit course to fulfill this requirement.)	6
Total Credit Hours		150

- Certain AP/IB scores may be used to fulfill the Composition requirement as credit. If Transfer students transfer one of the two above, but not both, they may take ENG 208 to complete the requirement. ENG 105 must be taken unless exempted by SAT/V or ACT/V scores (does not include credits).
- MTH 108 or higher. Unless exempted by AP/IB, or UM placement test. UM placement test does not include credits. Prerequisites must be met before enrolling in MTH courses.
- Students must take at least three credits in a language other than English at the 200-level or higher. Prerequisites may be required. Courses taken in order to meet this requirement, including necessary prerequisite courses to the 200 level courses, cannot be used in cognates seen below. **FILAS students already fulfill this requirement when completing the language requirements cited below.**
- Degree candidates must complete at least four writing courses, and at least one such course must be in the student's major discipline.
- Typically, students must complete a minimum of three cognates, one from each of the three areas of the University curriculum: Arts & Humanities; People & Society; and Science, Technology, Engineering & Mathematics. A cognate is a minimum of 9 credit hours, however it can be more. Each major/minor fulfills the cognate requirement in one Area of Knowledge. **However, FILAS students must complete only the STEM Cognate as the FILAS program fulfills the Arts & Humanities and People & Society cognates. To avoid additional course credits, please select a STEM Cognate that includes a Natural Science course to concurrently fulfill this CAS general education requirement. According to the Collage of Arts & Sciences, "three credits must be earned from one of the following departments: Biology, Chemistry, Ecosystem Science & Policy (only ECS 111, 112, or 202), Geological Sciences, Marine Science (except MSC 313 and 314), Physical Science, or Physics. APY 203 and GEG 120 may also count. These credits may double count with any other requirement, e.g., courses in the STEM cognate."**

FILAS students also write a Master's Thesis based on an original research project. In addition, they must defend the thesis and present their findings at the LAS Annual Student Symposium.

FILAS Admission Requirements

- SAT1 composite score of 1360 or ACT 31.
- Top 10% of high school graduating class.
- Regular Application for Admission to the University of Miami. We recommend students submit their applications by November 15.
- Recommendations from three high school teachers.

- Statement of interest in *FILAS*, emphasizing prior language or area study
- To continue through the graduate level (MA Phase), students must maintain at least a 3.4 GPA and take the GRE Exam.

Minor in Latin American Studies

The minor in Latin American Studies may be obtained by completing LAS 101 or LAS 290 and 12 more credit hours in approved LAS courses. At least three of these courses should be taken at the 300 level or above.

UBuenos Aires

Students enrolled in the UBuenos Aires study abroad program who are interested in completing an LAS minor must enroll in the following courses at Universidad de Belgrano:

- History of Latin America or Estudios Culturales Latinoamericanos (either one must fulfill the UM equivalency for LAS101)
- One Spanish language course or, for students at the advanced level in Spanish, one course taught in Spanish not to include PEAL262 or PEAL302
- Three additional courses from those listed in the "Available Courses List": https://goabroad.miami.edu/index.cfm?FuseAction=Programs.ViewProgram&Program_ID=10256

Students wanting to apply these classes towards an LAS major should consult with the academic director of Latin American Studies for further guidance.

Mathematics

<http://www.math.miami.edu>

Dept. Code: MTH

Educational Objectives

The aim of our mathematics degree programs is to provide students with a core knowledge of mathematics essential to the understanding of science and other disciplines. Students should gain substantial problem solving and critical reasoning skills and should develop an understanding of the conceptual underpinnings of mathematics. The knowledge gained through these programs should provide the necessary background in mathematics for those students planning to go on to graduate study in mathematics and related fields. This knowledge should also prepare those students who will be immediately entering careers in science, business, education or other fields which are increasingly making use of mathematics.

Degree Programs

- Bachelor of Arts and Bachelor of Science

Major

The requirements for a major in mathematics (p. 107) vary according to the objectives of the student. There are **seven courses** required of all mathematics majors.

An **additional four courses** are required, selected from one of the following track options:

- Core Mathematics
- Applied Analysis
- Computational Mathematics
- Probability and Statistics
- Secondary School Teaching
- Mathematical Economics

Minor

A student seeking a minor in mathematics (p. 108) must have credit for a **calculus sequence**: MTH 161-MTH 162 or MTH 171-MTH 172.

In addition, a minor in mathematics requires **three courses** from a list of approved courses for the minor. (p. 108) All three courses must be taken in the Department of Mathematics, University of Miami. A grade of C- or better is required for each of the three courses applied toward the minor and the quality point average for the three courses must be 2.5 or above.

Departmental Honors

Requirements for Departmental Honors in Mathematics (p. 107):

The student must complete **three sequences** from a list of approved two-course sequences. The student must attain at least a B in each course used to fulfill this requirement. In addition, the student must attain at least a 3.5 average over all courses counted toward the mathematics major and an overall (university-wide) average of at least 3.3.

For requirements leading to the Master of Arts, Master of Science, or Doctor of Philosophy degrees, with a major in mathematics, see the Bulletin of the Graduate School (p. 408).

Majors

B.A. or B.S. in Mathematics (p. 107)

Minors

Minor in Mathematics (p. 108)

B.A. or B.S. in Mathematics

www.math.miami.edu

The requirements of a major in mathematics vary according to the objectives of the student. There are seven courses required of all mathematics majors. An additional four courses are required selected from one of six track options: (p. 108)

(Requirements for Departmental Honors in Mathematics (p. 108) are given at the end of this section.)

Courses Required of All Mathematics Majors:

MTH 161 or MTH 171	Calculus I	4
MTH 162 or MTH 172	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 230	Introduction to Abstract Mathematics	3
MTH 310	Multivariable Calculus	3
MTH 461	Survey Of Modern Algebra	3

or MTH 561	Abstract Algebra I	3
MTH 433	Advanced Calculus	
or MTH 533	Introduction to Real Analysis I	

Track Options:

Select four courses from one of the following Tracks:	12
Core Mathematics Track:	
Select four of the following:	
MTH 510	Linear Algebra
MTH 512	Elementary Complex Analysis
MTH 531	Topology I
MTH 532	Topology II
MTH 534	Introduction to Real Analysis II
MTH 551	Introduction to Differential Geometry
MTH 562	Abstract Algebra II
Applied Analysis Track: ¹	
MTH 311	Introduction to Ordinary Differential Equations
MTH 512	Elementary Complex Analysis
Select one of the following:	
MTH 513	Partial Differential Equations I
& MTH 514	and Partial Differential Equations II
MTH 515	Ordinary Differential Equations
& MTH 516	and Dynamics and Bifurcations
Computational Mathematics Track:	
MTH 320	Introduction to Numerical Analysis
CSC 317	Data Structures And Algorithm Analysis
MTH 520	Numerical Linear Algebra
& MTH 521	and Numerical Methods In Differential Equations
Probability and Statistics Track:	
MTH 224	Introduction to Probability and Statistics
MTH 524	Introduction to Probability Theory
& MTH 525	and Introduction to Mathematical Statistics
MTH 542	Statistical Analysis
Secondary School Teaching Track: ²	
MTH 224	Introduction to Probability and Statistics
MTH 309	Discrete Mathematics I
Select two of the following:	
MTH 502	History of Mathematics
MTH 504	Foundations of Geometry
MTH 505	Theory of Numbers
Mathematical Economics Track:	
MTH 524	Introduction to Probability Theory
& MTH 525	and Introduction to Mathematical Statistics
ECO 512	Mathematical Economics (II)
Select one of the following:	
ECO 520	Econometrics
ECO 521	Graduate Macroeconomic Theory
ECO 533	Advanced Microeconomic Theory

¹ Course work in physics is desirable.

² This option is only for those obtaining a teaching credential.

Notes

- It would be useful for students planning to do graduate study in mathematics to complete the following courses: MTH 531, MTH 532, MTH 533, MTH 534, MTH 561, MTH 562.
- Students interested in **actuarial science** should choose the Probability and Statistics option; for these students a finance minor is recommended.
- Transfer students will be permitted to apply up to 14 transfer credit hours towards the major; however, the courses MTH 461 (or MTH 561) and MTH 433 (or MTH 533) must be completed at the University of Miami.
- A grade of C- or better is required for each course applied toward the major; the overall quality point average for University of Miami courses applied toward the major must be 2.5 or above.

Requirements for Departmental Honors in Mathematics:

Select three of the following sequences	18	
MTH 513	Partial Differential Equations I	6
& MTH 514	and Partial Differential Equations II	
MTH 515	Ordinary Differential Equations	6
& MTH 516	and Dynamics and Bifurcations	
MTH 520	Numerical Linear Algebra	6
& MTH 521	and Numerical Methods In Differential Equations	
MTH 524	Introduction to Probability Theory	6
& MTH 525	and Introduction to Mathematical Statistics	
MTH 531	Topology I	6
& MTH 532	and Topology II	
MTH 533	Introduction to Real Analysis I	6
& MTH 534	and Introduction to Real Analysis II	
MTH 561	Abstract Algebra I	6
& MTH 562	and Abstract Algebra II	

The student must attain at least a B in each course used to fulfill this requirement. In addition, the student must attain at least a 3.5 average over all courses counted toward the mathematics major and an overall (university-wide) average of at least 3.3.

A combined major in meteorology and mathematics (p. 286) is available. For specific information please see the Meteorology section of the bulletin.

Minor in Mathematics

www.math.miami.edu

A student seeking a minor in mathematics must have credit in a **calculus sequence**: MTH 161-MTH 162 or MTH 171-MTH 172.

In addition, a minor in mathematics requires **three of the following courses**.

Select three of the following:	9
MTH 210	Introduction to Linear Algebra
MTH 211	Calculus III

or MTH 310	Multivariable Calculus	
MTH 224	Introduction to Probability and Statistics	
MTH 230	Introduction to Abstract Mathematics	
MTH 309	Discrete Mathematics I	
MTH 311	Introduction to Ordinary Differential Equations	
MTH 320	Introduction to Numerical Analysis	
MTH 359	Mathematical Models in Biology and Medicine	
MTH 433	Advanced Calculus	
MTH 461	Survey Of Modern Algebra	
Total Credit Hours		9

Notes

- All three courses must be taken in the Department of Mathematics, University of Miami.
- It is possible to select certain 500 level mathematics courses among the three, with prior approval of the Mathematics Department.
- A grade of C- or better is required for each of these three courses and the quality point average for the three courses must be 2.5 or above.

Microbiology and Immunology

<http://www.as.miami.edu/microbiology-immunology>

Dept. Code: MIC

Introduction

Microbiology and Immunology is an ancillary department in the College of Arts and Sciences. Our primary goal is to educate students in their chosen field and instill into them a desire for lifelong learning. Research opportunities and laboratory engagement help create knowledge in our students while preparing them to become active members of the scientific and public communities. A major in Microbiology and Immunology requires thorough preparation in chemistry, biology, biochemistry, physics, and mathematics.

Educational Objectives

1. To expose students to the various disciplines within the field of Microbiology and Immunology, including virology, parasitology, microbial genetics, immunology and medical bacteriology.
2. To introduce students to special projects and/or research opportunities in laboratories at the School of Medicine.
3. To provide laboratory experience for the development of skills required for the conduct of research.
4. To make students aware of current cutting edge research in the field of Microbiology and Immunology by attending seminars of speakers from within and outside the University.

Degree Programs

- A Bachelor's of Science degree is awarded to all microbiology and immunology majors upon completion of the requirements. A chemistry minor is automatically received however, a student's choice of minor may be science or non-science.

Advanced Writing and Communication

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Microbiology and Immunology

should take at least one course from the following MIC 201, MIC 301, MIC 302, MIC 304 or MIC 323.

Departmental Honors

Students that wish to gain a deeper understanding of Microbiology and Immunology can choose to write a thesis. The following program constitutes receiving Departmental Honors in Microbiology and Immunology.

1. Overall GPA 3.3 or higher
2. Six credit hours of Special Projects (MIC 451, MIC 452, MIC 453, MIC 454, MIC 455 or MIC 456) carried out under supervision of a member of the Microbiology and Immunology faculty, culminating in a senior thesis that includes 15 references. Once the mentor and student have revised and finalized the document a hard copy must be turned in to the Program Director.

Majors

Major in Microbiology and Immunology

- B.S. in Microbiology and Immunology (p. 109)

Minors

Minor in Microbiology and Immunology

- Microbiology and Immunology (p. 111)

B.S. in Microbiology and Immunology

Minimum requirements are:

Required MIC Courses		
Select one of the following:		5
MIC 301	Introduction to Microbiology and Immunology ^{1,2,4}	
MIC 303 & MIC 304	Part 1 of 2: Introductory Microbiology and Immunology (Lecture) and Part 2 of 2: Introductory Microbiology and Immunology (Lab) ^{1,2,4}	
Other Required Courses		
MIC 319	Innate Immunity ^{2,3}	3
MIC 321	Immunobiology ^{2,4}	3
11 credit hours of MIC Courses Required		11
Elective MIC Courses		
Select 13 credit hours of the following:		13
MIC 201	Modern Plagues and Society	
MIC 322	Medical Parasitology ⁴	
MIC 323	Principles of Microbial Pathogenesis ³	
MIC 436	Fundamental and Medical Virology ⁴	
MIC 441	Microbiology and Immunology Colloquium ^{3,4}	
Research in MIC for Credit		
(only 6 credit hours may be applied to count toward the 13 MIC Elective hours, any credits over 6 count as elective credits toward the 120 credits required for graduation)		
MIC 451	Special Projects in Immunobiology ^{5,6}	
MIC 452	Special Projects in Parasitology ^{5,6}	
MIC 453	Special Projects in Pathogenic Bacteriology ^{5,6}	

MIC 454	Special Projects in Microbial Genetics ^{5,6}	
MIC 455	Special Projects in Immunogenetics ^{5,6}	
MIC 456	Special Projects in Virology ^{5,6}	
Outside Electives that be taken to count toward the 13 credit hours above (3 courses maximum)		
BIL 352	Techniques in Scanning Electron Microscopy ⁴	
	or BIL 554 Electron Microscopy	
BIL 255	Cellular and Molecular Biology	
GSC 310	Microbes and the Environment	
	or MSC 465 Marine Comparative Immunology	
Required Natural Science Courses		
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	4
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II	4
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I	4
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II	4
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BMB 401	Biochemistry For The Biomedical Sciences	3
Select one of the following Physics Options:		10-11
Option 1:		
PHY 101 & PHY 106	College Physics I and College Physics Laboratory I	
PHY 102 & PHY 108	College Physics II and College Physics Laboratory II	
Option 2:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics Iii Lab	
Select two semesters of Calculus including:		8
MTH 162	Calculus II	
Select one of the following Computer Science or Statistics courses:		3-4
CSC 120	Computer Programming I	
CSC 210	Computing for Scientists	
MTH 224	Introduction to Probability and Statistics	
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors	
SOC 211	Quantitative Methods for Sociologists	
EPS 553	Introductory Statistics	
Total Credit Hours		85-87

¹ Honors students must take both the MIC 301 or MIC 303/MIC 304 and MIC 302.

² Required of all Microbiology and Immunology majors.

³ MIC 201, MIC 304, MIC 319, MIC 323, GSC 310, BIL 554 Fall Semester only

⁴ MIC 301, MIC 302, MIC 303, MIC 321, MIC 322, MIC 436 Spring Semester only

⁵ MIC 441 Fall and Spring Semesters

⁶ MIC 451, MIC 452, MIC 453, MIC 454, MIC 455, MIC 456 all require that you have already completed 17 credit hours in MIC/MIC electives and a 3.0 cumm GPA with permission of Program Director or Roger Fall and Spring Semester

All MIC majors are required to have a minor (science or non-science). Students automatically get a CHM minor provided that they take one year of organic chemistry while in residence at UM.

Transfer students seeking a Microbiology and Immunology major must earn at least 10 credit hours taken in residence at UM beyond MIC 301 in the courses listed above for majors.

**4-year Sample Curriculum
(Assuming courses are taken during the fall/spring)**
This is a guide and is not meant to take the place of the advice of your major advisor, you should consult with them before making any changes.

Freshman Year		
Fall		Credit Hours
MIC 201	Modern Plagues and Society (Optional course)	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
Select one of the following:		3
PSY 110	Introduction to Psychology	
People and Society Cognate Course		
ENG 105	English Composition I	3
Term Credit Hours:		18
Spring		
MIC 301 or 303	Introduction to Microbiology and Immunology or Part 1 of 2: Introductory Microbiology and Immunology (Lecture)	5
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1

ENG 106 or 107	English Composition II or English Composition II: Science and Technology	3
Term Credit Hours:		17
Sophomore Year		
Fall		
MIC 304	Part 2 of 2: Introductory Microbiology and Immunology (Lab) (If 303 was taken semester prior)	2
MIC 319	Innate Immunity	3
Arts and Humanities Cognate Course		3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
MTH 161	Calculus I	4
Foreign Language		3
Term Credit Hours:		19
Spring		
MIC 321	Immunobiology	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
MTH 162	Calculus II	4
BIL 255	Cellular and Molecular Biology	3
Foreign Language or SOC		3
Term Credit Hours:		17
Junior Year		
Fall		
MIC 323	Principles of Microbial Pathogenesis	3
GSC 310 or MSC 465	Microbes and the Environment or Marine Comparative Immunology	3
PHY 101	College Physics I	4
PHY 106	College Physics Laboratory I	1
BMB 401	Biochemistry For The Biomedical Sciences	3
Foreign Language		3
Term Credit Hours:		17
Spring		
MIC 436	Fundamental and Medical Virology	3
People and Society Cognate		3
PHY 102	College Physics II	4
PHY 108	College Physics Laboratory II	1
Statistics or Computer Science		3-4
Arts and Humanities Cognate Course		3
Term Credit Hours:		17-18
Senior Year		
Fall		
MIC 441	Microbiology and Immunology Colloquium	1

MIC 451, 452, 453, 454, 455, or 456	Special Projects in Immunobiology or Special Projects in Parasitology or Special Projects in Pathogenic Bacteriology or Special Projects in Microbial Genetics or Special Projects in Immunogenetics or Special Projects in Virology	2-6
BIL 554	Electron Microscopy	4
Elective		3
People and Society Cognate Course		3
Term Credit Hours:		13-17
Spring		
MIC 322	Medical Parasitology	3
MIC 452, 451, 453, 454, 455, or 456	Special Projects in Parasitology or Special Projects in Immunobiology or Special Projects in Pathogenic Bacteriology or Special Projects in Microbial Genetics or Special Projects in Immunogenetics or Special Projects in Virology	2-6
BIL 352	Techniques in Scanning Electron Microscopy (Cannot be taken to count toward MIC if BIL 554 has been taken)	3
Elective		3
Arts and Humanities Cognate Course		3
Term Credit Hours:		14-18
Total Credit Hours:		132-141

Minor in Microbiology and Immunology

Take three of the following:		11
MIC 301	Introduction to Microbiology and Immunology	
.....Or		
MIC 303 & MIC 304	Part 1 of 2: Introductory Microbiology and Immunology (Lecture) and Part 2 of 2: Introductory Microbiology and Immunology (Lab) (Cannot be used if MIC 301 is taken)	
.....And these two		
MIC 319	Innate Immunity	
MIC 321	Immunobiology	
Select a minimum of one credit hour from the following:		1
MIC 201	Modern Plagues and Society	
MIC 322	Medical Parasitology	
MIC 323	Principles of Microbial Pathogenesis	
MIC 436	Fundamental and Medical Virology	

MIC 441 Microbiology and Immunology Colloquium	
Total Credit Hours	12

Variations in the above programs may, in special cases, be approved by the Microbiology and Immunology undergraduate advisor and Director. All courses in Microbiology and Immunology to be credited toward a Microbiology and Immunology major or minor must be completed with a grade of C- or better with an overall GPA of 2.0.

Military Science

<http://www.as.miami.edu/armyrotc>

<http://armyrotc.fiu.edu/>

Dept. Code: MSL

Introduction

The Army Reserve Officer Training Corps is a college elective that will help students succeed in their desired career, whether civilian or military. Students who complete all ROTC requirements may be commissioned second lieutenants and serve in the Army, Army National Guard or Army Reserve.

The military science department's Reserve Officers Training Corps (ROTC) program of instruction qualifies the student for a commission in the United States Army, Army National Guard, or United States Army Reserve. The curriculum does not provide technical training in a job specialty nor does it emphasize vocational training; rather, it complements and provides a base for normal progression in the commissioned officers' educational program.

Leadership and management objectives are included in academic periods of instruction. Practical leadership experience is gained in a field training environment by attendance at a 31-day summer camp, normally between the junior and senior years. Nursing students may attend a nursing internship at Army hospitals following the normal summer camp. A leadership laboratory also provides experience in a range of leadership positions during the school year. The department offers both a four-year and a two-year program, each with its own special advantages. Students are invited to visit or write the Department of Military Science to obtain additional information.

Core Program

The program requires four years of military science courses which consist of a two-year basic course and a two-year advanced course. Students can begin the four-year program as freshmen or as sophomores.

There is also a two-year ROTC program for those students with only two years of college remaining. The two-year course is designed for junior college and other non-ROTC college transfer students, but may be utilized by students who did not enroll in the basic course outlined below.

Graduate students may also qualify for enrollment in the two-year course. Additional information regarding eligibility requirements for the two-year program may be obtained by contacting the Department of Military Science.

Women are encouraged to enroll and will be commissioned as officers in the United States Army upon completion of the ROTC curriculum. Job

opportunities for women officers in the Army are the same as those for men, excluding a few combat arms fields.

Basic Course

The basic course is normally taken as an elective subject by students in their freshman and sophomore years. The purpose of this instruction is to qualify students for entry into the advanced course by familiarizing them with the organization of the Army, military skills, and military tradition. Students do not incur any military obligation as a result of enrolling in the basic course. Enrollment in ROTC requires proof of a doctor's physical screening. Participation in regularly scheduled physical training is required. In addition to classroom instruction, a one and a half hour leadership laboratory period is required every other week.

Advanced Course

Instruction in the advanced course includes leadership and management, the exercise of command, military teaching methods, tactics, logistics, administration, history, and military justice. Leadership experience and command experience are provided by assigning advanced course students as cadet officers and noncommissioned officers. Participation in regularly scheduled physical training is a required part of the leadership training. Classroom instruction consists of two one and a quarter hour (75 minutes) periods each week and a two hour (120 minutes) leadership laboratory period every week. Only students who have demonstrated a definite potential for becoming competent officers will be selected for the advanced course.

Army Nurse Corps Option

Students enrolled in the School of Nursing curriculum leading to the degree of Bachelor of Science in Nursing may simultaneously qualify for commissions as Second Lieutenants in the Army Nurse Corps. Nursing students qualify for entry into the Officer Development Course through satisfactory completion of the General Military Course, the Basic Camp option or equivalent training. Nursing students participate in a summer Advanced Camp training program and an Army nurse training program. They provide practical and leadership experience in the clinical setting. The focus is to provide nursing cadets an experience which integrates clinical, interpersonal and leadership knowledge and skills. Emphasis is placed on practical experience under the direct supervision of an Army Nurse Corps Officer who acts as the cadet's preceptor throughout the camp period.

Professional Military Education

In addition to basic and advanced ROTC courses, cadets must complete professional military education requirements consisting of one course in each of the following areas: written and oral communication skills, U.S. military history, and computer literacy. Students should consult with the professor of military science to determine those University courses suitable for fulfilling these requirements.

Monetary Allowances

Cadets selected for admission into the advanced course qualify for a nontaxable monetary allowance of \$450–\$500 per month for up to 20 months. Cadets may also qualify for the simultaneous membership program with the United States Army Reserve or National Guard, which can provide approximately \$4,800 per semester during the last two years of school. Both the United States Army Reserve and the National

Guard offer additional monetary incentives for cadets who join their organizations (drill pay).

Army ROTC College Scholarship Program

Financial assistance is available in the form of two- or three-year ROTC academic scholarships for selected students. Under the Army ROTC Scholarship Program, the students/cadets receive FULL Tuition and Fees. Additionally, Army scholarship recipients receive a flat-rate allowance of \$1200 per year for textbooks and other expenses and \$350–\$500 per month stipend for up to 10 months per year. During the 32-day advanced course summer training between the junior and senior years, Army ROTC also pays attending cadets \$27 per day plus room and board. There are also numerous national and organizational scholarships that students may compete for as a member of Army ROTC.

Additionally, University of Miami undergraduates enrolled in the Army ROTC program are assured a combined University grant and/or scholarship award during the fall and spring semesters equal to 25% of the University's tuition charge for a maximum of four years. The subsidy is not available during the summer term. Students must maintain continuous enrollment in the Army ROTC program, must maintain satisfactory academic progress to continue receiving the subsidy, and full time enrollment in one of the University's undergraduate degree programs is required. No application is required. Awards are made automatically based on information provided by the University's Army ROTC detachment.

Uniforms and Textbooks

All uniforms and items of insignia incident to membership in the Army ROTC Program are furnished by the Department of Military Science. Textbooks are provided at no cost to students/cadets enrolled in the basic course.

Special Activities

Cadets have the opportunity to join and participate in a number of military affiliated organizations and activities, both on a voluntary and a selective basis. The Color Guard is a voluntary organization that functions as a military unit participating in military ceremonies and presenting the national colors at civic events. Cadets have the opportunity to qualify for and compete with cadets from other universities and colleges in a series of military events termed Ranger Challenge.

Awards and Decorations

Awards and decorations made available by national organizations, the University of Miami Army ROTC Alumni Association, and local and national military organizations, are presented to both basic and advanced officer course cadets each year. These plaques, trophies, medals, and ribbons symbolize superior achievement in Army ROTC and other University academic courses, and in outstanding campus and cadet corps leadership.

Prerequisite for Admission to the Professional Officer Course

1. Be at least 17 years of age at time of acceptance.
2. Be able to complete the professional officer course and graduate from the University of Miami prior to reaching the age of thirty (30) at the time of commissioning.

3. Selection by the professor of military science and acceptance by the University of Miami.
4. Execute a written agreement with the government to complete the professional officer course and accept an Army ROTC commission.
5. Enlist in the Army Reserve Component-ROTC (terminated upon receiving an Army officer commission).

Those students enrolled in the four-year Army ROTC program must complete the basic course or its equivalent, or have acceptable prior military service. Veterans and students with previous ROTC training are invited to write, visit, or call the Department of Military Science 305-284-3329 or 305-348-1619 to discuss their eligibility status.

Students desiring entry into the two-year Army ROTC program should contact the Department of Military Science one semester prior to the semester in which they wish to enroll in the professional officer course. This lead time is required to complete the application and a physical examination prior to enrollment in the professional officer course.

Leadership Laboratory

Leadership laboratory is open to students who are members of the Reserve Officer Training Corps or who are eligible to pursue a commission as determined by the professor of military science. Leadership laboratory is the formalized phase of leadership training conducted by the cadets. It is scheduled for two (120 minutes) hours every week for both the basic and advanced officer courses (non-contracted and contracted). All uniforms and equipment required for cadet activities are furnished.

Educational Objectives

To provide a base of knowledge in the areas of ethics, leadership, Communication skills, Military Leadership, U.S Military History, Tactics and Team building to include future Officer development.

Degree Programs

Students can receive degrees from the university in addition to being in the Army ROTC program, as well as being eligible (once requirements are met) to receive a minor in Military Science.

Modern Languages and Literatures

<http://www.as.miami.edu/ml>

Dept. Codes: ARB, CHI, FRE, GER, HAI, HEB, ITA, JPN, MLL, POR, SPA

Introduction

The study of languages and cultures is an integral part of a modern, global university education. At the University of Miami, students can choose courses in Arabic, Chinese, French, German, Haitian Creole, Hebrew, Italian, Japanese, Portuguese, and Spanish. All majors (French, German, Spanish), minors (Arabic Studies, Italian, Portuguese), and language programs (Chinese, Hebrew, Japanese) in the department are articulated through the notion of Global Literacy. Global literacy is the **ability to participate in sociocultural practices** by both interacting with others in different languages and by creating, presenting, and interpreting ideas through oral and written texts **in more than one language**. Consequently, global literacy involves awareness about oral and written texts, their conventions and genres, and their social, historical, political, and artistic uses. It entails linguistic proficiency in

more than one language. You cannot be global if you only live in one language. Global Literacy includes written and oral communication, critical thinking and social responsibility, and appreciation of cultural artifacts, artistic products, and new technologies in more than one language.

Global Literacy and multilingualism foster success in business, economics, education, law, medicine, natural sciences, politics, social sciences, arts, and humanities. Language study most effectively enriches academic as well as personal experiences when students choose a language based on its relevance to possible careers, to research in particular fields, to personal heritage, or to the understanding of unfamiliar cultures. Students combine advanced modern language study with majors in other fields, such as International Studies, Communications, History, Political Science (and other pre-law fields), Biology (and other pre-med fields), Nursing, English, Finance, Latin American Studies, Anthropology, Psychology, Computer Science, Sociology, and Philosophy.

The Department has Undergraduate Advisors for each language (<http://www.as.miami.edu/ml/undergraduate/advising>). You are encouraged to consult with them for placement, and must consult with them if you plan to major, minor, or study abroad (contact the Department office for names and office hours). If you plan to double major, you must have an advisor from each of your fields.

Students may qualify for a wide range of departmental awards (<http://www.as.miami.edu/ml/undergraduate/student-awards>) for excellence in linguistic and literary achievement. The Modern Languages and Literatures Awards Reception takes place annually during graduation week. Some awards are conferred through nomination by professors; others require an application. Students may obtain information on specific awards in the Department office. The annual deadline for applications is usually in early March.

Placement Guideline for MLL Courses

Most students studying a second language can determine their appropriate level by adhering to the following guidelines. However, various factors (i.e., the strength of the program in which the student previously studied the language, how long it has been since the student has used the language, the extent of the student's exposure to the language at home/in social settings; the student's knowledge of other languages, etc.) make it such that these are only guidelines and individual cases may differ. For this reason, on the first day of class of each course section, the instructor conducts a diagnostic evaluation of students' abilities. The instructor will then inform students whether that course is indeed the level or track that will benefit him/her the most or, if not, which course he/she must take. For this reason, it is extremely important that students attend their language class on the first day of class for the semester.

Students who wish to study Spanish (as a second language, native language, or heritage language) can get more tailored placement advice through our on-line placement advisor: <http://www.as.miami.edu/labs/resources/placement/index.html>.

The following are MLL's general placement guidelines (<http://www.as.miami.edu/ml/undergraduate/placement-guidelines>):

- If you have not studied Arabic, Chinese, French, German, Hebrew, Italian, Japanese, or Spanish in high school, or have completed one

to two years of high school instruction, take 101; for Portuguese, take 105.

- If you have taken 101 or its equivalent at another institution, take 102.
- If you have completed three years of high school instruction in French or Spanish, or scored a 3 on the AP language exam take 105. If you have had three years of high school Arabic, Chinese, German, Hebrew, Italian, or Japanese, take 102.
- If you have taken four years of high school French or Spanish, scored a 4 on the AP exam or a 4 on the IB exam in French or Spanish, or took the equivalent of 102 or 105 at another university, take 201. If you have taken four years of high school German, Italian or Portuguese, take 201. If you have taken four years of Arabic, Chinese, Hebrew, or Japanese, take 201.
- If you had five to six years of high school French, German, Italian, or Spanish, take 202.
- If you have taken the equivalent of 201 at another university, or scored a 5 on the AP exam, you have completed your language requirement. If you wish to continue your studies, take 202.
- If you took the equivalent of 202 in French or Spanish at another university or scored a 4 on the AP literature exam, you have completed your language requirement. If you wish to continue your studies, take 203. If you took the equivalent of 202 in German, Italian or Portuguese at another university, you have completed your language requirement. If you wish to continue your studies, take 301.
- If you scored a 5 on the AP literature exam in French, Italian or Spanish, you have completed your language requirement. If you wish to continue your studies, take 301.

The Department offers courses open to native speakers of French, German, Italian, Portuguese, and Spanish. Native speakers may *not* enroll in 101, 102, 105, 201, 202, 203, or 301 in their language. If you are a native speaker of French, German, Italian, or Portuguese, and graduated from a high school where that was the official language of instruction, you may take any course above 301 (consult with the respective Undergraduate Advisor). If you are a native speaker of Spanish and graduated from a high school where that was the official language of instruction, your first SPA course at UM must be either SPA 302 or SPA 303 or SPA 307 (which is a prerequisite for most other SPA courses).

The Department of Modern Languages & Literatures identifies as *heritage learners* of Spanish those students who begin their university studies of the language with little or no prior instruction in Spanish but who, because of family background or social experience, can already understand much casual spoken Spanish and have a passive knowledge of the language (though they may not usually speak the language themselves). In the great majority of cases, they have been born and fully educated in the United States, and may have grown up speaking principally English (or a 'mix' of Spanish and English, i.e. 'Spanglish') in the home with their grandparents, parents and siblings. Heritage learners may or may not consider themselves as "bilinguals" or "native speakers", since both of these terms carry very different connotations—linguistic, social, and psychological—for different individuals. Some state that they "do not really speak Spanish" even though they are able to comprehend much spoken language (i.e., they are "passive bilinguals"). In the great majority of cases, they self-identify as "Hispanic" or "Latino/a".

HERITAGE LEARNERS OF SPANISH MUST BE PLACED IN ONE OF THE FOLLOWING FOUR COURSES:

1. **SPA 107 Basic Spanish for Heritage Learners** is for those students with little or no prior instruction in Spanish who, because of family background or social experience, can understand casual spoken Spanish and have a passive knowledge of the language although they do not usually speak the language themselves. Generally, their abilities to read and write Spanish are very weak. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**
2. **SPA 207 Intermediate Spanish for Heritage Learners** is for those students **WHO HAVE ALREADY TAKEN AND PASSED SPA 107** or who have studied Spanish for **AT LEAST TWO YEARS IN HIGH SCHOOL.** They can understand casual spoken Spanish and have some functional ability in speaking, reading and writing the language. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**
3. **SPA 208 Advanced Spanish for Heritage Learners** is for those students who have studied Spanish for four years in high school and who have developed functional abilities in speaking, reading and writing the language. Students who earned a score of 5 on the AP Spanish Language Exam should register for this course. **CLOSED TO STUDENTS WHO GRADUATED HIGH SCHOOL IN A SPANISH-SPEAKING COUNTRY.**
4. **SPA 307 Introduction to Literary Studies for Native/ Heritage Speakers** is intended for those students who have completed **secondary and/or university studies in a Spanish-speaking country** and for those heritage learners who demonstrate an advanced level of productive competence (in the written and spoken modes) in Spanish because of prior formal study of the language. Many heritage learners who place directly into 343 have taken AP Spanish literature in high school and earned a score of 4 or 5.

SPA 101, SPA 102, SPA 105, SPA 201, SPA 202 AND SPA 203 ARE NOT FOR HERITAGE LEARNERS. ANY HERITAGE LEARNER WHO ENROLLS IN ONE OF THESE COURSES WILL BE OBLIGATED TO SWITCH TO A HERITAGE LANGUAGE COURSE (SPA 107, SPA 207, SPA 208 OR SPA 307) DURING THE FIRST WEEK OF CLASS.

Arts and Sciences Language Requirement

The College of Arts and Sciences requires all B.A. and B.S. degree students to show competency in a language other than English by successfully completing an approved college language course at the 200-level or higher. Students wishing to fulfill the language requirement in a language not taught at UM, may request an equivalency evaluation for a course at the appropriate level offered at an accredited institution, complete the approved equivalent course, and transfer the credits. Students requesting such an equivalency evaluation must submit appropriate documentation to the MLL department for approval. For a native speaker of the language in question, a course that transfers at UM's 300-level will fulfill the language requirement. For a second language learner of the language in question, a course that transfers at UM's 200-level will fulfill the language requirement.

Writing Credits: Writing Across the Curriculum

All of the Department's 300- and 500-level courses and some 400-level courses offer writing credit. NOTE: Courses may simultaneously fulfill General Education requirements and Writing Credit, or the Foreign Language Requirement and Writing Credit.

Cognates

Most of the Department's courses are part of cognates in one of two Areas of Knowledge: Arts & Humanities, and People & Society. A course cannot simultaneously complete a cognate in an Area of Knowledge and the College of Arts & Sciences' Foreign Language Requirement.

Degree Programs

Students pursuing a single major in Arts and Sciences earn a BA.

Major

Goals of the Major

The major is designed to allow students to gain advanced linguistic, cultural and literary competence in the given language. With each course students grow in the capacity to communicate, to critically see and understand the world not only in more sophisticated perspectives but also from other geopolitical positions, and in understanding and appreciating media, new technologies, film, literary and cultural products which also foster the appreciation of learners' own language, culture, and society. Students will develop analytical and critical skills. They will learn to build coherent arguments orally and in writing; to develop tools for the interpretation of various texts; to perform research and write critical papers; to find and evaluate sources of information; to heighten their sensitivity to contexts of language, and to appreciate language as art. Students will also acquire a broad, structured knowledge of the history, literature and culture in the target language. Finally, they will learn to carry out cultural comparisons and to view their own culture with new eyes.

You do not have to be a student of the College of Arts and Sciences to major in a modern language; you need only the approval of your college or school advisor and to complete the departmental requirements. If you wish to complete a double degree, consult with an Arts and Sciences Advisor.

Students completing a major in a modern language are encouraged to study abroad. The International Education and Exchange Program (IEEP in Rhodes House, room 37F) sponsors programs for Chinese, French, German, Italian, Japanese, Portuguese, and Spanish. It is also possible to fulfill some Arts and Sciences distribution requirements abroad. In order to take full advantage of study abroad, students should visit IEEP early in their university careers, discuss course equivalencies with the Study Abroad Advisor for their chosen languages (contact the Department office for names and office hours), and consult with their major advisors. Credit hour toward the major for courses taken abroad will be determined on an individual basis.

Minor

You do not have to be a student of the College of Arts and Sciences to minor in a modern language; you need only the approval of your college or school advisor and to complete the departmental requirements. If you wish to complete a double degree, consult with an Arts and Sciences Advisor.

Students completing a minor in a modern language are encouraged to study abroad. The International Education and Exchange Program (IEEP in Rhodes House, room 37F) sponsors programs for Chinese, French, German, Italian, Japanese, Portuguese, and Spanish. It is also possible to fulfill some Arts and Sciences distribution requirements abroad. In order

to take full advantage of study abroad, students should visit IEEP early in their university careers, discuss course equivalencies with the Study Abroad Advisor for their chosen languages (contact the Department office for names and office hours), and consult with their major advisors. Credit hour toward the major for courses taken abroad will be determined on an individual basis.

Departmental Honors

Departmental Honors in Modern Languages are possible in the three languages for which the major is offered: French, German and Spanish. In order to request admission to Departmental Honors, candidates must have completed at least twelve credit hours at the 300 level or above. They must have a GPA of 3.5 in all their major courses and a 3.5 overall average GPA. Both GPAs must be maintained in order to graduate with Departmental Honors.

During their junior year, candidates for honors will identify an honors thesis supervisor and a second reader and request admission to Departmental Honors. Admission to candidacy must also be approved by the Director of Undergraduate Studies for the appropriate language.

In addition to fulfilling the regular major requirements, students must register in their Senior year for FRE or GER or SPA 594-595, Senior Honors Thesis. This is a two-semester, six credit hour sequence: 594 for research and 595 for the actual writing of the honors thesis.

The honors thesis advisor and the second reader will determine whether the finished thesis merits Departmental Honors.

Majors

Major in Modern Languages and Literatures

- B.A. in French, German, or Spanish (p. 116)

Minors

Minors in Modern Languages and Literatures

- Arabic Studies (p. 117)
- French, German, Italian, Portuguese, or Spanish (p. 117)
- Modern Languages (p. 117)

B.A. in French, German, or Spanish

A major consists of at least 24 credit hours beyond 202/207, which must include the following distribution:

- at least 9 credit hours must be at the 300 level;
- at least 3 credit hours must be at the 400 level;
- at least 3 credit hours must be at the 500 level (capstone course);
- Spanish and French majors must take at least one course that focuses on a period prior to the 20th century.

Spanish majors must take one of the following:	3
SPA 353 Colonial Spanish American Topics	
SPA 363 Medieval And Early Modern Peninsular Topics	
SPA 354 19Th-Century Spanish American Topics	
SPA 364 18th and 19th CENTURY PENINSULAR TOPICS	
French majors must take one of the following:	3

FRE 363	Medieval And Renaissance Topics In French
FRE 364	Early Modern Topics In French
FRE 365	19Th Century Topics In French

- For German majors with GER 202 and Spanish and French majors with SPA 203/FRE 203, the remaining 6 credit hours can be taken in any of the 300 or 400-level courses of the respective programs.
- Five writing intensive classes (W) in the department are required of all majors. Thus, students completing a major in FRE, GER, and SPA satisfy the College of Arts and Sciences writing requirement in the discipline.

In consultation with their MLL advisor, students can have up to 1 course (3 credit hours) from among the MLL courses or the FRE, GER, and SPA courses taught in English (numbered 310-319) count toward their French, German, or Spanish major.

Only one professional Spanish course (SPA 432 or SPA 433) will count towards the Spanish major, although students are free to take both.

Students with transfer credit hours at the 300-level must take at least 21 graded credit hours at or above the 300-level at the University of Miami; i.e., up to 9 credit hours at the 300- and 400-level may be transferred from another institution or a study abroad program not administered by UM. Up to 12 credit hours taken abroad in a UM-administered program may count towards any of the majors in the Department. Students must earn a grade of C- or higher in every course counting toward the major, and maintain a minimum overall average of 2.5 in the major.

Capstone Courses

The final course in the major is the capstone course (501) which must be taken in residence. This course will:

- Integrate the various skills acquired during the course of study (linguistic, analytical, knowledge-based);
- Incorporate interpretive as well as presentational modes of communication;
- Contain an over-arching and cohesive theme;
- Include an element of collaboration among students.

It will constitute a moment of recapitulation of, synthesis, and reflection on a student's experience in the major as well as a bridge towards graduate-level studies, should s/he decide to pursue them.

Of the 24 credit hours required for the major, a minimum of 12 credit hours must be earned in courses taught by MLL faculty (whether on campus or in faculty-led study-abroad programs). Since we encourage students to study abroad in UM-sponsored programs, up to 12 credit hours from these programs may be applied toward the major. Up to 6 transfer credit hours from other institutions may count toward the major; whether these are credit hours transferred from another U.S. institution or from non-UM study abroad programs, transferred credit hours must be granted UM equivalency in order to be eligible to count toward the major. Please note, however, that the total number of combined UM study-abroad (exclusive of MLL faculty-led programs) and transfer credit hours shall not exceed 12 credit hours.

For example:

- A student may use 3 transfer credit hours with UM equivalency and 9 credit hours from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 credit hours must be earned in courses taught by MLL faculty.
- A student may use 6 transfer credit hours with UM equivalency and 6 credit hours from a UM-sponsored study abroad program toward fulfillment of the major; the remaining 12 credit hours must be earned in courses taught by MLL faculty.
- A student may use 12 credit hours from a UM-administered study-abroad program not led by MLL faculty and 12 credit hours in courses taught by MLL faculty to fulfill the major.

Exceptions to this 12 credit hours rule may be made in cases where a student will participate in a UM-administered study-abroad program for a full academic year.

Minor in Arabic Studies

A minor in Arabic Studies consists of a minimum of 15 credit hours, passed with a "C" or higher.

Select a minimum of three credit hours in a 200-level Arabic language course:	3
ARB 201 Intermediate Arabic	
ARB 202 Intermediate Arabic II	
ARB 207 Arabic For Heritage Learners	
or the equivalent	
Select a minimum of three credit hours in one of the following: ¹	3
ARB 310 Topics In Arabic Literature And Culture In Translation	
ARB 410 Language And Power In The Arab World	
ARB 312 Arab Cultures: A Cultural History Of The Arab World	
ARB 315 Topics In Gender And Sexuality In Translation	
Select a minimum of three additional credit hours in any ARB course beyond ARB 101	3
Select a minimum of three credit hours, outside of ARB courses, in humanities or social science courses focused on the Middle East, North Africa, Islam, or the Arab world.	3
REL 171 Introduction to Islam	
ARH 260 Islamic Art	
INS 352 Panoramic View of the Middle East	
GEG 242 Economic and Political Geography of the Middle East	
POL 387 Politics of the Middle East	
or another relevant course as approved by the program director	
Select a minimum of three additional credit hours from either an ARB course beyond ARB 101 or any approved course focused on the Middle East, North Africa, Islam, or the Arab world	3
Total Credit Hours	15

¹ Arabic Studies courses are taught in English.

Up to 9 credit hours taken abroad in an Arabic-speaking country are eligible to fulfill the requirements for the minor. Up to 6 transfer credit hours from an accredited university or 4-year college in another region of the world are eligible to fulfill the requirements for the minor. In all cases, whether the credit hours are from a UM-affiliated study abroad program or transfer credit hours from any institution, the credit hours' UM equivalency, if any, will be determined by the UM Arabic Studies Program Director; ARB 310 must be taken within the Department of Modern Languages and Literatures at UM; and the student must fulfill the distribution of requirements and other criteria stipulated above.

If a student has studied Modern Standard Arabic (fusha) in another setting (e.g., a high school foreign language program or schooling in an Arab country), she/he may request a proficiency evaluation from the Program Director. If the student's Modern Standard Arabic is equivalent to, or beyond, the Intermediate level, the student may be exempted from the requirement to earn 3 credit hours in a 200-level Arabic language course; however, the student will still be required to take at least 9 credit hours of ARB courses and a total of 15 credit hours, as stipulated above, to complete the minor.

Minor in French, German, Italian, Portuguese, or Spanish

A minor in one modern language consists of a minimum of 12 credit hours in that language, earned according to the following guidelines: a minimum of 9 credit hours must be at the 300 and/or 400 level, a minimum of 6 credit hours must be graded credit hours taught by UM faculty, a maximum of 3 credit hours may be transferred from another institution or from a study-abroad program not administered by UM.

Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.

Minor in Modern Languages

The minor in two foreign languages consists of at least 24 graded credit hours with 12 credit hours in one language on any level and 12 credit hours in any other language, 6 of which must be on the 300-level or above. For example: ARB 101, ARB 102, ARB 201 and ARB 202 along with SPA 202, SPA 203, SPA 301 and SPA 322 would constitute a Minor in Modern Languages; so would FRE 201, FRE 203, FRE 301 and FRE 330 along with ITA 101, ITA 102, ITA 201 and ITA 202. Many other combinations are possible. This minor must include 6 graded credit hours per language from the University of Miami. Students must earn a grade of C- or higher in every course counting toward the minor, and maintain a minimum overall average of 2.5 in the minor.

Neuroscience

<https://www.as.miami.edu/neuroscience/>; <http://www.psy.miami.edu/>; <http://neuroscience.med.miami.edu/undergraduate-program>

Dept. Code (NEUR)

Introduction

Neuroscience is the study of the nervous system (i.e., the brain, spinal cord, and peripheral nerves), the mechanisms of behavior, and the nature of mind and consciousness. The Neuroscience Program is a rigorous, interdisciplinary program between the Department of Psychology,

the Department of Biology, and the Miller School of Medicine. The neuroscience major provides a broad-based liberal arts background that can be applied to a variety of career fields. It is also excellent preparation for medical school or graduate study in neuroscience, psychology, biology or behavioral medicine.

Educational Objectives

The neuroscience major seeks to provide students with exposure to and a fundamental understanding of the neural and bio behavioral sciences by delivering an integrative educational experience and promoting interactions among faculty, graduate students, and undergraduate students in basic scientific inquiry, advising, and mentoring.

Degree Programs

All neuroscience majors are required to pursue a Bachelor of Science (B.S.) degree.

Departmental Honors

Students can earn Departmental Honors in Neuroscience by demonstrating excellence in their coursework and completing a Senior Honors Thesis in Neuroscience.

1. **Excellence in Coursework** – A minimum 3.3 combined GPA and a minimum 3.5 neuroscience GPA is required.
2. **Senior Honors Thesis in Neuroscience** – This is an independent empirical research project that is completed across two semesters (i.e., NEU 580 and NEU 581) under the supervision of a faculty mentor in the Neuroscience Program. At least one year of prior research experience with the faculty mentor is highly recommended. Written approval from the faculty mentor and the Director of Undergraduate Academic Services in the Department of Psychology is also required.

Other

The neuroscience major is administered by the Department of Psychology's Undergraduate Academic Services for Psychology (UASP) office. UASP provides comprehensive advising services to all students on a walk-in basis from 9:00 a.m. to 4:30 p.m., Monday through Friday, in Flipse 508. Appointments are only necessary during the official advising period for registration.

Freshmen and Transfer Students

All freshmen neuroscience majors in the College of Arts and Sciences are required to participate in the Department of Psychology's year-long orientation, advising, and mentoring program, FACT FORUM (Freshmen Advising Contact Term and Faculty Overview of Research and Undergraduate Mentoring). These courses are one credit hour general electives designed to enable students to take ownership of their education by familiarizing them with the academic rules and regulations of the University of Miami, helping them think critically about their curriculum, providing them with in-depth exposure to research, and preparing them to enter the professional world.

New transfer students are highly encouraged to participate in a similar one semester program called TUMS (Transfer to the University of Miami). This course is specifically designed to ease the transition for new transfer students to the University of Miami.

Students who declare a neuroscience major after matriculation may be required to take part in an advising seminar prior to declaring the neuroscience major.

Prerequisites

Students must adhere to all prerequisites. They are also required to earn a minimum grade of C- in any course that is to serve as a prerequisite for another course in the neuroscience major. Students who enroll in NEU or PSY courses without the specified prerequisites may be dropped.

Advanced Writing and Communication Requirement

To satisfy the College of Arts and Sciences Advanced Writing and Communication requirement, neuroscience majors must take 4 writing-designated courses, including 1 writing-designated course in the PSY or NEU area. Two such writing courses, PSY 390 and NEU 403, are already built into the neuroscience major.

Research Experience for Course Credit

Research experience is considered an integral part of the neuroscience major. Students may earn course credit (i.e., NEU 280, NEU 380, and/or NEU 480) by working in the laboratory of a Neuroscience Program faculty mentor. Students can repeat NEU 280, NEU 380, and NEU 480 without penalty. A minimum 2.8 combined and neuroscience GPA is required to earn research credit. Written permission from a faculty mentor and UASP is also required. Note: Students may volunteer in a research laboratory by completing the appropriate volunteer paperwork with UASP if they are unable to register for research credit.

Research Participation in PSY 110

As an introduction to behavioral science, all students enrolled in PSY 110 may be required to participate as subjects in research studies conducted by faculty and/or graduate students, or by reading selected research reports and writing article critiques. Refer to the course syllabus for more details. Note: This introductory research participation requirement is not sufficient for students interested in attending graduate school in neuroscience or psychology.

Senior Assessment

As part of the Department of Psychology's accreditation plan, all senior neuroscience majors will be required to take part in a senior assessment that may last up to four hours. Assessment scores will not affect the students' graduation status; however, failure to complete the assessment may delay or prevent graduation.

Transfer Courses

Courses from other colleges or universities may be assigned NEU or PSY credit at UM with written approval by UASP.

Majors

Major in Neuroscience

- B.S. in Neuroscience (p. 119)

Minors

Minor in Neuroscience

There is no minor available in neuroscience.

B.S. in Neuroscience

The major in neuroscience requires roughly 50 credit hours in core BIL, NEU, and PSY courses, and roughly 26 credit hours in auxiliary CHM and PHY courses.

Core Courses		
BIL 150	General Biology	4
Select one of the following:		1
BIL 151	General Biology Laboratory	
BIL 152	HHMI General Biology Laboratory.	
BIL 160	Evolution and Biodiversity	4
Select one of the following:		1
BIL 161	Evolution and Biodiversity Laboratory	
BIL 162	HHMI Evolution And Biodiversity Laboratory.	
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
or BIL 259	Life In The Cell	
BIL 268	Neurobiology	3
NEU 342	Neural Mechanisms of Disease	3
NEU 403	Neuroscience laboratory	4
Select one of the following:		3
NEU 400	Neurogenetics	
NEU 440	Neural Mechanisms Of Psychiatric Disorders	
NEU 465	Cellular and Molecular Neuroscience	
NEU 468	Developmental Neuroscience.	
PSY 110	Introduction to Psychology	3
PSY 290	Introduction To Research Methods	3
PSY 291	Introduction To Biobehavioral Statistics	3
PSY 390	Intermediate Research Methods And Biobehavioral Statistics	3
PSY 425	Psychobiology	3
Select one additional BIL elective of the following: ¹		3
BIL 330	Ecology	
BIL 360	Comparative Physiology	
BIL 365	Endocrinology	
BIL 441	Animal Behavior	
BIL 455	Developmental Biology	
BIL 511	Biometry	
BIL 520	Evolution	
BIL 568	Evolution and development of Nervous Systems	
BMB 401	Biochemistry For The Biomedical Sciences	
MIC 301	Introduction to Microbiology and Immunology	
or MIC 303	Part 1 of 2: Introductory Microbiology and Immunology & MIC 304 (Lecture)	
	and Part 2 of 2: Introductory Microbiology and Immunology (Lab)	
NEU 342	Neural Mechanisms of Disease	
NEU 400	Neurogenetics	
NEU 440	Neural Mechanisms Of Psychiatric Disorders	
NEU 465	Cellular and Molecular Neuroscience	

NEU 468	Developmental Neuroscience.	
Select one additional BIL elective or PSY elective of the following: ¹		3
BIL 330	Ecology	
BIL 360	Comparative Physiology	
BIL 365	Endocrinology	
BIL 441	Animal Behavior	
BIL 455	Developmental Biology	
BIL 511	Biometry	
BIL 520	Evolution	
BIL 568	Evolution and development of Nervous Systems	
BMB 401	Biochemistry For The Biomedical Sciences	
MIC 301	Introduction to Microbiology and Immunology	
or MIC 303	Part 1 of 2: Introductory Microbiology and Immunology & MIC 304 (Lecture)	
	and Part 2 of 2: Introductory Microbiology and Immunology (Lab)	
NEU 342	Neural Mechanisms of Disease	
NEU 400	Neurogenetics	
NEU 440	Neural Mechanisms Of Psychiatric Disorders	
NEU 465	Cellular and Molecular Neuroscience	
NEU 468	Developmental Neuroscience.	
PSY 240	Abnormal Psychology	
PSY 320	Psychology Of Drugs And Behavior	
PSY 345	Abnormal Child Psychology	
PSY 391	Tests And Measurements	
PSY 426	Health Psychology	
PSY 491	Advanced Biobehavioral Statistics	
Auxiliary Courses		
Select one of the following CHM sequences:		16
Traditional Chemistry:		
CHM 111	Principles of Chemistry I & CHM 113 and Chemistry Laboratory I	
CHM 112	Principles of Chemistry II & CHM 114 and Chemistry Laboratory II	
CHM 201	Organic Chemistry I (Lecture) & CHM 205 and Organic Chemistry Laboratory I	
CHM 202	Organic Chemistry II (Lecture) & CHM 206 and Organic Chemistry Laboratory II	
Chemistry for the Biosciences:		
CHM 121	Chemistry For The Biosciences I & CHM 113 and Chemistry Laboratory I	
CHM 221	CHM211 Chemistry for the Biosciences II & CHM 114 and Chemistry Laboratory II	
CHM 222	CHM212 Chemistry for the Biosciences III & CHM 205 and Organic Chemistry Laboratory I	
CHM 206	Organic Chemistry Laboratory II	
Select one of the following PHY sequences:		10-11
College Physics:		
PHY 101	College Physics I & PHY 106 and College Physics Laboratory I	

PHY 102 College Physics II & PHY 108 and College Physics Laboratory II	
University Physics:	
PHY 205 University Physics I	
PHY 206 University Physics II & PHY 208 and University Physics II Lab	
PHY 207 University Physics III & PHY 209 and University Physics Iii Lab	
PRISM Physics:	
PHY 201 University Physics I. Life Sciences & PHY 106 and College Physics Laboratory I	
PHY 202 University Physics II - Life Sciences. & PHY 108 and College Physics Laboratory II	
Total Credit Hours	76-77

¹ Note: NEU courses cannot double count for a BIL elective and another required course within the neuroscience major.

Other Requirements

- Students must earn a minimum grade of C- in any course that is to count toward the neuroscience major.
- Students may repeat no more than two courses for the neuroscience major in which they received a D or an F.
- New freshmen and current students must have a minimum 1300 SAT, 30 ACT, or 3.5 combined, UM, and neuroscience GPA after 24 completed credit hours at UM to declare the neuroscience major. Note: At least 7 of these 24 credit hours must be in the BIL, CHM, or MTH courses required of the major and/or the degree.
- New transfer students must have a minimum 3.8 combined GPA to declare the neuroscience major, and at least 7 completed credit hours in the required BIL or CHM courses.
- Students are strongly advised not to continue with the neuroscience major if they have less than a 2.8 neuroscience GPA after 15 completed credit hours in the neuroscience major.
- Students must earn a minimum 2.6 neuroscience GPA to graduate with the neuroscience major.

Notes

- There are limited seats in the neuroscience major so students may be required to join a waitlist before they are able to declare.
- Neuroscience majors are required to complete 130 total credit hours to complete their B.S. degree.
- The neuroscience major can only be declared as a first major for students who are enrolled in the College of Arts and Sciences.
- AP Credit for Statistics (i.e., PSY 292) cannot count toward the neuroscience major.
- Students who declare the neuroscience major after they transfer credit for PSY 292 or complete PSY 292 at UM can use PSY 292 as a substitute for PSY 291.
- The following courses do not count toward the neuroscience major:

NEU 190 Faculty Overview Of Research And Undergraduate Mentoring(Forum)	1
NEU 280 Introduction To Research Projects I	1-3
NEU 380 Introduction To Research Projects Ii	1-3
NEU 480 Research With Writing Credit	1-3

NEU 580 Senior Honors In Neuroscience I	3
NEU 581 Senior Honors In Neuroscience Ii	3
PSY 106 Freshman Advising Contact Term (Fact)	1
PSY 190 Faculty Overview Of Research And Undergraduate Mentoring(Forum)	1
PSY 206 Transfer To The University Of Miami(Tums)	1
PSY 280 Introduction To Research Projects I	1-3
PSY 305 Introduction To Research And Graduate School	1
PSY 380 Introduction To Research Projects II	1-3
PSY 480 Research With Writing Credit	1-3
PSY 580 Senior Honors In Psychology I	3
PSY 581 Senior Honors In Psychology II	3

- All neuroscience majors must complete a minor in Biochemistry, Chemistry, Computer Science, Engineering, Geological Sciences, Marine Science, Mathematics, Microbiology and Immunology, or Physics.
- Neuroscience majors may not earn majors or minors in Biology or Psychology.

Philosophy

<http://www.as.miami.edu/phi>

Dept. Code: PHI

Introduction

The Philosophy Department offers a wide range of courses at the undergraduate level which cover every major area of philosophy as well as its history. Students can major or minor in the subject. In addition, the department sponsors two undergraduate philosophy organizations:

- the Philosophy Club, which is open to all UM undergraduates, and
- Phi Sigma Tau, a chapter of the National Honor Society in Philosophy.

Both groups afford students regular opportunities to meet, eat, and talk philosophy with each other and with graduate students and faculty in the department. All undergraduates who are interested in philosophy are welcome to participate in these philosophical events.

Educational Objectives

Philosophy is the study of the most basic moral, scientific, legal, aesthetic, religious, and metaphysical concepts and theories by which we understand ourselves and our universe. It is a reasoned pursuit of fundamental truths, a quest for understanding, a study of principles of conduct. It analyzes the basic assumptions and concepts of other disciplines and the norms that govern interpersonal relations and the acquisition of knowledge. It seeks to establish standards of evidence, to provide rational methods of resolving conflicts, and to create techniques for evaluating ideas and arguments. Philosophers are dedicated to developing the following abilities: reasoning clearly, distinguishing between good and bad arguments, thinking through complicated questions, and using reason in situations that are often governed by emotions. Studies have shown that philosophy majors do extremely well on standardized tests, and in careers that require analytical abilities such as the practice of law and software development. But irrespective of career choice, philosophy deepens one's sense of the meaning and

varieties of human experience, and enhances self-knowledge, foresight, and sense of direction in life.

Degree Programs

The major in Philosophy leads to the degree of Bachelor of Arts. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in philosophy should take at least two (2) (properly approved writing and communication) philosophy courses.

Pre-Law Major and Minor Tracks

The Department offers major and minor tracks for students wishing to enhance their Pre-Law studies with relevant Philosophy coursework.

Pre-Med Major and Minor Tracks

The Department also offers major and minor tracks for students wishing to supplement their Pre-Med work with relevant Philosophy coursework.

Departmental Honors

A program of work toward graduation with Honors in Philosophy is available for qualified students. Interested students should consult the Departmental Director of Undergraduate Studies during their sophomore or junior years. Further information may be found under the section entitled HONORS PROGRAM.

For requirements leading to the Master of Arts and Ph.D. degree (p. 410), see the Bulletin of the Graduate School.

Majors

Majors in Philosophy

- B.A. in Philosophy (p. 121)
- B.A. in Philosophy - Pre-Law Track (p. 121)
- B.A. in Philosophy - Pre-Med Track (p. 121)

Minors

Minors in Philosophy

- Philosophy (p. 122)
- Philosophy - Pre-Law Track (p. 122)
- Philosophy - Pre-Med Track (p. 122)

B.A. in Philosophy

A major in philosophy consists of a minimum of ten courses, each passed with a grade of C- or higher, with an overall GPA of 2.0. Elective courses may be chosen to fit individual needs.

Required Courses		
PHI 210	Symbolic Logic	3
or PHI 215	Logic and Law	
PHI 271	Ancient Philosophy	3
or PHI 272	Modern Philosophy	
Select three courses at the 300 level		9
Select one of the following:		3
PHI 330	Ethics	
PHI 331	Social and Political Philosophy	
PHI 332	Philosophy of Law	

Select two of the following:		6
PHI 340	Theory of Knowledge	
PHI 341	Philosophy of Language	
PHI 343	Philosophy of Science	
PHI 344	Philosophy of Mind	
PHI 345	Metaphysics	
Select six credit hours at the 500 level		6
Total Credit Hours		30

B.A. in Philosophy - Pre-Law Track

A Pre-Law Major Track in Philosophy consists of a minimum of ten courses, each passed with a grade of C- or higher, with an overall GPA of 2.0.

Required Courses		
PHI 210	Symbolic Logic	3
or PHI 215	Logic and Law	
PHI 271	Ancient Philosophy	3
or PHI 272	Modern Philosophy	
PHI 330	Ethics	3
or PHI 331	Social and Political Philosophy	
PHI 332	Philosophy of Law	3
or PHI 333	Philosophical foundations of criminal law	
Select two of the following:		6
PHI 340	Theory of Knowledge	
PHI 341	Philosophy of Language	
PHI 343	Philosophy of Science	
Select two 500-level courses		6
Select two additional PHI courses		6
Total Credit Hours		30

B.A. in Philosophy - Pre-Med Track

A Pre-Med Major Track in Philosophy consists of a minimum of ten courses, each passed with a grade of C- or higher, with an overall GPA of 2.0.

Required Courses		
PHI 210	Symbolic Logic	3
PHI 271	Ancient Philosophy	3
or PHI 272	Modern Philosophy	
PHI 330	Ethics	3
PHI 334	Biomedical Ethics	3
PHI 343	Philosophy of Science	3
PHI 340	Theory of Knowledge	3
or PHI 344	Philosophy of Mind	
PHI 546	Evidence and Knowledge in Medicine	3
Select one 500-level courses		3
Select two additional PHI courses		6
Total Credit Hours		30

Minor in Philosophy

A minor in philosophy consists of a minimum of five courses, each passed with a grade of C- or higher with an overall GPA of 2.0. At least three of the courses must be at the 200 level or above, and at least one of these three courses must be at the 300 level or above.

The major and the minor should be planned with the advice of the department.

Minor in Philosophy - Pre-Law Track

A Pre-Law Minor Track in Philosophy consists of a minimum of five courses, each passed with a grade of C- or higher, with an overall GPA of 2.0.

Required Courses		
PHI 210	Symbolic Logic	3
or PHI 215	Logic and Law	
PHI 330	Ethics	3
or PHI 331	Social and Political Philosophy	
PHI 332	Philosophy of Law	3
or PHI 333	Philosophical foundations of criminal law	
Select one of the following:		3
PHI 340	Theory of Knowledge	
PHI 341	Philosophy of Language	
PHI 343	Philosophy of Science	
Select one other PHI course		3
Total Credit Hours		15

Minor in Philosophy - Pre-Med Track

A Pre-Med Minor Track in Philosophy consists of a minimum of five courses, each passed with a grade of C- or higher, with an overall GPA of 2.0.

Required Courses		
PHI 210	Symbolic Logic	3
PHI 334	Biomedical Ethics	3
PHI 343	Philosophy of Science	3
PHI 340	Theory of Knowledge	3
or PHI 344	Philosophy of Mind	
PHI 546	Evidence and Knowledge in Medicine	3
Total Credit Hours		15

Physical Sciences

Dept. Code: PSC

Introduction

PSC 101 is an interdisciplinary physical science course designed primarily for the non-science major. It may be used to satisfy a physical science requirement in some degree programs. Students should consult the degree requirements listed elsewhere in the Bulletin as well as their advisors for the appropriateness of this course for their programs. See also under PHY 110.

Physics

<http://www.physics.miami.edu>

Dept. Code: PHY

Introduction

The requirements for a major or minor in the Department of Physics are flexible and may be adapted to the needs of the individual student.

A grade of C- or better is required in all courses counted toward the major or minor with an overall GPA of 2.0. Any lecture course in the Physics department may be passed by means of a proficiency examination.

Note that more mathematics beyond two semesters of calculus is required for most of the physics courses at the 300 level or higher. In order to complete any Physics major sequence in four years, the student should begin elementary calculus as soon as possible. Students are encouraged to discuss an appropriate math sequence with the physics advisor. The minimum math requirement for physics major typically is as follows:

MTH 151	Calculus I for Engineers	4-5
or MTH 161	Calculus I	
or MTH 171	Calculus I	
MTH 162	Calculus II	4
or MTH 172	Calculus II	
MTH 210	Introduction to Linear Algebra	3
MTH 211	Calculus III	3
or MTH 310	Multivariable Calculus	
MTH 311	Introduction to Ordinary Differential Equations	3
Total Credit Hours		17-18

Requirements for the Master of Science and Doctor of Philosophy (p. 412) degrees will be found in the Bulletin of the Graduate School.

Majors

Majors in Physics

- B.S. in Physics - Pure Physics (p. 124)
- B.S. in Physics - Chemistry/Physics (p. 123)
- B.S. in Physics - Engineering/Physics (p. 124)
- B.S. in Physics - Marine Science/Physics (p. 124)
- B.S. in Physics - Applied Physics (p. 122)

Minors

Minor in Physics

- Physics (p. 125)

B.S. in Physics - Applied Physics

<http://www.physics.miami.edu>

This sequence is available for those intending careers in applied physics. The major is divided into tracks, depending on the student's field of interest. The Physics for the Life Sciences track is designed for premedical students.

Students must complete the core set of courses AND one track in their field of interest. Multiple tracks are allowed with prior authorization from the Department of Physics.

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Applied Physics should pass at least one writing intensive course within the Physics Department. These are PHY 306, PHY 362, and PHY 506. The requirement can also be fulfilled by passing ENG 233 with a grade of C- or higher.

Core Courses

The core set of courses is required for all tracks and it includes one of the University Physics sequences with two labs (see table below), plus PHY 350, and PHY 360.

Engineering Physics Track

Additional 5 credits in physics at the 300 level or higher, including PHY 340 and one lab, plus 9 credits in Engineering with prior authorization from the Department of Physics.

Computational Physics Track

Additional 5 credits in physics at the 300 level or higher, including PHY 340 and one lab, plus 2 courses from the Computer Science BS core (p. 82) and a third course in Computer Science with prior authorization from the Department of Physics.

Medical Physics Track

Additional 5 credits in physics at the 300 level or higher, including PHY 351 and one lab, plus BME 265, BME 330, and one among BME 470, BME 520, or BME 521.

Physics for the Life Sciences Track

Additional 6 credits in physics at the 300 level or higher, including PHY 321, plus required biology and chemistry courses. In biology, the required courses are BIL 150, BIL 151, BIL 160, BIL 161, BIL 255, and either BIL 360 or BME 265. In chemistry, the students are required to take one year of inorganic chemistry (CHM 111-CHM 112) with laboratory (CHM 113-CHM 114) and one semester of organic chemistry with laboratory (CHM 201/CHM 205) OR the three-semester sequence of Chemistry for the Life Sciences (CHM 121, CHM 221, CHM 222) with laboratory (CHM 113, CHM 114, CHM 205, CHM 206).

Chemical Physics Track

Additional 6 credits in physics at the 300 level or higher, including PHY 321, plus CHM 360, CHM 364, CHM 365, CHM 464, and one among CHM 530, CHM 553, or CHM 575.

University Physics Sequences

Option 1	11
PHY 205	University Physics I
PHY 206	University Physics II
PHY 207	University Physics III
PHY 208	University Physics II Lab
PHY 209	University Physics Iii Lab
Option 2	11
PHY 205	University Physics I
PHY 210	Honors University Physics II-III

PHY 208	University Physics II Lab
PHY 209	University Physics Iii Lab
Option 3	10
PHY 201	University Physics I. Life Sciences
PHY 202	University Physics II - Life Sciences.
PHY 106	College Physics Laboratory I or PHY 208 University Physics II Lab
PHY 108	College Physics Laboratory II or PHY 209 University Physics Iii Lab

B.S. in Physics - Chemistry/Physics

The dual major in Chemistry and Physics is designed for students who are pursuing a regular B.S. degree in Chemistry (p.) and want to pursue a second major in Physics.

In addition to the major in Chemistry (p. 79), the dual major requires 22 credit hours in physics and specific courses in Chemistry.

Students pursuing this dual major will have to satisfy the College of Arts and Sciences writing requirement for the Chemistry major.

Physics Requirements		
University Physics Sequence	10-11	
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics Iii Lab	
Option 2:		
PHY 205	University Physics I	
PHY 210	Honors University Physics II-III	
PHY 208	University Physics II Lab	
PHY 209	University Physics Iii Lab	
Option 3:		
PHY 201	University Physics I. Life Sciences	
PHY 202	University Physics II - Life Sciences.	
PHY 106	College Physics Laboratory I or PHY 208 University Physics II Lab	
PHY 108	College Physics Laboratory II or PHY 209 University Physics Iii Lab	
PHY 350	Intermediate Electricity and Magnetism	3
PHY 360	Introduction to Modern Physics	3
Two 300 level (or higher) physics courses, excluding PHY 315		5-6
Chemistry Requirements for the Dual Major		
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
CHM 365	Physical Chemistry II (Lecture)	3
CHM 464	Physical Chemistry (Laboratory II)	1
CHM 530	Fluorescence Spectroscopy and Microscopy	3
or CHM 553	Modern Quantum Chemistry	

or CHM 575 Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy	
Total Credit Hours	32-34

Other courses may be approved after consultation with a physics faculty advisor.

B.S. in Physics - Engineering/Physics

Students in the College of Engineering who want a dual major in physics should consult the Physics Department Chairman or Associate Chair. A major tailored to the student's needs will be arranged. The minimum number of physics credits is the same as for the Engineering Track of the Applied Physics major.

Students pursuing this dual major will take courses designed to provide them with the skills required for effective communication, both written and oral, within their discipline in the College of Engineering.

A typical sequence for the dual major is as follow:

Physics Requirements		
University Physics Sequence		10-11
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics Iii Lab	
Option 2:		
PHY 205	University Physics I	
PHY 210	Honors University Physics II-III	
PHY 208	University Physics II Lab	
PHY 209	University Physics Iii Lab	
Option 3:		
PHY 201	University Physics I. Life Sciences	
PHY 202	University Physics II - Life Sciences.	
PHY 106	College Physics Laboratory I	
or PHY 208 University Physics II Lab		
PHY 108	College Physics Laboratory II	
or PHY 209 University Physics Iii Lab		
PHY 350	Intermediate Electricity and Magnetism	3
PHY 360	Introduction to Modern Physics	3
Two 300 level (or higher) physics courses, excluding PHY 315		5-6
Total Credit Hours		21-23

B.S. in Physics - Marine Science/Physics

This is an interdisciplinary major offered in conjunction with RSMAS. It includes all the courses from the pure physics major (p. 124), excluding PHY 306 and PHY 506, together with a group of marine science and other courses detailed in the section of this Bulletin on MARINE SCIENCE (p. 294).

Students pursuing this dual major will take courses designed to provide them with the skills required for effective communication, both written

and oral, within their discipline in the Rosenstiel School of Marine and Atmospheric Science.

B.S. in Physics - Pure Physics

The pure physics major is recommended for students intending to enter graduate school in Physics, or that want a deeper understanding of fundamental physics.

It consists of one of the University Physics sequences with two labs, plus PHY 306 (lab), PHY 321, PHY 340, PHY 350, PHY 351, PHY 360, PHY 362, PHY 506 (lab), PHY 540, and PHY 560.

Students interested in a Ph.D. program in physics are strongly encouraged to also take PHY 561.

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Pure Physics are required to pass at least one writing intensive course within the Physics Department. These are PHY 306, PHY 362, and PHY 506. The requirement can also be fulfilled by passing ENG 233 with a grade of C- or higher.

University Physics Sequence		10-11
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
PHY 209	University Physics Iii Lab	
Option 2:		
PHY 205	University Physics I	
PHY 210	Honors University Physics II-III	
PHY 208	University Physics II Lab	
PHY 209	University Physics Iii Lab	
Option 3:		
PHY 201	University Physics I. Life Sciences	
PHY 202	University Physics II - Life Sciences.	
PHY 106	College Physics Laboratory I	
or PHY 208 University Physics II Lab		
PHY 108	College Physics Laboratory II	
or PHY 209 University Physics Iii Lab		
Upper Level Courses		
PHY 306	Intermediate Laboratory	1
PHY 321	Thermodynamics and Kinetic Theory	3
PHY 340	Classical Mechanics I	3
PHY 350	Intermediate Electricity and Magnetism	3
PHY 351	Intermediate Electricity and Magnetism II	3
PHY 360	Introduction to Modern Physics	3
PHY 362	Modern Physics Honors Seminar	1
PHY 506	Advanced Laboratory	1-2
PHY 540	Classical Mechanics II	3
PHY 560	Quantum Mechanics and Modern Physics I	3
Total Credit Hours		34-36

Minor in Physics

The physics minor consists of:

University Physics Sequence (see Pure Physics Major)	10-11
PHY 360 Introduction to Modern Physics	3
Physics lecture course (other than PHY 315) at the 300-level or above	3
Total Credit Hours	16-17

Political Science

<http://www.as.miami.edu/politicalscience>

Dept. Code: POL

Introduction

A political science major prepares students for work in a number of fields including law, politics, public policy, public administration, and international affairs, as well as employment in business and the non-profit sector.

Educational Objectives

Political science majors gain an understanding of American political and legal life, the workings of other countries' political and economic systems, the relations among countries in the international arena, and key concepts in both political philosophy and social science methodology.

Degree Programs

- Bachelor of Arts in Political Science
- Five year program: Bachelor of Arts in Political Science and Masters of Public Administration (A special curriculum for students specializing in public administration enables them to complete the requirements for both a Bachelor's and Master's degree in five years.)

Departmental Honors

To earn Departmental Honors a political science major must:

1. Graduate with an overall GPA of 3.500.
2. Graduate with a political science GPA of at least 3.700. All political science course grades on a student's transcript are counted in the calculation of the major GPA. This includes all grades from courses that were completed more than once (e.g. to obtain a high enough grade to count towards the major).

Majors

Major in Political Science

- B.A. in Political Science (p. 125)

Minors

Minor in Political Science

- Political Science (p. 127)

B.A. in Political Science

The political science major consists of at least 30 credit hours. At least 21 credit hours of these must be earned at the University of Miami.

To count toward the major, each course must be completed with a grade of C- or above, with an overall GPA of 2.0 or above.

Departmental Core Courses ¹		
POL 201	Introduction to American National Government	3
or POL 199	UMinDC Introduction to American National Government	
POL 202	Introduction To Comparative Politics	3
POL 203	Introduction to International Relations	3
Select a minimum of six credit hours of 500-level seminar courses offered by the University of Miami ²		6
Select a minimum of one course above the 200-level in three of the following five principal sub-fields of political science ³		9
American Politics:		
POL 309	American Political Thought	
POL 311	Conspiracy Theories And The Public	
POL 313	The Constitution	
POL 314	Legislative Processes	
POL 315	American Presidency	
POL 332	Mass Media and Politics	
POL 334	Campaigns	
POL 335	Local Government	
POL 342	State and Local Government and Politics	
POL 343	Government In Metropolitan Areas	
POL 349	U. S. Defense Policy	
POL 351	Public Opinion	
POL 352	Political Parties	
POL 353	Interest Groups and Lobbying	
POL 354	The CIA and the World of Intelligence	
POL 360	Congressional Representation	
POL 390	Special Topics in American Politics	
POL 399	Transfer Credit In American Politics	
POL 400	The 2012 Election	
POL 401	The Election	
POL 491	Immigration Reform And The 2014 Election	
POL 515	Media Content Analysis	
POL 528	Advanced Seminar on Electoral Behavior	
POL 529	Conducting U.S. Elections	
POL 530	Intelligence and National Security Decision Making	
POL 536	U.S. Health Care Crisis: Politics and Policies	
POL 543	Urban Politics	
POL 547	Congressional Representation	
POL 548	Civic Participation and Democracy	
POL 550	Advanced Seminar on American Politics	
POL 553	The Environmental Movement: Groups, Beliefs and Values	
POL 569	Lgbt Politics	

POL 599	Special Topics in American Politics (American Politics)	POL 391	Special Topics in International Relations
Comparative Politics		POL 392	International Terrorism
POL 308	Security, Globalization, and Human Rights.	POL 397	Transfer Credits In International Relations
POL 323	Global Warming, Politics and the European Union	POL 491	Immigration Reform And The 2014 Election
POL 344	Gender and Politics	POL 530	Intelligence and National Security Decision Making
POL 370	Global Energy Politics	POL 531	Global Environmental Politics
POL 380	Comparative Political Analysis	POL 544	Chinese Foreign Policy
POL 381	West European Politics (Previous Title: European Politics and Government)	POL 570	Uniting States in International Perspective
POL 382	Government and Politics of the Federal Republic of Germany	POL 575	The Politics of Civil- Military Relations
POL 384	Postcommunist Russian Politics	POL 576	On Violence: The Politics of Extremes
POL 385	Politics and Society in Latin America	POL 577	Security in South Asia: The Conflicts of Afghanistan, Pakistan and India
POL 386	Democratic Consolidation	POL 578	ENERGY & SECURITY IN EURASIA
POL 387	Politics of the Middle East	POL 579	The politics of post-communist transactions
POL 388	Politics Of Israel	POL 585	Post-Communist Russian Foreign Policy
POL 389	Special Topics in Comparative Politics	POL 586	Conflict in the Middle East and Africa
POL 398	Transfer Credit In Comparative Politics	POL 591	International Security
POL 525	Comparative Public Policy and Administration	POL 592	International Political Economy
POL 507	Politics, Sociology, & Economy in Contemporary Brazil	POL 593	International Relations of the Middle East
POL 527	Comparative Political Institutions	POL 594	European Security
POL 531	Global Environmental Politics	POL 597	Special Topics In International Relations
POL 535	Comparative Legal Systems	Public Administration, Policy, and Law	
POL 569	Lgbt Politics	POL 300	The Politics of Growth Management
POL 571	Sex, Babies, and the State	POL 320	Politics Of Growth Management
POL 579	The politics of post-communist transactions	POL 321	Public Policy And Administration
POL 580	Ethnicity, Nationalism and Secession	POL 322	Environmental Politics and Policy
POL 581	Comparative Political Economy of Post-Industrial Democracies	POL 337	International Law and Organizations
POL 582	Political Economy of Development	POL 372	Introduction to Criminal Justice
POL 584	Contemporary Latin American Politics	POL 373	Constitutional Law I
POL 588	Politics in China	POL 374	Constitutional Law II
POL 598	Special Topics In Comparative Politics (Comparative Politics)	POL 393	Special Topics in Public Administration, Policy, and Law
International Relations		POL 396	TRANSFER CREDIT IN PUBLIC ADMINISTRATION, POLICY, AND LAW
POL 308	Security, Globalization, and Human Rights.	POL 491	Immigration Reform And The 2014 Election
POL 323	Global Warming, Politics and the European Union	POL 501	Budget and Financial Management and Administration
POL 337	International Law and Organizations	POL 522	Introduction to Graduate Public Administration
POL 341	Nationalism, Ethnicity, and Political Conflict	POL 523	Problems in Public and Non-Profit Management
POL 345	The United States and Asia	POL 524	Non-Profit Organizations: Law, Policy, and Management
POL 346	U.S.-Latin American Relations	POL 525	Comparative Public Policy and Administration
POL 347	American Foreign Policy	POL 526	Administrative Law
POL 348	United States Relations with the Middle East	POL 533	Courts and Controversy
POL 349	U. S. Defense Policy	POL 535	Comparative Legal Systems
POL 354	The CIA and the World of Intelligence	POL 536	U.S. Health Care Crisis: Politics and Policies
POL 367	The Historical Roots of American Imperialism	POL 541	Philosophy of Law
POL 370	Global Energy Politics	POL 545	Environmental Policy Making

POL 551	Productivity in the Public and Non-Profit Sectors
POL 555	Total Quality Public Service Management: Achieving High Performance Government
POL 556	Politics and Ethics
POL 557	Ethical and Managerial Issues in Government, Business and Non-Profit Organization.
POL 558	From Electronic Government To Digital Governance
POL 596	Special Topics In Public Administration, Policy And Law
Political Theory and Methods	
POL 250	Scope and Methods of Political Science
POL 301	The Science And Practice Of Political Research
POL 302	Political Fiction and Film
POL 305	Introduction To Political Theory
POL 306	Positive Political Theory
POL 307	Political Ideologies
POL 309	American Political Thought
POL 310	God, Science, and Politics
POL 311	Conspiracy Theories And The Public
POL 380	Comparative Political Analysis
POL 394	Special Topics in Political Theory and Methods
POL 395	Transfer Credit In Political Theory And Methods
POL 506	From Plato Through Rawls
POL 510	Political Analysis
POL 512	Advanced Political Analysis
POL 513	Models of Politics
POL 514	Art and Politics
POL 515	Media Content Analysis
POL 516	Experiments in Political Science
POL 517	Introductory Statistical Methods In Political Science
POL 518	Advanced Statistical Methods In Political Science
POL 519	Introduction To Game Theory For Political Science
POL 541	Philosophy of Law
POL 595	Special Topics In Political Theory And Methods
Total Credit Hours	24

All majors must complete a quiz for graduating seniors (to be used for assessment purposes) during their last semester of coursework.

To satisfy the Advanced Writing & Communication proficiency requirement, students majoring in political science must complete at least one of the four required writing-intensive courses in the Department of Political Science.

Minor in Political Science

A minor requires 15 credit hours of political science, three of which must be from either POL 201, POL 202, or POL 203. To qualify for the minor at least 9 credit hours must be earned in residence.

To count toward a minor, each course must be completed with a grade of C- or higher, with an overall GPA of 2.0 or higher. **POL 213 does not count toward the minor.**

Psychology

<http://www.psy.miami.edu>

Dept. Code: PSY

Introduction

Psychology is the study of how individuals think, behave, feel, and relate to others. Because of its broad and fundamental nature, the psychology major prepares students for graduate study and/or careers in a wide range of people-oriented professions (e.g., psychology, medicine, law, business, communication, etc.). Psychology majors learn about human behavior and gain the analytical and critical thinking skills that are highly-valued in the workforce.

Educational Objectives

The Department of Psychology seeks to provide students with exposure to and a fundamental understanding of psychological science by delivering an integrative educational experience and promoting interactions among faculty, graduate students, and undergraduate students in basic and applied psychological inquiry, advising, mentoring, and community outreach.

Degree Programs

The Department of Psychology offers a Bachelor of Arts (B.A.) and a Bachelor of Science (B.S.) degree.

Departmental Honors

Students can earn Departmental Honors in Psychology by demonstrating excellence in their course work and completing a Senior Honors Thesis in Psychology.

- Excellence in Coursework** – A minimum 3.3 combined GPA and a minimum 3.5 psychology GPA is required.
- Senior Honors Thesis in Psychology** – This is an independent empirical research project that is completed across two semesters (i.e., PSY 580 and PSY 581) under the supervision of a faculty mentor in the Department of Psychology. At least one year of prior research experience with the faculty mentor is highly recommended. Written approval from the faculty mentor and the Director of Undergraduate Academic Services is also required.

¹ **POL 213 does not count toward the major.**

² This includes any 500-level seminar offered by the Department of Political Science or cross-listed with Political Science. The following 500 level courses are **not** seminars and do **not** fulfill this requirement: POL 520, POL 521, POL 563, POL 564, POL 590.

³ These can include courses used to fulfill departmental core courses requirement. Please note that some courses cover more than one sub-field. Students may not, however, use a single class to fill two sub-field requirements.

Other

The office of Undergraduate Academic Services for Psychology (UASP) provides comprehensive advising services to all students on a walk-in basis from 9:00 a.m. to 4:30 p.m., Monday through Friday, in Flipse 508.

Appointments are only necessary during the official advising period for registration.

Freshmen and Transfer Students

All freshmen psychology majors in the College of Arts and Sciences are required to participate in the Department of Psychology's year-long orientation, advising, and mentoring program, FACT FORUM (Freshmen Advising Contact Term and Faculty Overview of Research and Undergraduate Mentoring). These courses are one credit hour general electives designed to enable students to take ownership of their education by familiarizing them with the academic rules and regulations of the University of Miami, helping them think critically about their curriculum, providing them with in-depth exposure to research, and preparing them to enter the professional world.

New transfer students are highly encouraged to participate in a similar one semester program called TUMS (Transfer to the University of Miami).

This course is specifically designed to ease the transition for new transfer students to the University of Miami.

Students who declare a psychology major after matriculation may be required to take part in an advising seminar prior to declaring the psychology major.

Prerequisites

Students must adhere to all prerequisites. They are also required to earn a minimum grade of C- in any PSY course that is to serve as a prerequisite for another course in the psychology major. Students who enroll in PSY courses without the specified prerequisites may be dropped.

Advanced Writing and Communication Requirement

To satisfy the College of Arts and Sciences Advanced Writing and Communication requirement, psychology majors must take 4 writing-designated courses, including 1 writing-designated course in the PSY area. Writing courses are already built into the required courses of the B.S. track of the psychology major; however, students who follow the B.A. track of the psychology major will need to plan accordingly to incorporate a writing-designated PSY course into their graduation plans.

Research Experience for Course Credit

Research experience is considered an integral part of the psychology major. Students may earn course credit (i.e., PSY 280, PSY 380, and/or PSY 480) by working in the laboratory of a Department of Psychology faculty mentor. Students can repeat PSY 280, PSY 380, and PSY 480 without penalty. A minimum 2.8 combined and psychology GPA is required to earn research credit. Written permission from a faculty mentor and UASP is also required. Note: Students may volunteer in a research laboratory by completing the appropriate volunteer paperwork with UASP if they are unable to register for research credit.

Research Participation in PSY 110

As an introduction to behavioral science, all students enrolled in PSY 110 may be required to participate as subjects in research studies conducted by faculty and/or graduate students, or by reading selected research reports and writing article critiques. Refer to the course syllabus for more

details. Note: This introductory research participation requirement is not sufficient for students interested in attending graduate school in psychology.

Senior Assessment

As part of the Department of Psychology's accreditation plan, all senior psychology majors will be required to take part in a senior assessment that may last up to four hours. Assessment scores will not affect the students' graduation status; however, failure to complete the assessment may delay or prevent graduation.

Transfer Courses

Courses from other colleges or universities may be assigned PSY credit at UM with written approval by UASP.

Majors

Major in Psychology

- B.A. or B.S. in Psychology (p. 128)

Minors

Minor in Psychology

- Psychology (p. 129)

B.A. or B.S. in Psychology

The major in psychology requires 33 credit hours in PSY courses.

B.A. Departmental Requirements

PSY 110	Introduction to Psychology	3
PSY 290	Introduction To Research Methods	3
PSY 291	Introduction To Biobehavioral Statistics	3
Select nine additional credit hours in 200 level PSY courses		9
Select nine credit hours in 300 level PSY courses		9
Select six credit hours in 400 or 500 level PSY courses		6
Total Credit Hours		33

B.S. Departmental Requirements

PSY 110	Introduction to Psychology	3
PSY 290	Introduction To Research Methods	3
PSY 291	Introduction To Biobehavioral Statistics	3
PSY 390	Intermediate Research Methods And Biobehavioral Statistics	3
PSY 490	Advanced Research Methods	3
Select nine additional credit hours in 200 level PSY courses		9
Select three additional credit hours in 300 level PSY courses		3
Select six additional credit hours in 400 or 500 level PSY courses ¹		6
Total Credit Hours		33

¹ Note: At least 3 of these credit hours must be in a 400 level PSY writing course.

Second Majors in Psychology

- Students enrolled in the **College of Arts and Sciences who pursue a B.A. degree** must follow the “B.A. Departmental Requirements” outlined above.
- Students enrolled in the **College of Arts and Sciences who pursue a B.S. degree** must follow the “B.S. Departmental Requirements” outlined above.
- Students enrolled in the **School of Architecture, School of Business Administration, School of Communication, School of Education and Human Development, and Frost School of Music** must follow the “B.A. Departmental Requirements” outlined above.
- Students enrolled in the **College of Engineering, Rosenstiel School of Marine and Atmospheric Science, and School of Nursing and Health Studies** must follow the “B.S. Departmental Requirements” outlined above.

Other Requirements

- Students must earn a minimum grade of C- in a PSY course to count it toward the psychology major.
- Students must have a minimum 2.8 combined, UM, and psychology GPA to declare the psychology major.
- Students are strongly advised not to continue with the psychology major if they have less than a 2.5 psychology GPA after 15 completed credit hours in psychology.
- Students must earn a minimum 2.3 psychology GPA to graduate with the psychology major.
- Students must complete at least half of their psychology major in residence, including all 300, 400, and 500 level PSY courses.
- Only 6 PSY credit hours at the 300, 400, and 500 level may be taken through a UM Study Abroad Program with prior written approval.

Notes

- AP Credit for Statistics (i.e., PSY 292) cannot count toward the psychology major.
- Students who declare the psychology major after they transfer credit for PSY 292 or complete PSY 292 can use PSY 292 as a substitute for PSY 291.
- Only 6 credit hours of the following may count toward the psychology major:

PSY 280	Introduction To Research Projects I	1-3
PSY 380	Introduction To Research Projects II	1-3
PSY 480	Research With Writing Credit	1-3
PSY 581	Senior Honors In Psychology II	3

- The following courses do not count toward the psychology major:

PSY 106	Freshman Advising Contact Term (Fact)	1
PSY 190	Faculty Overview Of Research And Undergraduate Mentoring(Forum)	1
PSY 206	Transfer To The University Of Miami(Tums)	1
PSY 305	Introduction To Research And Graduate School	1
PSY 580	Senior Honors In Psychology I	3

- All psychology majors who pursue a B.A. degree in the College of Arts and Sciences must complete a minor from the list of acceptable minors published by the College.
- All psychology majors who pursue a B.S. degree in the College of Arts and Sciences must complete a minor in Biochemistry, Biology, Chemistry, Computer Science, Engineering, Geological Sciences, Marine Science, Mathematics, Microbiology and Immunology, or Physics.

Minor in Psychology

The minor in psychology requires 15 credit hours in PSY courses.

Departmental Requirements		
PSY 110	Introduction to Psychology	3
PSY 291	Introduction To Biobehavioral Statistics	3
or PSY 292	Introduction To Biobehavioral Statistics For Non-Majors	
Select nine credit hours in PSY courses		9
Total Credit Hours		15

Other Requirements

- Students must earn a minimum grade of C- in a PSY course to count it toward the minor.
- Students must earn a minimum 2.0 psychology GPA to graduate with the minor.
- Students must complete at least 9 of the 15 minor credit hours in residence, and only 3 of these credit hours may be taken through a UM Study Abroad Program with prior written approval.

Notes

- Only 3 credit hours of PSY 280, PSY 380, and/or PSY 480 may count toward the minor.
- The following courses do not count toward the minor:

PSY 106	Freshman Advising Contact Term (Fact)	1
PSY 190	Faculty Overview Of Research And Undergraduate Mentoring(Forum)	1
PSY 206	Transfer To The University Of Miami(Tums)	1
PSY 305	Introduction To Research And Graduate School	1

Religious Studies

<http://www.as.miami.edu/religion>

Dept. Code: REL

Introduction

Religion is one fundamental way humans order and discern meaning and frame identity, both collective and individual. In the study of religion, students learn what religion is; how religion both shapes and reflects culture, society, politics, and individual experience; and the multiple ways religion matters and has mattered locally and globally, from antiquity to the present. Through the examination of varied disciplinary approaches and exposure to concrete diverse cultural expressions of religion, the department fosters students' broad and deep apprehension of religion's place(s) in human experience. The department's educational work aims

to strengthen students' capacities to read carefully, question critically, communicate knowledge effectively, and apply their learning in civic engagement.

The University regards the academic study of religion as an integral part of liberal, humane learning and seeks to assist students in understanding the role religion plays in human existence and culture. Instruction in the Department of Religious Studies is non-sectarian and seeks an open analysis of all points of view. Courses are designed to provide a general orientation to the academic study of religion for the undergraduate student, as well as more advanced exposure for those who wish to pursue professional careers where a study of religious ideas and institutions would be helpful, such as in psychology, sociology, history, journalism, teaching, law, medicine, the fine arts, religious education, the ministry, and the rabbinate.

The Department sponsors a wide variety of speakers and events each year, including a Religious Studies Colloquium series and a Forum on Religion and Public Life. It has enriched the existing curriculum by bringing to the campus such outstanding scholars as Elizabeth Kuebler-Ross, Joachim Jeremias, Alvin Plantinga, Harry M. Orlinsky, Anson Rainey, Abraham J. Malherbe, Alan Segal, William May, Robert Segal, Douglas Allen, Marvin Sweeney, Martin Hengel, Martin E. Marty, and Juergen Moltmann.

Educational Objectives

The general educational objectives of the Department are

1. to explore texts, histories, and ways in which humans from various cultures have understood their world including the beliefs, ethics, rituals, artifacts, and organizations of religions;
2. to understand the changing relationship between religion and elements of the wider culture including the dynamics of politics, art, economics, literature, and society and their relationship to religions;
3. to become familiar with the theories and methods used in the study of religion.

Degree Programs

The Department offers two tracks by which students may earn a major or a minor. The first track is Religious Studies, which is designed for students who are seeking a broad and comprehensive understanding of the world's major religions and the cultures in which they are practiced. The second track is Religion and Health Care, which is designed for students who are interested in any aspect of health care or who wish to supplement their pre-med concentration with coursework in the field of Religious Studies.

Departmental Honors

The Department of Religious Studies encourages its majors and minors to intensify and deepen their knowledge of religious texts, traditions, and issues through its Departmental Honors Program. The program is designed to give our students the opportunity to explore various topics and problems in religion that are of particular interest to them, to work more closely with faculty in the department, to develop skills in research and thesis preparation, and in some cases to prepare for graduate work in religious studies or other disciplines.

Minimum requirements for the program are as follows:

1. A cumulative grade point average of at least 3.30;
2. A cumulative grade point average in religious studies of at least 3.50; and
3. A thesis that is approved by departmental faculty.

For the determination of honors, cumulative grade point average means either the average of all grades earned at the University of Miami or the combined average of all graded work taken at the University of Miami and elsewhere (whether or not the transfer work is accepted toward a degree at the University of Miami), whichever is lower.

Theta Alpha Kappa

Majors, minors, and other students who meet certain academic criteria are eligible for membership in Theta Alpha Kappa, the National Honor Society for Religious Studies and Theology. Theta Alpha Kappa sponsors events that enhance the academic and social life of the department.

URome

In keeping with its emphasis on a global approach to the study of religion and society, the Department sponsors a study abroad program known as URome. This semester-on-location program, which is open to all qualified University of Miami undergraduate students, is offered each spring semester in collaboration with the American University of Rome. A limited amount of scholarship support for the URome program is available for qualified Religious Studies majors and minors.

Majors

Majors in Religious Studies

- B.A. in Religious Studies (p. 131)
- B.A. in Religion and Health Care (p. 130)

Minors

Minors in Religious Studies

- Religious Studies (p. 131)
- Religion and Health Care (p. 131)

B.A. in Religion and Health Care

FOR STUDENTS FIRST ENROLLED IN OR AFTER FALL SEMESTER 2015

A major in Religion and Health Care leading toward the B.A. degree requires 24 credit hours in Religious Studies, passed with a grade of C- or higher, and a GPA in the major of 2.0.

Select one of the following:	3
REL 101 Introduction to Religion	
REL 102 Problem of God	
REL 103 One God: Judaism, Christianity, Islam	
REL 105 One Goal: Transforming the Self in Asian Religions	
Select four Religion and Health Care courses	12
Select 6 elective credits	6
Select a minimum of 12 credit hours in courses numbered 300 or above	
Writing credit (W) in at least one course in the department	

REL 499	Method and Theory in the Study of Religion	3
Total Credit Hours		24

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Religion and Health Care should take one W class in REL.

To ensure that majors devise a coherent plan of study, the department requires consultation with the department undergraduate advisor.

Transfer students who major in Religion and Health Care must complete at least 12 credit hours in department offered courses numbered 300 or above in residence at the Coral Gables campus.

B.A. in Religious Studies

FOR STUDENTS FIRST ENROLLED IN OR AFTER THE FALL SEMESTER 2015

A major in Religious Studies leading toward the B.A. degree requires 24 credit hours in Religious Studies, passed with a grade of C- or higher, and a GPA in the major of 2.0.

Select one of the following:	3	
REL 101	Introduction to Religion	
REL 102	Problem of God	
REL 103	One God: Judaism, Christianity, Islam	
REL 105	One Goal: Transforming the Self in Asian Religions	
Select a minimum of 18 elective credit hours in REL courses	18	
REL 499	Method and Theory in the Study of Religion	3
Select a minimum of 12 credit hours in courses numbered 300 or above		
Writing credit (W) in at least one course in the department		
Total Credit Hours	24	

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Religious Studies should take one W class in REL.

To ensure that majors devise a coherent plan of study, the department requires consultation with the department undergraduate advisor.

Transfer students who major in Religious Studies must complete at least 12 credits in department offered courses numbered 300 or above in residence at the Coral Gables Campus.

Minor in Religion and Health Care

FOR STUDENTS FIRST ENROLLED IN OR AFTER FALL SEMESTER 2015

An undergraduate minor in Religion and Health Care requires 12 credit hours, passed with a grade of C- or higher, and a GPA in the minor of 2.0.

Select one of the following:	3
REL 101	Introduction to Religion
REL 102	Problem of God
REL 103	One God: Judaism, Christianity, Islam

REL 105	One Goal: Transforming the Self in Asian Religions	
Select two Religion and Health Care courses		6
Select one elective course		3
Select a minimum of 6 credit hours in courses numbered 300 or above		
Total Credit Hours		12

To ensure that minors devise a coherent plan of study, the department requires consultation with the department undergraduate advisor.

Transfer students who minor in Religion and Health Care must complete at least 6 credits in department offered courses numbered 300 or above in residence at the Coral Gables campus.

Minor in Religious Studies

FOR STUDENTS FIRST ENROLLED IN OR AFTER FALL SEMESTER 2015

An undergraduate minor requires 12 credit hours, passed with a grade of C- or higher, and a GPA in the minor of 2.0.

Select one of the following:	3	
REL 101	Introduction to Religion	
REL 102	Problem of God	
REL 103	One God: Judaism, Christianity, Islam	
REL 105	One Goal: Transforming the Self in Asian Religions	
Select 9 elective credits		9
Select a minimum of 6 credit hours in courses numbered 300 or above		
Total Credit Hours		12

To ensure that minors devise a coherent plan of study, the department requires consultation with the department undergraduate advisor.

Transfer students who minor in Religious Studies must complete at least 6 credits in department offered courses numbered 300 or above in residence at the Coral Gables campus.

Sociology

<http://www.as.miami.edu/sociology>

Dept. Code: SOC

Overview

The Major in Sociology provides scientific training for understanding the organization and fluid nature of contemporary society, patterns of social change, and the mutual influence between macro structures and processes (society and culture) on one hand, and the micro level (individuals and groups) on the other. Increasingly, sociologists are also focused on understanding the processes of globalization that are currently transforming contemporary societies.

Courses for both majors are designated SOC; see course list below. For information on Criminology please see the CRIMINOLOGY (p. 84) section of the Bulletin.

Educational Objectives

The undergraduate program in Sociology has as its main objective to provide students with:

1. A strong component of a liberal arts education, training in analytical and statistical skills that are highly valued by potential employers;
2. A valuable undergraduate preparation for pursuing careers in such fields as journalism, politics, public relations, business or public administration and in other—fields that involve investigative or analytical skills or working with diverse groups;
3. An excellent and comprehensive training program for students wishing to pursue graduate work in programs leading to academic positions, research expertise, or work in the field of applied sociology.

Degree Programs

Students may earn a Bachelor of Arts degree in Sociology. The Department of Sociology also offers graduate programs leading to M.A. and Ph.D. degrees in the areas of:

- **Medical sociology**
- **Race and ethnic relations**
- **Criminology**

Departmental Honors

Graduation with Departmental Honors is available to eligible students who fulfill the following:

1. Students desiring Departmental Honors in Sociology or Criminology must maintain an overall GPA of 3.3 and a GPA of 3.5 in Sociology or Criminology. They must also achieve a minimum of B in all Sociology/Criminology courses. For transfer students, the Department uses the cumulative, combined GPA calculated by the Office of the Registrar.
2. A student seeking Departmental Honors is required to write an independent research paper which is submitted to the Undergraduate Committee. The nature of the independent research project is determined by the faculty member(s) with whom the student works. This project is done in SOC 498 & SOC 499. The student should have the same professor(s) for all six credit hours.
3. Recruitment of eligible students is by department invitation during a student's junior year.

Advanced Writing and Communication Requirements

To satisfy the College of Arts and Sciences Advanced Writing and Communication requirement, all Sociology majors must take 4 writing-designated courses, including 1 writing-designated course in the SOC area. Writing courses are regularly offered within the department; however, it is the student's responsibility to plan accordingly to incorporate a designated SOC writing-designated course into their graduation plans.

Alpha Kappa Delta

Majors, minors, and other students who meet certain academic criteria are eligible for membership in Alpha Kappa Delta, the International Sociology Honor Society. Alpha Kappa Delta sponsors events that enhance the academic and social life of the department.

Majors

Major in Sociology

- B.A. in Sociology (p. 132)
- Sociology & Criminology Double Major; Combined Minor (p. 132)

Minors

Minor in Sociology

- Sociology (p. 133)
- Sociology & Criminology Double Major; Combined Minor (p. 132)

B.A. in Sociology

A major in **SOCIOLOGY** requires: a minimum of 31 credit hours, including:

Required Courses		
SOC 101	Introduction to Sociology	3
SOC 210	Introduction to Social Research ¹	3
SOC 211	Quantitative Methods for Sociologists ²	3
SOC 212	Quantitative Methods Lab ²	1
SOC 401	Sociological Theory	3
Select two of the following:		6
SOC 301	Social Organization	
SOC 302	Social Psychology: Sociological Perspective	
SOC 303	Social Inequalities	
Elective Courses		
Four additional courses offered by the Department of Sociology		12
Total Credit Hours		31

¹ EPS 452 can be substituted for SOC 210 only by students who are also enrolled in the School of Education.

² PSY 291 can be substituted for SOC 211 only by students who are also majoring or minoring in Psychology. SOC 212 remains a requirement.

Other Requirements

- A minimum final grade of C- in all courses offered by the Department
- A minimum cumulative GPA of 2.0 in all courses offered by the Department
- A minimum of **16 credit hours must be earned in residency** in the Department; thus, only a maximum of 15 credit hours can be transferred from other institutions as eligible credit hours for the SOCIOLOGY major

Sociology & Criminology Double Major; Combined Minor

Students may choose to double major in both Sociology and Criminology, or major in either Sociology or Criminology while minoring in the other.

Sociology and Criminology Double Major:

Students wishing to complete a double major must complete the Declaration of Major form for the College of Arts and Sciences and fill

in *both* majors. Students completing a double major are not required to complete a minor as well.

A double major in Sociology and Criminology requires a minimum of **58** credit hours, including:

Required Core Courses – 10 Credits

SOC 101 Introduction to Sociology (3 Credits)
 SOC 210 Introduction to Research Methods (3 Credits)
 SOC 211 Quantitative Methods for Sociologists (3 Credits)
 SOC 212 Quantitative Methods Lab (1 Credit)

Sociology Required Courses – 9 Credits

SOC 401 Sociological Theory (3 Credits)

TWO of the following three courses:

SOC 301 Social Organization (3 Credits)
 SOC 302 Social Psychology (3 Credits)
 SOC 303 Social Inequalities (3 Credits)

Criminology Required Courses – 9 Credits

SOC 371 Criminology (3 Credits)
 SOC 470 Theories of Deviant Behavior (3 Credits)

ONE of the following two courses:

SOC 271 Criminal Justice (3 Credits)
 SOC 370 Juvenile Delinquency (3 Credits)

Elective Courses

Ten other courses offered by the Department for a total of 30 credits

Other Requirements:

A minimum final grade of C- in all courses offered by the Department.

A minimum cumulative GPA of 2.00 in all courses offered by the Department.

A minimum of **31 credits must be earned in residency** in the Department; thus, only a maximum of 27 credits can be transferred from other institutions as eligible credits for the SOCIOLOGY/CRIMINOLOGY DOUBLE major

Sociology and Criminology Major-Minor Program

A minor in either **Sociology** or **Criminology** while majoring in the other program requires 12 additional credits offered by the Department to the major program requirements.

6 of these credits must be 300-level or higher, totaling 43 credit hours.

Sociology majors must take SOC 371 Criminology.

Minor in Sociology

A minor in **SOCIOLOGY** requires a minimum of 15 credit hours, including:

Required Courses	
SOC 101	Introduction to Sociology
	3
Elective Courses	

Four additional courses offered by the Department of Sociology,	12
Two of which must be 300 level or higher	
Total Credit Hours	15

Other Requirements

- A minimum final grade of C- in all courses offered by the Department
- A minimum cumulative GPA of 2.0 in all courses offered by the Department
- A minimum of 9 credit hours must be earned in residency in the Department; thus, only a maximum of 6 credit hours can be transferred from other institutions as eligible credit hours for the SOCIOLOGY minor.

Theatre Arts

<http://www.as.miami.edu/theatrearts>

Dept. Code: THA

Introduction

The University of Miami Department of Theatre Arts offers two distinct undergraduate degrees:

- a liberal arts program leading to a Bachelor of Arts degree in theatre and
- a pre-professional conservatory-based theatre training program leading to a Bachelor of Fine Arts degree in either
 - Acting,
 - Musical Theatre,
 - Stage Management,
 - Theatre Management, or
 - Design/Production.

The Department also produces a season of plays and musicals at the Jerry Herman Ring Theatre as well as workshops and student projects in the Studio Theatre.

Educational Objectives

The Department of Theater Arts immerses students in the practices and the study of theatre enabling them to nurture and promote within their communities an engagement with the arts.

Degree Programs

- THE BACHELOR OF ARTS DEGREE
- THE BACHELOR OF FINE ARTS DEGREE

The Bachelor of Fine Arts Degree in Theatre Arts

In addition to the general requirements for admission to the University, the student seeking admission to the BFA program must meet the following requirements of the Department of Theatre Arts:

1. Submission of the Supplemental Application to the Department of Theatre Arts. (This form is located on the Department of Theatre Arts website under "Prospective Students and on the Undergraduate Admissions website page.)

- An audition or interview/portfolio review to determine acceptance into the BFA programs. These audition/reviews will be held on the University of Miami campus as well as in major cities throughout the United States as scheduled on our website.
- BFA transfer students must follow the same Admission procedures as freshmen and should realize that placement into the program will be determined by the Theatre Arts faculty. All BFA transfers must be approved by the Director of the Conservatory.

The candidates for the degree of Bachelor of Fine Arts must satisfy the College of Arts and Sciences academic requirements.

All BFA students are evaluated by the faculty at the end of each semester.

BFA students in Theatre Arts Department courses must earn a cumulative 2.7 grade point average to remain in the BFA program. A Theatre Arts major must maintain a minimum grade of C- or higher in each required course outside the theatre. Failure to maintain satisfactory academic standing may result in the student being placed on academic probation by the Department and eventually to dismissal from the program.

BFA Theatre Arts courses are progressive in nature and students must successfully complete each course in sequence. Failure to pass the requirements of any particular class in the conservatory may result in the student's dismissal from the program. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Theatre Arts should take at least THA 481 and THA 482 offered by the department.

Production activities and discipline within the Department will be governed by the student handbook, available on the Department website (www.miami.edu/tha (<http://www.miami.edu/tha>)).

Musical Theatre and Acting Majors will be admitted to the Bachelor of Fine Arts degree program only in the fall of each academic year.

Majors

Majors in Theatre Arts

- B.A. in Theatre Arts (p. 134)
- B.F.A. in Theatre Arts - Design/Technical Production (p. 135)
- B.F.A. in Theatre Arts - Musical Theatre (p. 136)
- B.F.A. in Theatre Arts - Acting (p. 134)
- B.F.A. in Theatre Arts - Stage Management (p. 137)
- B.F.A. in Theatre Arts - Theatre Management (p. 138)

Minors

Minor in Theatre Arts

- Theatre Arts (p. 139)

B.A. in Theatre Arts

<http://www.as.miami.edu/theatrearts>

All students seeking a Bachelor of Arts degree in Theatre Arts must take the following courses and receive a grade of C- or higher in all Theatre Arts classes and an overall GPA of 2.0 or above. All classes listed as THA are eligible to be counted towards the BA Theatre Arts

degree. The student needs a minimum of 36 credit hours drawn from the requirements listed below. To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in Theatre Arts should take at least THA 481 and THA 482 offered by the department.

Core Classes		
THA 105	Introduction to Acting	3
or THA 106	Introduction To Acting For The Musical Theatre Stage	
THA 141 & THA 143	Introduction to Scene Design/Stagecraft I (Lecture) and Introduction to Theatre Crafts I (Lab)	3
THA 142 & THA 144	Introduction to Costume Design/Stagecraft II (Lecture) and Introduction to Theatre Crafts II (Lab)	3
THA 381	Play Analysis I	3
THA 481	Theatre History I	3
THA 482	Theatre History II	3
Elective Classes		
Select 9 credit hours at the 200 level or higher level		9
Select 6 credit hours at the 300 level or higher level		6
Select 3 credit hours at the 400 level		3
Total Credit Hours		36

Transfer students have a residency requirement of 18 Theatre Arts credit hours on campus.

The State of Florida recognizes the Bachelor of Arts and Bachelor of Fine Arts Degrees as meeting the Theatre Arts subject area requirements for teaching at the secondary level. In addition to earning the BA or BFA degree in Theatre, students desiring to teach in the field of Theatre Arts should complete the required education credit hours in order to be certified by the state.

B.F.A. in Theatre Arts - Acting

Freshman Year		
First Semester		Credit Hours
THA 111	Acting I-A	2
THA 113	Movement I-A	2
THA 116	Dance I-A	2
THA 120	Freshman Studio I	2
THA 141	Introduction to Scene Design/Stagecraft I (Lecture)	2
THA 143	Introduction to Theatre Crafts I (Lab)	1
THA 198	Voice and Speech I-A	2
THA 294	Singing for Actors II-A	2
ENG 105	English Composition I	3
Term Credit Hours:		18
Second Semester		
THA 112	Acting I-B (Script Analysis)	2
THA 114	Movement I-B	2
THA 117	Dance I-B	2
THA 121	Freshman Studio II	2

THA 142	Introduction to Costume Design/ Stagecraft II (Lecture)	2
THA 144	Introduction to Theatre Crafts II (Lab)	1
THA 199	Voice and Speech I-B	2
ENG 106	English Composition II	3
Term Credit Hours:		16
Sophomore Year		
First Semester		
THA 211	Acting II-A	2
THA 298	Voice and Speech II-A	1
THA 381	Play Analysis I	3
Liberal Arts Elective		3
People and Society COGNATE		3
MTH Math requirement		3
Term Credit Hours:		15
Second Semester		
THA 212	Acting II-B	2
THA 299	Voice and Speech II-B	2
THA 382	Play Analysis II	3
Theatre Requirement		2-3
Theatre Elective		2-3
People and Society COGNATE		3
Term Credit Hours:		14-16
Junior Year		
First Semester		
THA 311	Acting III-A	2
THA 313	Movement II-A	1
THA 398	Voice and Speech III-A	1
THA 481	Theatre History I	3
Theatre Requirement or Theatre Elective		2-3
STEM Cognate		3
People and Society COGNATE		3
Term Credit Hours:		15-16
Second Semester		
THA 312	Acting III-B	2
THA 314	Movement II-B	1
THA 399	Voice and Speech III-B	1
THA 315	Auditioning I	2
THA 482	Theatre History II	3
Theatre Requirement or Theatre Elective		2-3
Liberal Arts Elective		3
STEM Cognate		3
Term Credit Hours:		17-18
Senior Year		
First Semester		
THA 411	Acting IV-A	2
THA 413	Movement III-A	3
THA 416	Auditioning-II	2
THA 461	Play Direction I	3

Theatre Requirement		2-3
Theatre Elective		2-3
STEM Cognate		3
Term Credit Hours:		17-19
Second Semester		
THA 412	Acting IV-B	2
THA 414	Movement III-B	3
THA 420	Senior Studio	3
Theatre Requirement or Elective		2-3
Liberal Arts Elective		3
Liberal Arts Elective		3
Term Credit Hours:		16-17
Total Credit Hours:		128-135

Requirement Courses		
Select four other Requirement Courses:		11-12
THA 294	Singing for Actors II-A	
THA 455	Acting For The Camera	
Another approved singing Class		
THA 356	Improvisational Acting	
THA 364	The Theatre Industry	
Elective Courses		
Select six Elective Courses:		14-18
THA 116	Dance I-A (and/or Another approved dance class) ¹	
Other approved singing class		
THA 251	Intermediate Acting I ¹	
THA 252	Intermediate Acting II ¹	
THA 352	Singing for the Musical Theater ¹	
or THA 431	Musical Theatre Styles I	
THA 432	Musical Theatre Styles II	
THA 455	Acting For The Camera	
THA 462	Play Direction II ¹	
THA 466	Theatrical Unions	
THA 375	Introduction to Playwriting ¹	
THA 365	Principles of Stage Management	
OR Other approved courses		
Total Credit Hours		25-30

¹ indicates recommended

B.F.A. in Theatre Arts - Design/Technical Production

<http://www.as.miami.edu/theatrearts/>

Freshman Year		
First Semester		
ENG 105	English Composition I	3

THA 141 & THA 143	Introduction to Scene Design/ Stagecraft I (Lecture) and Introduction to Theatre Crafts I (Lab)	3
ART 101	Introduction to Drawing I	3
THA 365	Principles of Stage Management	3
BUS 150	Business Analytics	3
Term Credit Hours:		15
Second Semester		
THA 142 & THA 144	Introduction to Costume Design/ Stagecraft II (Lecture) and Introduction to Theatre Crafts II (Lab)	3
ENG 106	English Composition II	3
ART 105	Figure Drawing	3
Liberal Arts/Math		3
THA 364	The Theatre Industry	3
THA 105	Introduction to Acting	3
Term Credit Hours:		18
Sophomore Year		
First Semester		
THA 241	Basic Costume Sewing And Scenic Painting	3
THA 243	Introduction to Drawing for the Theatre	3
THA 381	Play Analysis I	3
Liberal Arts Elective/Math		3
Liberal Arts Elective		3
COS 211	Public Speaking	3
Term Credit Hours:		18
Second Semester		
THA 242	Drafting for the Theatre	3
THA 386	History of Fashion	3
THA 382	Play Analysis II	3
THA 244	Advance Drawing for the Theatre	3
Liberal Arts Elective		3
Term Credit Hours:		15
Junior Year		
First Semester		
THA 343	Costume Design	3
THA 344	Lighting Design	3
THA 385	History of Decor	3
THA 481	Theatre History I	3
Liberal Arts Elective		3
Term Credit Hours:		15
Second Semester		
THA 442	Design Studio II ¹	3
THA 342	Scenic Design	3
THA 482	Theatre History II	3
ART 109	Introduction to Electronic Media	3
Liberal Arts Elective		3

Theatre Elective ²		3
Term Credit Hours:		18
Senior Year		
First Semester		
THA 441	Design Studio I ³	3
THA 401	Internship	3
THA 461	Play Direction I	3
Liberal Arts Elective		3
Theatre Elective ²		3
Theatre Elective ²		3
Term Credit Hours:		18
Second Semester		
THA 442	Design Studio II ²	3
THA 402	Internship	3
Theatre Elective ²		3
Theatre Elective ²		3
Theatre Elective ²		3
Term Credit Hours:		15
Total Credit Hours:		132

¹ THA 442 can be taken twice for a maximum of 6 credit hours.

² Theatre Elective – must be a 200 level or above course.

³ THA 441 can be taken twice for a maximum of 6 credit hours.

ART 107 is highly recommended.

B.F.A. in Theatre Arts - Musical Theatre

<http://www.as.miami.edu/theatrearts/>

Freshman Year		
First Semester		Credit Hours
THA 111	Acting I-A	2
THA 113	Movement I-A	2
THA 116	Dance I-A	2
THA 120	Freshman Studio I	1
MTC 109	Music Theory Skills I	3
THA 141	Introduction to Scene Design/ Stagecraft I (Lecture)	2
THA 143	Introduction to Theatre Crafts I (Lab)	1
THA 198	Voice and Speech I-A	2
THA 196	Singing for the Stage I-A	1
THA 191	Introductory Applied Music Theatre Voice I	1
ENG 105	English Composition I	3
Term Credit Hours:		20
Second Semester		
THA 112	Acting I-B (Script Analysis)	2
THA 114	Movement I-B	2
THA 117	Dance I-B	2
THA 121	Freshman Studio II	1

MTC 110	Music Theory Skills Ii	3
THA 142	Introduction to Costume Design/ Stagecraft II (Lecture)	2
THA 144	Introduction to Theatre Crafts II (Lab)	1
THA 197	Singing for the Stage I-B	1
THA 199	Voice and Speech I-B	2
THA 192	Introductory Applied Music Theatre Voice II	1
ENG 106	English Composition II	3
Term Credit Hours:		20
Sophomore Year		
First Semester		
THA 211	Acting II-A	2
THA 216	Dance II-A	1
THA 296	Singing for the Stage II-A	1
THA 298	Voice and Speech II-A	1
People and Society COGNATE		3
THA 291	Beginning Applied Music Theatre Voice I	1
THA 231	Music Theatre Skills Iii	2
THA 384	Music In The American Theatre: Its Dramaturgy, Music, And Cultural Participation	3
MTH Math requirement		3
Term Credit Hours:		17
Second Semester		
THA 212	Acting II-B	2
THA 217	Dance II-B	2
THA 297	Singing for the Stage II-B	1
THA 299	Voice and Speech II-B	2
THA 292	Beginning Applied Music Theatre Voice II	1
THA 232	Music Theatre Skills Iv	2
People and Society COGNATE		3
STEM COGNATE		3
Term Credit Hours:		16
Junior Year		
First Semester		
THA 311	Acting III-A	2
THA 313	Movement II-A	1
THA 316	Dance Iii-A	2
THA 396	Singing for the Stage III-A	1
THA 398	Voice and Speech III-A	1
THA 481	Theatre History I	3
THA 391	Intermediate Applied Music Theatre Voice I	1
People and Society Cognate		3
STEM Cognate		3
Term Credit Hours:		17
Second Semester		

THA 312	Acting III-B	2
THA 314	Movement II-B	1
THA 317	Dance Iii-B	2
THA 399	Voice and Speech III-B	1
THA 482	Theatre History II	3
THA 316	Dance Iii-A	2
THA 392	Intermediate Applied Music Theatre Voice Ii	1
People and Society Cognate		3
STEM Cognate		3
Term Credit Hours:		18
Senior Year		
First Semester		
THA 431	Musical Theatre Styles I	3
THA 411	Acting IV-A	2
THA 416	Auditioning-II	2
THA 461	Play Direction I ¹	3
THA 413	Movement III-A ¹	3
THA 491	Advanced Applied Music Theatre Voice I	1
THA 455	Acting For The Camera (or Elective) ²	3
THA 316	Dance Iii-A ¹	2
Term Credit Hours:		19
Second Semester		
THA 432	Musical Theatre Styles II	3
THA 412	Acting IV-B	2
THA 414	Movement III-B ¹	3
THA 420	Senior Studio	3
THA 492	Advanced Applied Music Theatre Voice Ii	1
THA 455	Acting For The Camera (or Elective) ²	3
Electives		3
Term Credit Hours:		18
Total Credit Hours:		145

¹ Optional but recommended

² Acting for the Camera is required and must be taken in the Senior Year.

B.F.A. in Theatre Arts - Stage Management

<http://www.as.miami.edu/theatrearts/>

Freshman Year		
First Semester		Credit Hours
THA 365	Principles of Stage Management	3
THA 141	Introduction to Scene Design/ Stagecraft I (Lecture)	2

THA 143	Introduction to Theatre Crafts I (Lab)	1
ENG 105	English Composition I	3
MTC 109	Music Theory Skills I	3
Liberal Arts Elective/Natural Science		3
BUS 150	Business Analytics	3
Term Credit Hours:		18
Second Semester		
THA 105	Introduction to Acting	3
THA 142	Introduction to Costume Design/ Stagecraft II (Lecture)	2
THA 144	Introduction to Theatre Crafts II (Lab)	1
ENG 106	English Composition II	3
Liberal Arts Elective/Math		3
Term Credit Hours:		12
Sophomore Year		
First Semester		
THA 459	Stage Management Practicum	3
THA 243	Introduction to Drawing for the Theatre	3
THA 364	The Theatre Industry	3
THA 381	Play Analysis I	3
Liberal Arts Elective/Math		3
Liberal Arts Elective/P & S COGNATE		3
Term Credit Hours:		18
Second Semester		
THA 463	Advanced Stage Management I	3
THA 242	Drafting for the Theatre	3
THA 382	Play Analysis II	3
COS 112	Interpersonal Communication	3
Liberal Arts Elective/ STEM COGNATE		3
Liberal Arts Elective/ P & S COGNATE		3
Term Credit Hours:		18
Junior Year		
First Semester		
THA 459	Stage Management Practicum	3
THA 241	Basic Costume Sewing And Scenic Painting	3
THA 461	Play Direction I	3
THA 481	Theatre History I	3
THA 344	Lighting Design	3
Theatre Elective		3
Term Credit Hours:		18
Second Semester		
THA 464	Advanced Stage Management II	3
THA 462	Play Direction II	3
THA 482	Theatre History II	3
COS 211	Public Speaking	3
Theatre Elective		3

THA Management Course (THA 369, THA 467 or THA 469 are recommended)		3
Term Credit Hours:		18
Senior Year		
First Semester		
THA 459	Stage Management Practicum	3
THA 466	Theatrical Unions	3
Liberal Arts Elective/ STEM COGNATE		3
Liberal Arts Elective/ P & S COGNATE		3
THA Elective		3
Term Credit Hours:		15
Second Semester		
THA 487	Advanced Projects	3
THA 401	Internship	3
THA 402	Internship	3
Liberal Arts Elective/ STEM COGNATE (Writing Oriented, if needed)		3
Theatre Elective		3
MGT 304	Organizational Behavior	3
Term Credit Hours:		18
Total Credit Hours:		135

NOTE:

1. All Stage Management majors are required to participate in a production capacity in one show per semester for all eight semesters.
2. All Stage Management majors are required to stage manage or assistant stage manage one show in each year in their Sophomore, Junior and Senior year. This management assignment doubles as their production assignment for that particular semester.
3. THA 459 can be repeated for a maximum of 18 credit hours.
4. THA Elective must be a 200 level or above course unless otherwise approved by Stage Management Faculty.

B.F.A. in Theatre Arts - Theatre Management

<http://www.as.miami.edu/theatrearts/>

Freshman Year		
First Semester		Credit Hours
THA 141	Introduction to Scene Design/ Stagecraft I (Lecture)	2
THA 143	Introduction to Theatre Crafts I (Lab)	1
THA 364	The Theatre Industry	3
THA 365	Principles of Stage Management	3
ENG 105	English Composition I	3
ACC 211	Principles of Financial Accounting	3
Term Credit Hours:		15
Second Semester		
THA 142	Introduction to Costume Design/ Stagecraft II (Lecture)	2

THA 144	Introduction to Theatre Crafts II (Lab)	1
ENG 106	English Composition II	3
THA 105	Introduction to Acting	3
Liberal Arts Elective		3
THA 245	Technical Planning for Theatrical Productions	3
Term Credit Hours:		15
Sophomore Year		
First Semester		
THA 366	Theatre Management Practicum I	3
THA 481	Theatre History I	3
THA 369	Producing New Plays And Musicals	3
MKT 301	Marketing Foundations	3
Liberal Arts Elective		3
Term Credit Hours:		15
Second Semester		
THA 482	Theatre History II	3
THA 344	Lighting Design	3
BSL 212	Introduction to Business Law	3
THA 466	Theatrical Unions	3
ECO 211	Economic Principles and Problems	3
Liberal Arts Elective		3
Term Credit Hours:		18
Junior Year		
First Semester		
THA 401	Internship	3
THA 461	Play Direction I	3
THA 467	Producing for Regional Theatre	3
COS 333	Business Communication	3
THA 381	Play Analysis I	3
Liberal Arts Elective		3
Term Credit Hours:		18
Second Semester		
THA 382	Play Analysis II	3
THA 468	Theatrical Fundraising and Marketing	3
MGT 307	Advanced Organizational Behavior	3
Liberal Arts Elective		3
Liberal Arts Elective		3
Elective		3
Term Credit Hours:		18
Senior Year		
First Semester		
THA 403	Internship	3
THA 463	Advanced Stage Management I	3
MGT 302	Human Resource Management	3
COS 112	Interpersonal Communication	3
Liberal Arts		3

Elective		3
Term Credit Hours:		18
Second Semester		
THA 402	Internship	3
COS 211	Public Speaking	3
MGT 304	Organizational Behavior	3
Elective		3
Liberal Arts Elective		3
Liberal Arts Elective		3
Term Credit Hours:		18
Total Credit Hours:		135

NOTE:

1. All BFA Theatre Management majors are required to manage the front of house aspects of at minimum one production at the Jerry Herman Ring Theatre per year in sophomore, junior and senior years.
2. All BFA Theatre Management majors must actively participate in one season subscription renewal campaign at the Jerry Herman Ring Theatre, noted as THA 366 in the above bulletin.

Minor in Theatre Arts

<http://www.as.miami.edu/theatrearts/>

A minor in Theatre Arts consists of 15 credit hours of Theatre Arts classes with a minimum grade of C- in each course and an overall GPA of 2.0 or above.

Urban Studies

<http://www.as.miami.edu/urb>

Introduction

The minor in Urban Studies provides undergraduate students with a flexible concentration in interdisciplinary studies of cities, urbanism, and urbanity. Urban Studies is a long established academic field, especially prominent in major cities in the United States. Course work combines a practical focus on Metropolitan Miami with more general attention to urban theory and globalization from a global perspective.

The minor has a liberal arts orientation and includes perspectives from the social sciences, architecture, and history. It is a useful complement to majors such as Geography, History, Sociology, Anthropology, Literature, International Studies, Economics, Political Science, and others. The minor is also of particular interest to students in Architecture Communication and Business. Courses in the Minor are taught in the College of Arts & Sciences and the School of Architecture. Note that there are slightly different requirements for ARC students.

Minors

Minor in Urban Studies

- Urban Studies (p. 139)

Minor in Urban Studies

- Students must complete **15 credit hours** (five courses);

- In all five courses, students must achieve a **minimum grade of C- with a 2.0 overall GPA**;

Required Courses		
URB 201	Metropolitan Miami	3
URB 301	Cities in Time and Space	3
Optional Courses		
Select three of the following: ¹		9
AMS 350	History And Culture Of South Florida	
ARC 390/590	History of Cities	
ARC 541	Seminar on Town Design	
ARC 546	Studies of Havana	
ARC 554	Architecture of South Florida	
ARC 584	Special Problems	
APY 420	Archaeology, Architecture, and the City	
ENG 395	Special Topics	
FIN 340	Real Estate Principles	
GEG 511	Field Studies in Geography	
GEG 522	Urbanization in the Developing World	
GEG 523	Seminar in Urban Management	
INS 504	Int Rel Topics II	
SOC 304	Dynamics of Poverty in the United States	
SOC 368	Violence in America	
SOC 386	U. S. Immigration	
HIS 369	Introduction to Urban America	
HIS 371	Immigration, Race and Ethnicity in American History	
POL 343	Government In Metropolitan Areas	
Total Credit Hours		15

¹ ARC students may select no more than one ARC course while NonARC students must select at least one ARC course. Note that URB 201 or URB 301 will suffice as prerequisites for any of these courses.

Other courses may be approved upon request; please consult the program Director, Dr. Richard Grant: rgrant@miami.edu

Women's and Gender Studies

<http://www.as.miami.edu/wgs>

Dept. code: WGS

Introduction

The Program in Women's and Gender Studies at the University of Miami seeks to encourage the rigorous investigation of gender as a significant issue in all areas of human experience. It reaches across disciplines to draw on a range of methods, theories, and perspectives that help us to understand how ideas and structures based on gender shape our lives. The program's core objective is to foster the examination, open discussion, and lively debate of gender issues among faculty and students from all fields of study, enriching the undergraduate curriculum and the university's academic mission through greater communication

across disciplines and colleges. Its aim is to broaden, deepen, and transform the learning community at UM and beyond.

Educational Objectives

The undergraduate curriculum in Women's and Gender Studies explores the ways in which ideas about gender and sexuality shape social roles and identities, as well as the ways in which race, ethnicity, class, and nationhood influence the perception and experience of gender and sexuality within particular cultures. The curriculum is informed by recent scholarship that recognizes gender and sexuality as crucial components of human experience in social, cultural, economic, political, religious, and legal contexts. It includes courses that introduce students to feminist theory and scholarship, engaging ethical and political issues of equality and justice. The program encourages students to question their assumptions about the possible meanings of female and male through the comparative study of how different societies and historical periods have viewed manhood, womanhood, and relations between women and men. Courses in Women's and Gender Studies enable students to acquire critical and analytical skills that they can then apply in other aspects of their educational experience at UM and beyond the university in their careers and personal development.

The LGBTQ Studies minor is designed to allow students to explore sexuality and sexual minorities from a variety of perspectives. The course will provide students with an introduction to a broad array of LGBTQ issues including visual and performing arts, literature, languages, history, social science, various theories, public policy and the law, families and other types of intimate relationships, crime, popular culture, and LGBTQ identities and communities. This widely interdisciplinary field addresses work in a broad range of scholarly disciplines including biological and cultural studies, in literature and anthropology, in the health sciences, history, and the visual arts. It ranges from archival research to the elaboration of queer theory, from the analysis of constitutional law to questions of public health, from the study of popular culture to investigations into the development and social construction of sexual identity.

Advance Writing and Communication Credit

To satisfy the College of Arts and Sciences writing requirement in the discipline, students majoring in WGS should take at least one WGS core course that is writing intensive (i.e., WGS301).

Departmental Honors

Women's and Gender Studies majors with a cumulative GPA of at least 3.5 in WGS courses and an overall GPA of at least 3.0 may earn departmental honors by completing WGS 505 instead of the senior research project. Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as thesis adviser and then must complete a thesis proposal of approximately 400 words which must be approved by the thesis adviser and then the program director. The format and length of the thesis will vary according to the nature of the project. Most students writing an honors thesis as part of their WGS major will take WGS 505 twice (for a total of 6 credit hours).

Majors

Major in Women's and Gender Studies

- B.A. in Women's and Gender Studies (p. 141)

Minors

Minors in Women's and Gender Studies

- Women's and Gender Studies (p. 141)
- LGBTQ Studies (p. 141)

B.A. in Women's and Gender Studies

A major in Women's and Gender Studies consists of at least 30 credit hours in Women's and Gender Studies courses (core or combined) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in WGS courses. These credits must include at least 18 at the 300 level or above.

Select six courses at the 300 level or above	18
WGS 201 Introduction to Women's and Gender Studies	3
WGS 301 Feminist Inquiries	3
Select a minimum of two other WGS core courses	6
Total Credit Hours	30

All majors must complete WGS 501 (or WGS 505), which will take the form of an individual research project with a faculty member of the student's choice; the student is responsible for finding an appropriate faculty member who is available to supervise the project and then must seek formal approval from the program director before proceeding with the project. The student must produce a substantial written report or research paper, the format of which will vary according to the nature of the project.

Minor in LGBTQ Studies

Minor

A minor in LGBTQ (Lesbian/Gay/Bisexual/Transgender/Queer) Studies consists of at least 15 credits in LGBTQ Studies courses (core or combined sections) with a grade of C- or better in each course, and a cumulative GPA of at least 2.0 in LGBTQ courses. All minors must complete WGS 202 and WGS 201. The remaining course work must include at least 9 credit hours at the 300 level or above and no more than 6 credit hours in any one department or program or more than 3 credit hours of individual studies without the approval of the program director.

Minor in Women's and Gender Studies

A minor in Women's and Gender Studies consists of at least 15 credit hours in Women's and Gender Studies courses (core or combined sections) with a grade of C- or better in each course, with a cumulative GPA of at least 2.0 in WGS courses.

WGS 201 Introduction to Women's and Gender Studies	3
Select three courses at the 300 level or above, including:	9
WGS 301 Feminist Inquiries	
Select a minimum of one other WGS core course	3
Total Credit Hours	15

Business

<http://www.bus.miami.edu>

Introduction

The School of Business Administration offers courses leading to the degrees of

- Bachelor of Business Administration (BBA), and
- Bachelor of Science in Business Administration (BSBA).

Undergraduate degrees in business are administered by the Vice Dean, Undergraduate Business Education.

Mission

The mission of the University of Miami School of Business Administration is to develop innovative ideas and principled leaders that transform global business and society.

Accreditation

The Bachelor of Science in Business Administration and the Bachelor and Master of Business Administration as well as the undergraduate and graduate Accounting programs are fully accredited by AACSB International – The Association to Advance Collegiate Schools of Business.

Academic Policies

Student Responsibilities

- Students in the School of Business Administration are responsible for planning their own programs and for meeting degree requirements.
- It is the student's responsibility to understand fully, and to comply with, all the provisions of this Bulletin and any written changes to their program of study.
- Students are provided assistance by academic advisors and faculty members.
- Requests for deviation from department, program, or school requirements are granted only by written approval from the Vice Dean or respective department chairperson.
- A student who is in violation of the provisions of this Bulletin may be administratively withdrawn from a class or classes, dismissed as a business student, and/or have an electronic hold placed upon future enrollment.
- A student who is disruptive in class as determined by assigned faculty and the Vice Dean will be administratively dropped from the class.
- Information regarding appeal procedures and special requests relative to academic matters is available in Merrick 104, School of Business Administration, Office of Undergraduate Business Education.

Admission to the School of Business Administration

Admission to the University for undergraduate study as a freshman is sufficient for admission to the School of Business Administration prior to matriculation. However, strong quantitative skills are typically needed for success. Students who do not matriculate in the School of Business Administration in their first semester of study at the University may

request a transfer to the School of Business Administration thereafter only according to the policies and procedures set out below.

Transferring to the School of Business Administration

Transfer applicants from outside the University of Miami must submit a satisfactory academic record in compliance with the standards of the University of Miami Office of Admission. All previous transfer courses must be from an accredited institution. Admitted applicants will be in good academic standing at all institutions previously attended and have a minimum cumulative grade point average (GPA) of 3.0. A minimum grade of "C" (2.0) must be earned in all transfer courses for credit to be awarded. This includes repeated courses under a forgiveness policy at any previous institution.

All transfer students to the School of Business Administration, including those from other Schools and Colleges within the University of Miami, must have completed and received college credit for a calculus course equivalent to either MTH 161 (4 credit hours) or MTH 140/MTH 141 (8 credit hours), and earned a grade of "B" or better in the course(s). The transfer calculus course must be approved by submitting the syllabus and textbook title to the University of Miami Department of Mathematics for evaluation.

All transfer coursework taken outside the University of Miami will be reviewed on a course-by-course basis for equivalency to School of Business Administration course requirements. Any business course that is from a non-AACSB accredited institution will be accepted only as elective credit toward the overall degree requirements. Transfer applicants may appeal to have transfer courses from non-AACSB accredited institutions apply toward completion of business course requirements by submitting the course syllabus and textbook title to the appropriate School of Business Administration department for evaluation.

A transfer student's overall coursework must also meet specific curricular and residency requirements. Pursuant to School of Business Administration policy, transfer students must complete 50 percent of the Business Core at the University of Miami. Note that the University of Miami also requires that 50 percent of all major and 50 percent of all minor courses be completed at the University of Miami. Residency and other requirements are set out below in the section headed Requirements for Graduation.

Academic Progress, Probation, and Dismissal

The School of Business Administration reviews each student's academic record at the end of each semester. When a student's semester or cumulative GPA is less than 2.0, or progress toward degree completion is unsatisfactory, the student will be warned, placed on academic probation, or dismissed in accordance with the University's or School of Business Administration's policies and procedures:

- Warning: semester GPA lower than 2.0 but cumulative GPA above 2.0
- Probation: cumulative GPA lower than 2.0
- Probation with Dismissal: two consecutive semesters with cumulative GPA lower than 2.0, or failure to make progress toward degree completion
- Failure to make progress toward degree completion includes, but is not be limited to:

- failure to complete enough credit hours in the business degree program to graduate after ten regular semesters of enrollment
- failure in any business course the student repeats pursuant to the University's General Repeat Rule.
- failure to pass the required calculus course (MAS 110 for BBA degree, MTH 161 for BSBA degree) by the fourth semester.
- A student on probation is not permitted to enroll in more than four courses (no more than 13 credit hours) and may have an electronic hold placed upon future enrollment until grades for work-in-progress are reviewed.
- A student who is dismissed for failure to satisfactorily complete required business core courses, or for failure to make progress toward the degree, may not automatically be dismissed from the University. Accordingly, such a student may apply to another School or College within the University, and if accepted, may continue as an undergraduate student at the University of Miami. For such a student who is **not** accepted by another School or College, dismissal from the School of Business Administration may have the incidental effect of dismissal from the University of Miami as well.

Freshman Repeat Rule (FRR) in the School of Business Administration

The University's Freshman Repeat Rule (FRR) allows a student who receives a "D" or an "F" in a course taken at the University of Miami within the student's first 30 credit hours or first two regular semesters of college work, to repeat up to two such courses within the following two semesters. After the course has been repeated, only the second grade earned will be used in the computation of the student's cumulative GPA. However, the initial grade remains on the record, although the initial grade does not count as "credit hours attempted" or "credit hours earned" at the University of Miami.

The following policy is applied specifically to business students using the University's Freshman Repeat Rule (FRR):

- The summer sessions are not counted as semesters, either individually or together, in computing the two semesters in which a student may elect to repeat a course in which a "D" or "F" grade is earned. Additionally, a student who initially enters the University in the spring semester may repeat courses in which a "D" or "F" grade is earned and which were taken in the summer sessions following initial enrollment, without having either of the summer sessions count as one of the "two semesters" to which the policy refers.
- Students desiring to take advantage of the FRR policy must complete a FRR Request Form, which is available in the School of Business Administration, Office of Undergraduate Business Education. For additional information about the application of the FRR in the School of Business Administration, consult an academic advisor in the Office of Undergraduate Business Education.

Readmission

The requirements for readmission may be viewed in the General Information (p. 22) section of this Bulletin. The following special

conditions related to readmission are also in effect for the School of Business Administration:

- A student requesting readmission, who was previously dismissed for academic reasons or who had below a 2.0 cumulative GPA, must present adequate evidence that the conditions and/or factors that caused the prior poor academic performance have changed sufficiently and that there is a reasonable expectation of satisfactory performance if the student is permitted to resume study in the School of Business Administration.
- A student dismissed for nonacademic reasons must provide written authorization from the Dean of Students' Office before re-enrollment will be permitted.
- A student who did not earn at least a C grade in MAS 110 or MTH 161 will not be readmitted to the School of Business Administration.
- A student seeking readmission may have conditions placed upon any such readmission. Failure to satisfactorily accomplish the stated conditions may result in dismissal or the student otherwise not being permitted to register for future semesters.

Changes to Academic Requirements

The School of Business Administration reserves the right to change academic requirements including course offerings, grades, and required grade point averages, to ensure that students are receiving the latest knowledge and are maintaining the standards necessary to be professionally competitive. Changes are communicated to students either by written or electronic notice, or personally by their academic advisors.

Requirements for Graduation

Residency and Other Graduation Requirements

In addition to meeting the graduation requirements as set out in Degree Programs, below, a candidate for either the BBA or BSBA degree must complete the last 45 credit hours consecutively and exclusively in degree-seeking status in residence at the School of Business Administration, University of Miami. Credit by examination may not be used to meet the residency requirement. In addition, a minimum of 120 credit hours is required for graduation, not including ENG 103, TAL 191, MTH 099, or any UMI Internship course. The student's last 56 credit hours must be completed at a four-year institution.

Age of Credit Hours

Credit hours more than 12 years old are not recognized for degree purposes.

Grade Point Average (GPA)

Students must earn a cumulative grade point average (GPA) of at least 2.0 in all undergraduate courses *and* a GPA of at least 2.0 in all undergraduate courses taken at the University of Miami in order to meet minimum graduation requirements. Each major and/or minor area of specialization within the School of Business Administration has its own set of requirements regarding minimum GPA, both for individual coursework and for cumulative GPA in major coursework. In some cases, this GPA requirement is higher than 2.0. It is the student's responsibility to be familiar with the grade point requirement for his/her proposed major(s) and any minor(s).

Percentage of Credit Hours at UM Required

At least fifty percent of the total credit hours required in the Business Core and the major and minor areas of specialization must be completed at the University of Miami. Considered separately, at least fifty percent of the credit hours required in the major only and/or minor only must be completed at the University of Miami.

Degree Programs

Bachelor of Business Administration (BBA)

All BBA students must complete areas A, B, C, D, and E as listed below. All courses except area D must be taken for graded credit.

A. University of Miami's General Education Requirements

The School of Business Administration participates in the University's General Education requirements (p. 19). See descriptions in the General University Information section of this Academic Bulletin.

All students must satisfy the University's general education Areas of Proficiency: English composition (ENG 105 and ENG 106), Advanced Writing and Communication Skills (School-based program described below), and Quantitative Skills (MAS 110 or any Department of Mathematics course numbered MTH 108 or higher). In addition, all undergraduate students must satisfy the University's general education distribution requirements in three Areas of Knowledge. Every BBA student must complete a cognate designated Arts & Humanities (A&H) outside the School of Business Administration. As each business major and minor fulfills a cognate requirement in one Area of Knowledge, depending on the Area of Knowledge of the student's major(s) and any minor(s), an additional cognate in either People & Society (P&S), or Science, Technology, Engineering, and Mathematics (STEM) may also be required of the BBA student. Students are required to declare their cognates with the Office of Undergraduate Business Education prior to the start of the junior year.

The School of Business Administration's program establishing Advanced Writing and Communication Skills proficiency for business requires students to successfully complete the following courses beyond the basic English composition courses, ENG 105 and ENG 106: BSL 212 and BUS 300. Any student who does not complete ENG 106 with at least a C- is required to complete ENG 230, Advanced Business Communication, with at least a C- before enrolling in BUS 300.

The University Quantitative Skills proficiency requirement is satisfied within the BBA degree requirements upon successful completion of MAS 110.

B. BBA Business Core

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3

BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100- and 200-level Business Core courses must be completed before taking 300- and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but they should be completed before taking MGT 401 or any upper-level courses in the major area of specialization.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better.

Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

C. Major and Minor Areas of Specialization - Requirements

All students must complete the requirements for at least one major in one of the School of Business Administration areas of specialization. Additionally, students may elect to complete a minor in an area of specialization distinct from the major. The minor may be in an area of specialization offered by the School of Business Administration or by another School or College within the University. Major and minor area of specialization requirements are specified by each academic department. Every specialization (major and minor) requirement must be taken for a grade and completed with a grade of "C-" or higher, and students must earn a minimum cumulative GPA of 2.0 in all major and minor specialization courses attempted, unless a higher grade or GPA is prescribed by the relevant department for a specific major or minor area of specialization. For specific information on minors offered by other Schools and Colleges of the University of Miami, please refer to the applicable College, School, or Department section within this Academic Bulletin.

Business students are permitted to pursue more than one (business or other) major in distinct areas of specialization; however, completion of all required coursework is dependent upon careful sequencing. No course may be counted toward more than one major area of specialization or toward a major and a minor area of specialization, except a course that is specifically listed by number as required for both major areas of specialization and/or a major and a minor area of specialization. The courses of choice required for one major or minor area of specialization may not be utilized to satisfy courses of choice requirements for a

second major or minor area of specialization. Consequently, students should understand that completion of more than one major and/or minor area of specialization may necessitate more than 120 credit hours or more than eight semesters of study for graduation.

Business students may choose to pursue a second major (also referred to as an additional major or a co-major) from the College of Arts and Sciences, the School of Communication, or the School of Education (certain majors only). No courses used to satisfy an additional/co-major may be used to satisfy a business major or minor area of specialization.

Major areas of specialization in the School of Business Administration are available only with completion of the required Business Core. Therefore, students in other Schools and Colleges of the University of Miami seeking to pursue a major area of specialization in the School of Business Administration must successfully transfer to the School of Business Administration and complete all Business Core requirements for either the BBA or BSBA degree, in addition to completing the specific coursework required for the business major area of specialization. A student in another School or College at the University of Miami pursuing a business degree as a "second degree" or "dual degree student" must meet the minimum requirements for transfer to the School of Business Administration, whether or not the student formally transfers to the School of Business Administration.

Students are required to declare their major area of specialization and minor area of specialization with the Office of Undergraduate Business Education prior to the start of their junior year.

Majors and Minors for the BBA Degree

Major Areas of Specialization	Responsible Department
Accounting (P&S)	Accounting
Business Technology (STEM)	Business Technology
Economics (P&S or STEM)	Economics
Entrepreneurship (P&S)	Management
Finance (STEM)	Finance
Health Sector Management and Policy (P&S)	Health Sector Management and Policy
Human Resource Management (P&S)	Management
International Finance and Marketing (STEM)	Finance
Legal Studies (P&S)	Business Law
Management (P&S)	Management
Marketing (P&S)	Marketing
Real Estate (STEM)	Finance

Minor Areas of Specialization	Responsible Department
Accounting (P&S)	Accounting
Business Law (P&S)	Business Law
Business Technology (STEM)	Business Technology
Economics (P&S)	Economics
Entrepreneurship (P&S)	Management
Finance (STEM)	Finance
Health Sector Management and Policy (P&S)	Health Sector Management and Policy

International Business (P&S)	Undergraduate Business Education
Management (P&S)	Management
Marketing (P&S)	Marketing

D. Electives (as needed to meet the minimum 120 credit hours)

All undergraduate courses offered by the University may be used as free electives with the following exceptions:

- ENG 103, TAL 191, MTH 099, and UMI 105-UMI 410, are offered for credit but do not count toward degree requirements. Nonetheless, the grade, if any, earned in any of these courses is included in the student's cumulative GPA, and credit for the course is included in the student's overall credit hours earned. Accordingly, these courses will serve to increase the total number of credit hours required to graduate.
- No more than 8 credit hours in applied music, including band, may be used.
- Any science course taken as an elective and used as preparation for entrance to medical school must be taken for a grade.

E. International Focus Within the Curriculum

At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

Bachelor of Science in Business Administration (BSBA)

The BSBA degree in the School of Business Administration emphasizes quantitative foundation courses. All BSBA majors in the School of Business Administration must complete areas A, B, C, D, and E as listed below. All courses except area D must be taken for graded credit.

A. University of Miami's General Education Requirements

The School of Business Administration participates in the University's General Education requirements (p. 19). See descriptions in the General University Information section of this Academic Bulletin.

All students must satisfy the University's general education Areas of Proficiency: English composition (ENG 105 and ENG 106), Advanced Writing and Communication Skills (School-based program described below), and Quantitative Skills (any Department of Mathematics course numbered MTH 108 or higher). In addition, all undergraduate students must satisfy the University's general education distribution requirements in three Areas of Knowledge. Every BSBA student must complete a cognate designated Arts & Humanities (A&H) outside the School of Business Administration. As each business major and minor fulfills a cognate requirement in one Area of Knowledge, depending on the Area of Knowledge of the student's major(s) and any minor(s), an additional cognate in either People & Society (P&S), or Science, Technology, Engineering, and Mathematics (STEM) may also be required of the BSBA student. Students are required to declare their cognates with the Office of Undergraduate Business Education prior to the start of the junior year.

The School of Business Administration's program establishing Advanced Writing and Communication Skills proficiency for business requires each student to complete the following courses beyond the basic English

composition courses, ENG 105 and ENG 106: BSL 212 and BUS 300. Any student who does not complete ENG 106 with at least a C- is required to complete ENG 230, Advanced Business Communication, with at least a C- before enrolling in BUS 300.

The University Quantitative Skills proficiency requirement is satisfied within the BSBA degree requirements upon successful completion of MTH 161.

B. BSBA Business Core

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be

completed before taking MGT 401 or any upper-level courses in the major area of specialization.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

C. Major and Minor Areas of Specialization - Requirements

All students must complete the requirements for at least one major in one of the School of Business Administration areas of specialization. Additionally, students may elect to complete a minor in an area of specialization distinct from the major. The minor may be in an area of specialization offered by the School of Business Administration or by another School or College within the University. The major and minor area of specialization requirements are specified by each academic department. Every specialization (major/minor) requirement must be taken for a grade and completed with a grade of "C-" or higher, and students must earn a minimum cumulative GPA of 2.0 in all major and minor specialization courses attempted, unless a higher grade or GPA is prescribed by the relevant department for a specific major or minor. For specific information on minors offered by other Schools and Colleges of the University of Miami, please refer to the applicable College, School, or Department section within this Academic Bulletin.

Business students are permitted to pursue more than one (business or other) major in distinct areas of specialization; however, completion of all required coursework is dependent upon careful sequencing. No course may be counted toward more than one major area of specialization or toward a major and a minor area of specialization, except a course that is specifically listed by number as required for both major areas of specialization and/or a major and a minor area of specialization. The courses of choice required for one major or minor area of specialization may not be utilized to satisfy courses of choice requirements for a second major or minor area of specialization. Consequently, students should understand that completion of more than one major and/or minor area of specialization may necessitate more than 120 credit hours or more than eight semesters of study for graduation.

Business students may choose to pursue a second major (also referred to as an additional major or a co-major) from the College of Arts and Sciences, the School of Communication, or the School of Education (certain majors only). No courses used to satisfy an additional/co-major may be used to satisfy a business major or minor.

Major areas of specialization in the School of Business Administration are available only with completion of the required Business Core.

Therefore, students in other Schools and Colleges of the University of Miami seeking to pursue a major area of specialization in the School of Business Administration must successfully transfer to the School of Business Administration and complete all Business Core requirements for either the BBA or BSBA degree, in addition to completing the specific coursework required for the business major area of specialization. A student in another School or College at the University of Miami pursuing a business degree as a "second degree" or "dual degree student" must meet the minimum requirements for transfer to the School of Business Administration, whether or not the student formally transfers to the School of Business Administration.

Students are required to declare their major area of specialization and minor area of specialization with the Office of Undergraduate Business Education prior to the start of their junior year.

Majors and Minors for the BSBA Degree

Major Areas of Specialization	Responsible Department
Accounting (P&S)	Accounting
Business Analytics (STEM)	Management Science
Business Technology (STEM)	Business Technology
Economics (P&S or STEM)	Economics
Entrepreneurship (P&S)	Management
Finance (STEM)	Finance
Health Sector Management and Policy (P&S)	Health Sector Management and Policy
Human Resource Management (P&S)	Management
International Finance and Marketing (STEM)	Finance
Legal Studies (P&S)	Business Law
Management (P&S)	Management
Marketing (P&S)	Marketing
Real Estate (STEM)	Finance

Minor Areas of Specialization	Responsible Department
Accounting (P&S)	Accounting
Business Analytics (STEM)	Management Science
Business Law (P&S)	Business Law
Business Technology (STEM)	Business Technology
Economics (P&S)	Economics
Entrepreneurship (P&S)	Management
Finance (STEM)	Finance
Health Sector Management and Policy (P&S)	Health Sector Management and Policy
International Business (P&S)	Undergraduate Business Education
Management (P&S)	Management
Marketing (P&S)	Marketing

D. Electives (as needed to meet the minimum 120 credit hours)

All undergraduate courses offered by the University may be used as free electives with the following exceptions:

- ENG 103, TAL 191, MTH 099, and UMI 105-UMI 410, are offered for credit but do not count toward degree requirements. Nonetheless, the grade, if any, earned in any of these courses is included in the student's cumulative GPA, and credit for the course is included in the student's overall credit hours earned. Accordingly, these courses will serve to increase the total number of credit hours required to graduate.
- No more than 8 credit hours in applied music, including band, may be used.
- Any science course taken as an elective and used in preparation for entrance to medical school must be taken for a grade.

E. International Focus Within the Curriculum

At least one course with an international focus must be completed within the degree requirements. The appropriateness of the course is determined by the academic advisor.

Honors

General Honors Program, University of Miami

Beginning Academic Year 2015-2016: The Foote Fellows Program (p. 52) serves as the University's General Honors Program.

Prior to Academic Year 2015-2016: Eligible students were invited to join the University's General Honors Program. A total of 24 credit hours of designated (H) honors courses is required to graduate with General University Honors. A minimum 3.5 cumulative GPA must also be maintained in all honors courses. For details, consult the University Honors Program Office (http://www.miami.edu/index.php/honors_program_home) or an academic advisor in the Office of Undergraduate Business Education.

Graduation (Latin) Honors

- Students who qualify based on their cumulative GPA and class rank will graduate with University Honors (p. 25): *cum laude*, *magna cum laude*, or *summa cum laude*.
- For details consult an academic advisor in the Office of Undergraduate Business Education and the University Honors Program Office (http://www.miami.edu/index.php/honors_program_home).

General Business Honors, School of Business Administration

Graduation with General Business Honors requires:

- Completion of all of the requirements of the BSBA degree program; and
- A minimum 3.75 cumulative GPA at graduation.

For details, consult an academic advisor in the Office of Undergraduate Business Education.

Departmental Honors in Business

Graduation with Departmental Business Honors requires:

- A minimum 3.9 GPA in School of Business Administration courses at the end of the junior year; and
- Completion of a 3-credit hour research project during the entire senior year on a topic that is of interest to both the faculty member supervising the research and the student responsible for completing it. The depth of the project must be consistent with the time requirements of a 3-credit hour upper-level class in the supervising department; and
- A minimum 3.9 GPA in all School of Business Administration courses at graduation; and
- Any other requirements, if any, established by the Department granting honors, as set forth in this Academic Bulletin.

Students who major in two distinct areas of specialization may complete their research project in the department of either business major

specialization. Students in interdisciplinary majors (Entrepreneurship, Health Sector Management and Policy, International Finance and Marketing, Real Estate) may complete their research project in any department within the major. Students pursuing a minor may complete their research project in the department of either their major or minor area of specialization.

The 3-credit hour research project class is taken for "credit only" and does not count toward the 120-credit hours required for graduation. Students who begin a research project but do not complete it will be retroactively withdrawn from the research course. Students receive credit for the project only if the work is deemed to be of exceptional quality, consistent with the workload of a 3-credit hour upper-level independent study course, and worthy of a designation that is only open to the top 1% of School of Business Administration undergraduates.

Deadlines and procedures for the projects are available in the Office of Undergraduate Business Education and in department offices.

Business Honor Societies

Students may be nominated for or elected into an honor society based on specific criteria. Contact the listed department for additional information.

- Beta Gamma Sigma (Highest Honors in Business) (Undergraduate Business Education (<http://bus.miami.edu/undergraduate-programs>))
- Beta Alpha Psi (Department of Accounting (<http://bus.miami.edu/faculty-and-research/academic-departments/accounting/contact-us>))

Other Honors

- Omicron Delta Epsilon (Department of Economics (<http://bus.miami.edu/faculty-and-research/academic-departments/economics/contact-us>))

Special Programs for Business Students

The Global Business Studies Program: Latin America

The Global Business Studies Program (<https://www.bus.miami.edu/undergraduate-programs/curriculum/majors/global-business>) is a co-major option for incoming freshman who apply and are selected. The co-major is not available to continuing or transfer students. Students in the program simultaneously pursue a major in a functional area of business and, in the co-major, region-specific global studies coursework.

Curriculum for Co-major in Global Business Studies (21-27 credit hours)

1. Introduction to the region (3 credit hours)
2. Demonstrated proficiency in the language of the region, or where this is not feasible, at least one language course at the 200 level or above (min. 3 credit hours) Students may demonstrate language proficiency by enrolling in business coursework delivered in the language of the region selected.
3. Economics of the region (3 credit hours)
4. Political and/or Regulatory Environment of the region (3 credit hours)
5. History of the region (3 credit hours)
6. Introduction to International Business (Standard course is MGT 349. Recommended alternatives: MGT "Doing Business in [the Region]"

where available, or other approved business course in-country) (total of 3 credit hours)

7. Seminar & Senior Thesis (6 credit hours)

- Culminates in a written research paper examining a significant problem or proposal for a particular country, approached from an interdisciplinary stand point
- Carried out under the supervision of one or more faculty members
- Oral presentation of the student's findings and recommendations also required
- Internship or directed study in-country may allow for field research

8. Minimum of one semester "study abroad" in the studied region is required.

- Students may choose to satisfy the co-major's economics and/or history and/or politics/regulation course requirement in-country.

Minor Area of Specialization in International Business (P&S)

The International Business minor provides business students an interdisciplinary perspective of international business to augment their studies in other areas of business specialization. The International Business minor may not be taken by students pursuing the International Finance and Marketing major or by non-business students. Students must complete all pre-requisite courses before enrolling in required International Business minor courses.

The International Business minor consists of 12 credit hours as follows:

Core Courses		
Select two or three courses (6-9 credit hours) from the following:		6-9
FIN 330	International Finance	
MGT 349	International Business	
MGT 459	International and Multinational Management	
MKT 360	International Marketing	
Breadth Elective Courses		
Select one or two courses (3-6 credit hours) to equal 12 total credit hours for the minor from the following:		3-6
BSL 412	International Business Law	
ECO 351	Economics of Developing Countries	
ECO 371	Latin America And The Global Economy	
ECO 441	International Trade Theory	
ECO 442	International Monetary Economics	
FIN 431	International Financial Management	
MGT 359	Comparative Management	
MKT 469	International Marketing Management	
POL 346	U.S.-Latin American Relations	
POL 347	American Foreign Policy	
POL 348	United States Relations with the Middle East	
POL 380	Comparative Political Analysis	

POL 381	West European Politics (Previous Title: European Politics and Government)
POL 384	Postcommunist Russian Politics
POL 385	Politics and Society in Latin America
POL 387	Politics of the Middle East
POL 392	International Terrorism
POL 544	Chinese Foreign Policy
POL 582	Political Economy of Development
POL 588	Politics in China
POL 591	International Security
POL 593	International Relations of the Middle East
Total Credit Hours	
	12

Options for Non-Business Students

Cognate for Non-Business Students (P&S)

The School of Business Administration offers a general business cognate to non-business students: *Understanding Business*. Completion of the business cognate fulfills the University's General Education requirement of a cognate in the Area of Knowledge labeled People & Society (P&S).

This cognate offers students an overview of the business environment with the goal of promoting awareness and understanding of the real-world issues that affect the global economy in the 21st century. Courses in the cognate deliver the essential business concepts that enable critical consideration of the questions that confront decision makers in the various functional areas of business. Students need to declare the cognate at their home school or college.

The business cognate consists of the following courses:

Required Course ¹		
BUS 200	Introduction To Business	3
Options ²		
Select two courses (6 credit hours) from the following:		6
BUS 201	Money	
BUS 202	Introduction To The Legal Environment Of Business	
BUS 203	Managing Effectively: A Skills Development Approach	
BUS 206	PRINCIPLES OF INTERNATIONAL BUSINESS	
FIN 300	Fundamentals of Finance for Non-Finance Majors	
HIS 225	History of the Modern Business Enterprise	
MGT 251	Nature and Foundations of Entrepreneurship	
MKT 301	Marketing Foundations	
Total Credit Hours		9

¹ Course must be taken by all students pursuing the business cognate before taking any other courses in the cognate.

² To be taken after completing BUS 200. All courses must be taken within the current pre-requisite structure.

Minors for Non-Business Students

Students in other schools and colleges of the University may choose to pursue any of the following minor areas of specialization in the School of Business Administration by officially declaring the minor at their home school or college:

Minor Areas of Specialization

- Business Law (P&S) (p. 157)
- Business Technology (STEM) (p. 160)
- Economics (P&S) (p. 164)
- Entrepreneurship (P&S) (p. 180)
- Finance (STEM) (p. 171)
- Health Sector Management and Policy (P&S) (p. 174)
- Management (P&S) (p. 181)
- Marketing (P&S) (p. 187)

Students interested in completing a minor offered by the School of Business Administration should consult with an academic advisor *in the School or College of their degree/major* to determine if a minor in business is acceptable. Neither advice nor consent from either the Office of Undergraduate Business Education or the relevant School of Business Administration department is necessary for a student to choose or complete a minor offered in the School of Business Administration. Instead the non-business student should simply declare the minor and complete the necessary coursework, according to the details listed in the appropriate department's section of this Academic Bulletin and the following supplemental guidelines, which are applicable to all minors unless otherwise provided by the department offering the minor:

All courses within the minor must be taken for a grade and completed with a grade of "C-" or higher. To be awarded the minor, the student must also achieve a minimum cumulative GPA of 2.0 in all minor courses, unless a higher grade or GPA is prescribed by the department offering the minor, as set out in that department's section of this Academic Bulletin. All courses taken by the student in the department offering the minor will count toward the GPA in the minor.

Foote Fellows

General Overview

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Foote Fellows are exempt from the Cognates Program of General Education requirements. Within the curricular framework of their school or college, Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such

as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Foote Fellows in Business

As the best and brightest of each incoming class, School of Business Administration Foote Fellows are afforded the most stimulating academic and co-curricular experiences the School has to offer. They are invited to take part in Foote-only seminars, exclusive workshops on a variety of academic and career-oriented themes, and networking events with some of the School's most honored speakers and guests.

Many of the School's Foote Fellows also engage, one-on-one, with business faculty in cutting-edge research projects that culminate in a series of collaborative workshops as well as potential publications. Unsurprisingly, then, Foote Fellows frequently represent the School as ambassadors to elite conferences and as members of competitive teams vying for regional, national, and international recognition.

Business Foote Fellows also enjoy dedicated academic and co-curricular/career advisors, as well as opportunities for unique mentorship by prominent alumni.

Accounting

Department Code: ACC

Introduction and Educational Objectives

The objective of the program of studies in accounting is to prepare business students to make a smooth transition from college into a successful and meaningful career in the professional practice of accounting, whether it be in public, private, or governmental accounting. Because of the professional aspects of accounting, equal emphasis is placed upon general education in the arts and humanities and the functioning of business enterprises, as well as the basic underlying concepts of accounting.

Degree Programs

A student pursuing the Accounting major can earn either a Bachelor of Business Administration (BBA) or a Bachelor of Science in Business Administration (BSBA) by meeting the degree requirements set forth in this Academic Bulletin.

Educational Requirements to Sit for the CPA Exam

Most of our students intend to become qualified as Certified Public Accountants (CPA). While the CPA exam is a national exam administered by the American Institute of Certified Public Accountants, its execution

and CPA licensing practices are governed by state law. For example, some states require a certain number of credit hours in particular subjects and have overall accounting and business credit hour requirements. As such, you should check with the state in which you intend to practice to determine what the specific course requirements are for that state. **Note:** Our department is unable to make a determination of your eligibility to sit for the CPA exam. This can only be done by the appropriate state board. The licensure requirements for the State of Florida can be viewed at: <http://www.myfloridalicense.com/dbpr/cpa/licensure.html>

For your convenience, the Florida rules that apply to most individuals are summarized here. Please check the State of Florida website noted above for updates and rules which may apply in particular circumstances.

As of July 1, 2008 the Florida State Board of Accountancy (BOA) separated the requirements to become a Certified Public Accountant (CPA) into two parts:

1. the requirements to be eligible to take the CPA exam and
2. the requirements for licensure to practice as a CPA in Florida.

Requirements to Sit for the CPA Exam

To be eligible to take the CPA exam, you must have completed at least 120 credit hours including 24 credit hours of accounting (auditing, cost and managerial accounting, financial accounting, accounting information systems, and taxation) at the upper division (300-level or above) and 24 credit hours in upper division general business courses with some exceptions in that one microeconomics, one macroeconomics, one statistics, one business law, and one introduction to computers course may be lower division. As part of the general business credit hours, applicants are required to have a total of 6 credit hours of business law courses, which must cover contracts, torts, and the Uniform Commercial Code. Excess upper division accounting courses may be used to meet the general business requirement; however, elementary accounting classes are never acceptable toward the required credit hours nor are courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting. The exam is offered in the following time periods; January – February, April – May, July – August and October – November.

Note: you do not have to have a bachelor's degree in order to sit for the CPA exam.

Requirements for Licensure

In addition to passing all four parts of the CPA exam with at least a 75% within an 18 month rolling period, the BOA requires that you have completed a bachelor's degree plus an additional 30 credit hours for a total of 150 credit hours before you can become licensed as a CPA. One year of work experience under the supervision of a licensed CPA is now also required to become licensed. (This experience may be obtained before or after sitting for the exam; however, all requirements to sit for the exam must be met before the work experience commences.) If you fail to apply for licensure within three years of receiving the licensure package, (sent after you pass all four parts) the CPA grades expire and you have to retake the examination.

The 150 credit hours must include a minimum of 36 credit hours of accounting courses at the 300-level or above and at least 39 credit hours of general business courses at the 300-level or above (with some exceptions). Excess upper division accounting courses may be used to meet the general business requirement. Courses for non-accounting

majors and any MBA courses that are equivalent to elementary accounting are not accepted for this requirement.

Licensed in Another State

If you are licensed in a state other than Florida you can obtain a license in Florida by a process called endorsement. You must provide evidence of meeting all of the requirements in effect at the time of your application. In addition, if you passed the exam more than two years before applying you must provide evidence of meeting continuing professional education requirements.

Accreditation

The Board accepts degrees from schools accredited by the following associations: Middle States Association, New England Association, North Central Association, Northwest Association, Southern Association of Colleges and Schools, Western Association of Schools and Colleges, Association of Independent Schools and Colleges who have been approved by the Florida State Board of Independent Colleges and Universities, and Canadian Schools who have been approved by their provincial educational bodies. If you have graduated from a school or college which is not accredited by the above-mentioned means, then you must use the provisions of F.A.C. 61H1-27.001(5).

Duplicate Courses

- No credit will be given for courses which duplicate another course for which the applicant has received credit. CPA review courses are considered as duplicates.
- For the CPA requirements in other states, you should consult the State Board of Accountancy for your state.

The Fifth Year Option

Many of our graduates satisfy the 30 credit hour requirement for the CPA by continuing on for a fifth year during which time they also can complete the requirements for either the Master of Accounting (MAcc) or Master of Science in Taxation (MST) degree. While the programs are similar in that they offer an opportunity to concentrate in accounting, they differ in degree of specialization and career path orientation. The MAcc program offers two tracks: Assurance (MAcc-Assurance) for students planning to go into public accounting and Corporate Accounting (MAcc-Corporate) for students planning careers as controllers/CFOs or financial analysts. The MST is designed for students interested in careers requiring a high degree of specialized tax knowledge in public accounting, private industry, and government. Students interested in these programs should consult with the Program Director in the Department of Accounting.

Majors

Major in Accounting

- B.B.A. in Accounting (p. 152)
- B.S.B.A. in Accounting (p. 153)

Minors

Minor in Accounting

- Accounting (p. 155)

Special Programs

Special Programs

- Accelerated Accounting Programs (p. 151)
- Five-Year Accounting Program with Senior-Year Internship (p. 154)

Accelerated Accounting Programs

Accelerated Master's Programs

In addition to offering the Master of Accounting (MAcc) and Master of Science in Taxation (MST) in the usual time frame involving one year of full-time study beyond the Bachelor's level, the MAcc-Assurance Track, MAcc-Corporate Track, and MST are offered as accelerated programs. These programs permit high achieving accounting students who have accelerated their education by taking advanced courses in high school, testing out of classes, taking increased class loads, or going to summer school, to start their graduate work while in the senior year.

The accelerated programs are available only to students who are undergraduate students at the University of Miami School of Business Administration. The programs are designed in such a way that students can expect to complete both their Bachelor's and Master's degrees and make significant progress on the CPA exam (if not complete it entirely) within 4½ years. In addition, these programs are extremely price competitive.

Accelerated Program Timeline

1. Internship in summer after junior year
2. Twelve credit hours of work in senior year will count towards the MAcc or MST degree (only students in the accelerated programs are eligible to take these classes during their senior year).
3. In summer after senior year take one graduate course, CPA review course, and the CPA exam.
4. Complete remaining credit hours of graduate work in fall semester after senior year.

Pre-requisites

The following must be completed before students begin their senior year:

- A minimum of 102 credit hours
- All undergraduate degree requirements except for those that can be completed in the senior year
- FIN 303 before or during senior year (for those students who intend to select the MAcc-Corporate track)
- Note: MGT 401 must be completed in the final semester of the undergraduate program.
- The following Accounting major requirements must be taken prior to senior year:

ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
or ACC 301	Cost Accounting	
BSL 401	The Law of Financial Transactions	3
Total Credit Hours		18

Senior Year Curriculum (Senior-Graduate Status)

The program-specific curriculum¹ for the senior year is the same for all tracks (except that students selecting the MAcc-Corporate track must complete FIN 303 in order to take the graduate finance courses required for the track) and consists of the following courses:

ACC 301	Cost Accounting ²	3
or ACC 404	Advanced Taxation	
ACC 406	Accounting Systems	3
ACC 411	Advanced Accounting	3
ACC 506	Internal Auditing	2
or ACC 572	Advanced Financial Analysis	
ACC 522	Advanced Issues in Auditing	3
ACC 530	International Financial Reporting Standards	1
ACC 648	Financial Reporting Implications of Income Taxes.	2
BSL 691	The Public Corporation: Legal Perspectives	2
BUS 602	Critical Thinking and Effective Writing	1
BUS 603	Critical Thinking and Effective Speaking	1
FIN 303	Intermediate Financial Management (or other non-accounting undergraduate course approved by Program Director)	3
MGT 401	Strategic Management (taken in final undergraduate semester)	3
Select one additional non-accounting undergraduate course approved by Program Director		3
Total Credit Hours		30

¹ Program requirements are subject to change. Not all courses are offered every semester or term. Consult the Program Director for the recommended sequence.

² Both ACC 301 and ACC 404 are required courses. One of these two courses is completed in the junior year. The remaining course needs to be completed in the senior year.

Students must select their track (MAcc-Assurance, MAcc-Corporate, or MST) by the spring semester of their senior year before registering for their final fall graduate classes.

Summer after Senior Year

Students must take one graduate accounting course in the summer following their senior year. Accounting courses are offered based on demand and could include ACC 620 (offered every summer) or ACC 649.

Students are also **REQUIRED** to take an approved CPA review course during the summer following their senior year after graduation. Students who do not take a CPA review course must complete an additional six graduate credit hours which will likely delay graduation from December to the following May. Students are expected to pass part, if not all, of the CPA exam during this summer.

Final Fall Semester

In the final fall semester students will complete the remaining 15 or 16 graduate credit hours including the requirements for their track

and electives selected in consultation with the Program Director in the Department of Accounting.

Admission to the Accelerated Master's Programs

Incoming Freshmen

- Prospective students may apply to the accelerated program when they apply for admission to the University of Miami.
- SAT Reading and Math combined scores should meet or exceed 1400; high school unweighted GPA should meet or exceed 3.75.
- Students are required to have a cumulative and an accounting major GPA of 3.3 or higher by their junior at the University of Miami. Students must then maintain a cumulative GPA of 3.3 or higher and an accounting major GPA of 3.3 or higher to remain in the program. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.
- Students will need to have completed a minimum of 102 credit hours by the start of their senior year.

Current University of Miami Undergraduate Accounting Majors

- Students should apply to the accelerated program by September 30 of their junior year.
- Admission to the program will be based on GPA, letters of recommendation, and performance in upper division (300-level or above) accounting courses in progress or completed. It is expected that the students admitted to the program will have GPAs exceeding 3.3, but students with these scores are not guaranteed admission. The decision will depend on the quality and size of the applicant pool and will be made by senior school administrators and faculty.
- After admission, to remain in the program, students must maintain a cumulative GPA of 3.3 or higher and an accounting major GPA of 3.3 or higher. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.
- Students will need to have completed a minimum of 102 credit hours by the start of their senior year including the following:

ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
or ACC 301	Cost Accounting	
BSL 401	The Law of Financial Transactions	3
Total Credit Hours		18

B.B.A. in Accounting

Major Area of Specialization in Accounting (P&S)

Students pursuing the BBA in Accounting must complete the BBA Business Core and the specific coursework for the Accounting major area of specialization as follows:

BBA Business Core Requirements for the Accounting Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Area Specific Coursework for the Accounting Major Area of Specialization (P&S)

The undergraduate curriculum consists of 24 credit hours of Accounting and 3 credit hours of Business Law beyond the Business Core requirements. All courses must be taken within the current pre-requisite structure.

Required Courses		
ACC 301	Cost Accounting	3
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II **	3
ACC 406	Accounting Systems	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
ACC 411	Advanced Accounting	3

BSL 401	The Law of Financial Transactions	3
Total Credit Hours		27

** To continue as an accounting major, a student must have a minimum cumulative GPA of 3.0 in accounting courses before enrolling in ACC 312. All subsequent coursework specific to the accounting major area of specialization, including ACC 312, must be completed with a grade of "C-" or better.

B.S.B.A. in Accounting**Major Area of Specialization in Accounting (P&S)**

Students pursuing the BSBA in Accounting must complete the BSBA Business Core and the specific coursework for the Accounting major area of specialization as follows:

BSBA Business Core Requirements for the Accounting Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3

Quantitative Elective

Select one of the suggested courses approved by the academic advisor:

BTE 324	Object-Oriented Programming	3
BTE 423	Database Management Systems	3
ECO 430	Applied Econometrics	3
ECO 510	Mathematical Economics And Applications	3
MAS 342	Introduction to Optimization and Decision Making	3
MAS 442	Stochastic Models in Operations Research	3
MAS 547	Computer Simulation Systems	3
MGT 445	Supply Chain Modeling and Analysis	3

MGT 446 Supply Chain Strategy	
Total Credit Hours	62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Accounting Major Area of Specialization (P&S)

The undergraduate curriculum consists of 24 credit hours of Accounting and 3 credit hours of Business Law beyond the Business Core requirements. All courses must be taken within the current pre-requisite structure.

Required Courses		
ACC 301	Cost Accounting	3
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II ¹	3
ACC 406	Accounting Systems	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
ACC 411	Advanced Accounting	3
BSL 401	The Law of Financial Transactions	3
Total Credit Hours		27

¹ To continue as an accounting major, a student must have a minimum cumulative GPA of 3.0 in accounting courses before enrolling in ACC 312. All subsequent coursework specific to the accounting major area of specialization, including ACC 312, must be completed with a grade of "C-" or better.

Five-Year Accounting Program with Senior-Year Internship

Five-Year Accounting Program with Senior-Year Internship

The Five-Year Accounting Program with Senior-Year Internship is intended to allow exceptional students to acquire both undergraduate and graduate accounting degrees in five years while gaining valuable experience working at a full-time internship in the spring semester of their senior year. Students will also take a CPA review course and sit for the CPA exam so they can pass some (if not all) parts of the exam before they graduate with their Master of Accounting or Master of Science in Taxation degree.

Program Timeline

1. Junior Year: Complete an application to the program and apply for an internship position to take place in the spring of senior year.

2. Fall semester of Senior Year: Submit the internship agreement and apply to graduate school.
3. Spring semester of Senior Year: Complete Internship followed by 9 credit hours of coursework to complete the undergraduate degree and Accounting major.
4. Summer following Senior Year: Take CPA review and exam.
5. Fall semester following Senior Year: Begin the Master of Accounting (MAcc) or Master of Science in Taxation (MST) Program.

Pre-requisites

The program is designed for University of Miami School of Business Administration undergraduate students who are pursuing the accounting major and who have a cumulative GPA of at least 3.2 at the time of application. Admission to the program is based on several criteria, so a 3.2 GPA does not guarantee admission. Students should discuss the program and their academic plan for entering the program with an academic advisor in the Office of Undergraduate Business Education or with the Program Director in the Department of Accounting. Prior to the spring semester of their senior year, students will need to have completed all undergraduate degree requirements, except for two accounting major courses and MGT 401.

Senior Year Spring Semester Curriculum

In the first half of the spring semester of the senior year, students will work full-time in an accounting internship for which they can receive 3 credit hours toward their undergraduate degree (ACC 550). Additionally, in the spring semester of their senior year, students will take 9 credit hours in three specially-designed short-duration courses that include two accounting major courses and MGT 401.

Summer, Fall, and Spring after Senior Year

In the summer after their senior year, students will have the opportunity to take a CPA review course and sit for the CPA exam. Students will complete their Master of Accounting or Master of Science in Taxation in the fall and spring semesters after senior year and begin working that following summer or fall.

Admission to the Five-Year Accounting Program with Senior-Year Internship

- Students must apply to the program in their junior year and obtain an "approved" internship through the Toppel Career Center.
- The internship must be scheduled to take place during the spring semester of their senior year.
- In the fall semester of their senior year, before registering for their senior-year spring classes, students must submit a copy of their internship agreement to the Program Director or Program Manager in the Department of Accounting.
- By the fall semester of their senior year, students must have applied for admission to the graduate program and submitted their verification deposit to pursue a Master of Accounting or Master of Science in Taxation degree in the fall semester immediately following their senior year.
- The GMAT will be waived for students admitted into the program.

Minor in Accounting

Minor Area of Specialization in Accounting (P&S)

The Department of Accounting allows business students to earn a minor in Accounting. The Accounting minor is not available to non-business students.

In addition to the general requirements for all business minors, business students wishing to minor in Accounting must complete the following 9 credit hours of coursework in accordance with the current pre-requisite structure, which includes completion of ACC 211 and ACC 212:

Required Courses ¹		
ACC 301	Cost Accounting	3
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II ²	3
Total Credit Hours		9

¹ ACC 211 and ACC 212 are pre-requisites for all other Accounting courses.

² To obtain a minor in Accounting a student must have a minimum cumulative GPA of 3.0 in Accounting courses before enrolling in ACC 312. This course has the additional pre-requisite of ACC 311

Business Law

Department Code: BSL

Introduction

The modern manager faces increasing legal implications in daily operations and in formulating business policy. Consequently, effective decision-making requires an appreciation of the social, ethical, economic, and political bases of law as it relates to business. Business law courses provide the student with fundamental insight into legal institutions, the regulatory environment, and the nature of legal discourse, as well as an array of substantive principles of law, including such areas as contracts, sales, business organizations, and domestic and international commercial relationships.

Educational Objectives

The primary goals of the Department of Business Law are to contribute to legal knowledge through conducting scholarly research, to disseminate it by publication in leading journals and law reviews, and to transmit that knowledge to students and the larger UM-wide, business, and professional communities.

These goals both inform and drive the Department's educational objectives, which focus on:

- instilling in students a strong sense of the legal and ethical issues permeating business;
- aiding students' comprehension of the legal and regulatory environment as well as the ethical considerations and substantive laws that shape business practices and policies; and
- developing students' analytical and problem solving ability, as well as their oral and written presentation skills.

Degree Programs

A student pursuing the Legal Studies major can earn either a Bachelor of Business Administration (BBA) or a Bachelor of Science in Business Administration (BSBA) by meeting the degree requirements set forth in this Academic Bulletin.

Majors

Major in Legal Studies

- B.B.A. in Legal Studies (p. 155)
- B.S.B.A. in Legal Studies (p. 156)

Minors

Minor in Business Law

- Business Law (p. 157)

B.B.A. in Legal Studies

Major Area of Specialization in Legal Studies (P&S)

A student may pursue the Bachelor of Business Administration (BBA) with a major area of specialization in Legal Studies. This course of study facilitates the interaction between legal counsel and the business manager, preparing graduates to excel in a wide variety of business pursuits. A flexible, inherently cross-disciplinary course of study, the Legal Studies major can facilitate careers in such fields as risk management, compliance, human resources, marketing, finance and accounting, general business or non-profit management, health care, government, and small business ownership/entrepreneurship. For some, it may also provide an appropriate foundation for the professional study of law.

Students pursuing the BBA in Legal Studies must complete the BBA Business Core and the specific coursework for the Legal Studies major area of specialization as follows:

BBA Business Core Requirements for the Legal Studies Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3

MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Legal Studies Major Area of Specialization (P&S)

Students must complete a minimum of 15 credit hours of Business Law courses beyond the core course, BSL 212 (total of 18 credit hours), as follows:

Core Course		
BSL 212	Introduction to Business Law (Taken as part of the Business Core, it is a pre-requisite for all other BSL courses.)	
Required Course		
BSL 485	Managing the Legal Factor (required in the student's final semester)	3
Elective Courses ¹		
Select four courses (12 credit hours) from the following:		12
BSL 304	Corporate Law	
BSL 305	Legal and Social Aspects of Business Regulation	
BSL 324	Negotiation	
BSL 333	Legal Aspects of Real Estate Transactions	
BSL 401	The Law of Financial Transactions	
BSL 412	International Business Law	
BSL 424	Intellectual Property Law	
BSL 435	Law Of Entrepreneurship	
BSL 460	Health Care Law and Ethics	
BSL 476	The Law Of Risk	
BSL 499	Special Topics (as appropriate)	
Total Credit Hours		15

¹ All courses must be completed within the current pre-requisite structure.

NOTE: All specific coursework for the major in Legal Studies must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization.

B.S.B.A. in Legal Studies

Major Area of Specialization in Legal Studies (P&S)

A student may pursue the Bachelor of Science in Business Administration (BSBA) with a major area of specialization in Legal Studies. This course of study facilitates the interaction between legal counsel and the business manager, preparing graduates to excel in a wide variety of business pursuits. A flexible, inherently cross-disciplinary course of study, the Legal Studies major can facilitate careers in such fields as risk management, compliance, human resources, marketing, finance and accounting, general business or non-profit management, health care, government, and small business ownership/entrepreneurship. For some, it may also provide an appropriate foundation for the professional study of law.

Students pursuing the BSBA in Legal Studies must complete the BSBA Business Core and the specific coursework for the Legal Studies major area of specialization as follows:

BSBA Business Core Requirements for the Legal Studies Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	

MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Legal Studies Major Area of Specialization (P&S)

Students must complete a minimum of 15 credit hours of Business Law courses beyond the core course, BSL 212 (total of 18 credit hours), as follows:

Core Course		
BSL 212	Introduction to Business Law (Taken as part of the Business Core, it is a pre-requisite for all other BSL courses.)	
Required Course		
BSL 485	Managing the Legal Factor (required in the student's final semester)	3
Elective Courses ¹		
Select four courses (12 credit hours) from the following:		12
BSL 304	Corporate Law	
BSL 305	Legal and Social Aspects of Business Regulation	
BSL 324	Negotiation	
BSL 333	Legal Aspects of Real Estate Transactions	
BSL 401	The Law of Financial Transactions	
BSL 412	International Business Law	
BSL 424	Intellectual Property Law	
BSL 435	Law Of Entrepreneurship	
BSL 460	Health Care Law and Ethics	
BSL 476	The Law Of Risk	
BSL 499	Special Topics (as appropriate)	
Total Credit Hours		15

¹ All courses must be completed within the current pre-requisite structure.

NOTE: All specific coursework for the major in Legal Studies must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization.

Minor in Business Law

Minor Area of Specialization in Business Law (P&S)

The Business Law minor is flexible, permitting business and non-business students alike to augment their studies with an appreciation of the

role of law and ethics in global citizenship as well as in the student's chosen corporate, creative, scientific, academic, professional, or personal endeavors. Students in the School of Business Administration, as well as students in the other schools and colleges of the University of Miami, pursue the minor in Business Law by officially declaring the minor at their home school or college and completing the coursework identified below. Interested *non-business* students, before declaring the minor, should consult with an academic advisor *in the School or College of their degree/major* to determine if the minor in Business Law is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Business Law Department is necessary.

The 12 credit hour minor in Business Law consists of the following (all courses must be completed within the current pre-requisite structure):

Required Courses		
BSL 212	Introduction to Business Law (part of the Business Core for Business students)	3
BSL 485	Managing the Legal Factor (required in the student's final semester)	3
Elective Courses		
Select two courses (6 credit hours) from the following:		6
BSL 304	Corporate Law	
BSL 305	Legal and Social Aspects of Business Regulation	
BSL 324	Negotiation	
BSL 333	Legal Aspects of Real Estate Transactions	
BSL 401	The Law of Financial Transactions	
BSL 412	International Business Law	
BSL 424	Intellectual Property Law	
BSL 435	Law Of Entrepreneurship	
BSL 460	Health Care Law and Ethics	
BSL 476	The Law Of Risk	
BSL 499	Special Topics (as appropriate)	
Total Credit Hours		12

NOTE: All specific coursework for the minor in Legal Studies must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the minor area of specialization.

Business Technology

Department Code: BTE

Introduction

The Department of Business Technology serves the University as the focus for employing business technology and information management in the efficient solution of the entire range of business problems.

Today's business and government organizations rely heavily upon information management for efficient administration and management. Collection, storage, and retrieval of data by computers are involved in the wide range of business activities including daily operations, management decision-making, and long-range planning. As the dependence of management on business technology grows, so does the need for

business technology specialists. The courses and degree programs are described below.

Educational Objectives

The Business Technology major is designed to provide the student with the key information technology and management skills needed in today's business environment, plus a firm grounding in the primary business areas in which these skills will be applied. Graduates of the program may qualify for entry-level positions as systems and/or information analysts, information security specialists, consultants, user support analysts, programmers, or other information management positions.

Degree Programs

A student pursuing the Business Technology major can earn either a Bachelor in Business Administration (BBA) or a Bachelor of Science in Business Administration (BSBA) by meeting the degree requirements set forth in this Academic Bulletin.

Majors

Major in Business Technology

- B.B.A. in Business Technology (p. 158)
- B.S.B.A. in Business Technology (p. 159)

Minors

Minor in Business Technology

- Business Technology (p. 160)

B.B.A. in Business Technology

Major Area of Specialization in Business Technology (STEM)

Students pursuing the BBA in Business Technology must complete the BBA Business Core and the specific coursework for the Business Technology major area of specialization as follows:

BBA Business Core Requirements for the Business Technology Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3

MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Business Technology Major Area of Specialization (STEM)

Students must complete a minimum of 18 credit hours of Business Technology courses beyond the Business Core courses.

Required Courses ¹		
BTE 320	Introduction to Programming	3
BTE 400	Web-Mobile-Cloud (pre-requisite BTE 320)	3
BTE 417	Fundamentals Of Tech Project Management, Fundamentals of Tech Project Management	3
BTE 423	Database Management Systems (pre-requisite BTE 320 or BTE 324)	3
Elective Courses ¹		
Select two courses (6 credit hours) from the following:		6
BTE 324	Object-Oriented Programming	
BTE 360	Systems Analysis and Design	
BTE 389	Launching High Technology Ventures	
BTE 401	Computers In An Inter-Networked Society	
BTE 413	Big Data Strategy	
BTE 430	Business Networks (pre-requisite BTE 320)	
BTE 450	Introduction to Health Informatics	
BTE 465	Web Application Development (pre-requisite BTE 320)	
BTE 497	Topics in Computer Information Systems (Legal Informatics)	
BTE 523	Big Data Development (pre-requisite BTE 320 & BTE 423)	
BTE 524	Mobile Apps Development (pre-requisite BTE 324)	
BTE 535	Information Security (pre-requisite BTE 320 & BTE 430)	
BTE 565	Mobile to Cloud: Developing Distributed Applications (pre-requisite BTE 320 or BTE 324)	
BTE 490	Topics in Computer Information Systems	

BTE 491	Topics in Computer Information Systems	
BTE 493	Topics in Computer Information Systems	
BTE 494	Topics in Computer Information Systems	
BTE 495	Topics in Computer Information Systems	
BTE 496	Topics in Computer Information Systems	
BTE 498	Topics in Computer Information Systems	
BTE 499	Directed Study in Computer Information Systems	
BTE 550	Computer Information Systems Internship	
Total Credit Hours		18

¹ All courses must be completed within the current pre-requisite structure.

Note: All specific coursework for the major in Business Technology must be completed with a grade of "C-" or higher. In addition, a minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

B.S.B.A. in Business Technology

Major Area of Specialization in Business Technology (STEM)

Students pursuing the BSBA in Business Technology must complete the BSBA Business Core and the specific coursework for the Business Technology major area of specialization as follows:

BSBA Business Core Requirements for the Business Technology Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3

BTE 324	Object-Oriented Programming (may only be used if Business Technology is an additional major area of specialization)	
BTE 423	Database Management Systems (may only be used if Business Technology is an additional major area of specialization)	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Business Technology Major Area of Specialization (STEM)

Students must complete a minimum of 18 credit hours of courses in Business Technology beyond the core course, BTE 320 (total of 21 credit hours), as follows:

Core Course		
BTE 320	Introduction to Programming (taken as part of the BSBA Business Core)	
Required Courses ¹		
BTE 324	Object-Oriented Programming	3
BTE 400	Web-Mobile-Cloud (pre-requisite BTE 320)	3
BTE 417	Fundamentals Of Tech Project Management, Fundamentals of Tech Project Management	3
BTE 423	Database Management Systems (pre-requisite BTE 320 or BTE 324)	3
Elective Courses ¹		
Select two courses (6 credit hours) from the following:		
BTE 360	Systems Analysis and Design	
BTE 389	Launching High Technology Ventures	
BTE 401	Computers In An Inter-Networked Society	
BTE 413	Big Data Strategy	
BTE 430	Business Networks (pre-requisite BTE 320)	
BTE 450	Introduction to Health Informatics	
BTE 465	Web Application Development (pre-requisite BTE 320)	

BTE 497	Topics in Computer Information Systems (Legal Informatics)	
BTE 523	Big Data Development (pre-requisite BTE 320 & BTE 423)	
BTE 524	Mobile Apps Development (pre-requisite BTE 324)	
BTE 535	Information Security (pre-requisite BTE 320 & BTE 430)	
BTE 565	Mobile to Cloud: Developing Distributed Applications (pre-requisite BTE 320 or BTE 324)	
BTE 490	Topics in Computer Information Systems	
BTE 491	Topics in Computer Information Systems	
BTE 493	Topics in Computer Information Systems	
BTE 494	Topics in Computer Information Systems	
BTE 495	Topics in Computer Information Systems	
BTE 496	Topics in Computer Information Systems	
BTE 498	Topics in Computer Information Systems	
BTE 499	Directed Study in Computer Information Systems	
BTE 550	Computer Information Systems Internship	
Total Credit Hours		18

¹ All courses must be completed within the current pre-requisite structure.

Note: All specific coursework for the major in Business Technology must be completed with a grade of "C-" or better. In addition, a minimum cumulative GPA of 2.5 is required for all courses taken toward the major area of specialization.

Minor in Business Technology

Minor Area of Specialization in Business Technology (STEM)

Students in the School of Business Administration, as well as students in the other schools and colleges of the University of Miami, may pursue the minor in Business Technology by officially declaring the minor at their home school or college and completing the coursework specified below. Interested *non-business* students, before declaring the minor, should consult with an academic advisor *in the School or College of their degree/major* to determine if the minor in Business Technology is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Business Technology Department is necessary.

The 12 credit hour minor in Business Technology consists of the following:

Required Courses		
BTE 320	Introduction to Programming	3
BTE 412	Foundations of Business Enterprise Technologies, Foundations Of Business Enterprise Technologies	3
Elective Courses ¹		
Select two courses (6 credit hours) from the following:		6
BTE 324	Object-Oriented Programming	

BTE 360	Systems Analysis and Design	
BTE 389	Launching High Technology Ventures	
BTE 400	Web-Mobile-Cloud (pre-requisite BTE 320)	
BTE 401	Computers In An Inter-Networked Society	
BTE 413	Big Data Strategy	
BTE 417	Fundamentals Of Tech Project Management, Fundamentals of Tech Project Management	
BTE 423	Database Management Systems (pre-requisite BTE 320 or BTE 324)	
BTE 430	Business Networks (pre-requisite BTE 320)	
BTE 450	Introduction to Health Informatics	
BTE 465	Web Application Development (pre-requisite BTE 320)	
BTE 497	Topics in Computer Information Systems (Legal Informatics)	
BTE 523	Big Data Development (pre-requisite BTE 320 & BTE 423)	
BTE 524	Mobile Apps Development (pre-requisite BTE 324)	
BTE 535	Information Security (pre-requisite BTE 320 & BTE 430)	
BTE 565	Mobile to Cloud: Developing Distributed Applications (pre-requisite BTE 320 or BTE 324)	
BTE 490	Topics in Computer Information Systems	
BTE 491	Topics in Computer Information Systems	
BTE 493	Topics in Computer Information Systems	
BTE 494	Topics in Computer Information Systems	
BTE 495	Topics in Computer Information Systems	
BTE 496	Topics in Computer Information Systems	
BTE 498	Topics in Computer Information Systems	
BTE 499	Directed Study in Computer Information Systems	
BTE 550	Computer Information Systems Internship	
Total Credit Hours		12

¹ All courses must be completed within the current pre-requisite structure.

Note: All specific coursework for the minor in Business Technology must be completed with a grade of "C-" or better. In addition, a minimum cumulative GPA of 2.5 is required for all courses taken in the minor area of specialization.

Economics

Department Code: ECO

Introduction and Educational Objectives

Economics uses the idea of optimizing behavior to provide a unified framework for studying human action. The economics curriculum is designed to give business students an understanding of economic theory and its application to a wide range of problems. The program provides excellent preparation for careers in business, government, and international agencies. It is particularly recommended for students

planning graduate study or professional training in fields such as law, business, international studies, public administration, and economics.

Degree Programs

A student pursuing the Economics major can earn either a Bachelor of Business Administration (BBA) or a Bachelor of Science in Business Administration (BSBA) by meeting the degree requirements set forth in this Academic Bulletin. Additionally, a student pursuing the Economics major will select one of two possible tracks: Political Economy (the People and Society track) or Quantitative Economics (the Science, Technology, Mathematics, and Engineering track).

Members of the Department are prepared to counsel students in the selection of courses and in other matters relating to the preparation for careers. Economics may also be the major area of specialization of a candidate for the Master of Arts (p. 429) and Doctor of Philosophy (p. 420) degrees. Consult the Graduate Academic Programs section of the Bulletin for general requirements of these programs of study.

Majors

Major in Economics

- B.B.A. in Economics (p. 161)
- B.S.B.A. in Economics (p. 162)

Minors

Minors in Economics

- Minor in Economics for Business Students (p. 164)
- Minor in Economics for Non-Business Students (p. 164)

B.B.A. in Economics

Major Area of Specialization in Economics (P&S or STEM)

Students who wish to pursue the Economics major area of specialization will choose between two tracks: Political Economy (P&S) or Quantitative Economics (STEM).

In the Political Economy track, People and Society courses are predominant. In the Quantitative Economics track, Science, Technology, Engineering, and Mathematics courses are predominant.

Students pursuing the BBA in Economics must complete the BBA Business Core and the specific coursework for one of the Economics major tracks as follows:

BBA Business Core Requirements for the Economics Major Area of Specialization (P&S or STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3

ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Choose one of the two tracks listed below: Political Economy (P&S) or Quantitative Economics (STEM).

Specific Coursework for the Economics Major Area of Specialization, Political Economy Track (P&S)

The **Political Economy** track consists of a minimum of 18 credit hours of Economics courses in addition to ECO 211 and ECO 212 (total of 24 credit hours), according to the following:

Core Courses		
ECO 211	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
ECO 212	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
Required Courses		
ECO 300	Microeconomic Theory And Applications ^{1,2}	3
or ECO 302	Micro Economic Theory	
ECO 303	Macro Economic Theory ³	3
Elective Courses		
Select two, three, or four courses (6-12 credit hours) from the following:		6-12
ECO 307	Public Finance and Fiscal Policy	
ECO 311	Labor Economics (I)	
ECO 345	Environmental Economics	

ECO 351	Economics of Developing Countries	
ECO 371	Latin America And The Global Economy	
ECO 379	ECONOMICS OF POVERTY	
ECO 386	Health Economics	
ECO 403	Contemporary Issues in Monetary Economics	
ECO 420	Economic Growth	
ECO 441	International Trade Theory	
ECO 442	International Monetary Economics	
ECO 460	Industrial Organization	
ECO 499	Special Topics (Energy Economics; Global Economics:Trade and Financial Flows; Global Economics, Energy, and Commodity Markets; Managerial Economics; The Economics of China)	
ECO 521	Graduate Macroeconomic Theory	
ECO 532	History of Economic Thought	
Students who have completed ECO 302 may select a maximum of two electives (0-6 credit hours) from the following:		0-6
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 510	Mathematical Economics And Applications ⁴	
ECO 512	Mathematical Economics (II)	
ECO 520	Econometrics	
ECO 533	Advanced Microeconomic Theory	
Additional two options in this category include ECO 499 (Special topics: Forecasting or Special Topics: Information Economics)		
Total Credit Hours		18

¹ All advanced courses in Economics (300-500 levels) require ECO 300 or the more technical version, ECO 302, as a pre-requisite.

² Additional pre-requisite for ECO 300: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher

Additional pre-requisite for ECO 302: MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

³ Additional pre-requisite for ECO 303: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher

⁴ Additional pre-requisite for ECO 510: MAS 202 or MAS 311 or IEN 311 or MTH 224

Note: All specific coursework for the major in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.

Area Specific Coursework for the Economics Major Area of Specialization, Quantitative Economics Track (STEM)

The **Quantitative Economics** track consists of a minimum of 18 credit hours of Economics courses in addition to ECO 211 and ECO 212 (total of 24 credit hours) according to the following:

Core Courses

ECO 211	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
ECO 212	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
Required Courses		
ECO 302	Micro Economic Theory ^{1,2}	3
ECO 303	Macro Economic Theory ²	3
Elective Courses		
Select four courses (12 credit hours) from the following:		12
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 499	Special Topics (Information Economics or Forecasting only)	
ECO 510	Mathematical Economics And Applications ³	
ECO 512	Mathematical Economics (II)	
ECO 520	Econometrics	
ECO 533	Advanced Microeconomic Theory	
Total Credit Hours		18

¹ All advanced courses in Economics (300-500 levels) require ECO 302 as a pre-requisite.

² Additional pre-requisite for ECO 302 and for ECO 303: MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

³ Additional pre-requisite for ECO 510: MAS 202 or MAS 311 or IEN 311 or MTH 224

Note: All specific coursework for the major in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.

B.S.B.A. in Economics

Major Area of Specialization in Economics (P&S or STEM)

Students who wish to pursue the Economics major area of specialization will choose between two tracks: Political Economy (P&S) or Quantitative Economics (STEM).

In the Political Economy track, People and Society courses are predominant. In the Quantitative Economics track, Science, Technology, Engineering, and Mathematics courses are predominant.

Students pursuing the BSBA in Economics must complete the BSBA Business Core and the specific coursework for one of the Economics major tracks as follows:

BSBA Business Core Requirements for the Economics Major Area of Specialization (P&S or STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3

BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics (may only be used if Economics is an additional major area of specialization)	
ECO 510	Mathematical Economics And Applications (may only be used if Economics is an additional major area of specialization)	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Choose one of the two tracks listed below: Political Economy (P&S) or Quantitative Economics (STEM).

Specific Coursework for the Economics Major Area of Specialization, Political Economy Track (P&S)

The **Political Economy** track consists of a minimum of 18 credit hours of Economics courses in addition to ECO 211 and ECO 212 (total of 24 credit hours), according to the following:

Core Courses		
ECO 211	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
ECO 212	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
Required Courses		
ECO 302	Micro Economic Theory (required of BSBA students regardless of track) ^{1,2}	3
ECO 303	Macro Economic Theory ²	3
Elective Courses		
Select two, three, or four courses (6-12 credit hours) from the following:		6-12
ECO 307	Public Finance and Fiscal Policy	
ECO 311	Labor Economics (I)	
ECO 345	Environmental Economics	
ECO 351	Economics of Developing Countries	
ECO 371	Latin America And The Global Economy	
ECO 379	ECONOMICS OF POVERTY	
ECO 386	Health Economics	
ECO 403	Contemporary Issues in Monetary Economics	
ECO 420	Economic Growth	
ECO 441	International Trade Theory	
ECO 442	International Monetary Economics	
ECO 460	Industrial Organization	
ECO 499	Special Topics (Energy Economics; Global Economics:Trade and Financial Flows; Global Economics, Energy, and Commodity Markets; Managerial Economics; The Economics of China)	
ECO 521	Graduate Macroeconomic Theory	
ECO 532	History of Economic Thought	
Only one or two of the elective courses (0-6 credit hours) may be selected from the following:		0-6
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 510	Mathematical Economics And Applications ³	
ECO 512	Mathematical Economics (II)	
ECO 520	Econometrics	
ECO 533	Advanced Microeconomic Theory	
Additional two options in this category include ECO 499 (Special topics: Forecasting or Special Topics: Information Economics)		
Total Credit Hours		18

- ¹ All advanced courses in Economics (300-500 levels) require ECO 302 as a pre-requisite.
- ² Additional pre-requisite for ECO 302 and for ECO 303 : MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher
- ³ Additional pre-requisite for ECO 510 : MAS 311 or IEN 311 or MTH 224

Note: All specific coursework for the major in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.

Specific Coursework for the Economics Major Area of Specialization, Quantitative Economics Track (STEM)

The **Quantitative Economics** track consists of a minimum of 18 credit hours of Economics courses in addition to ECO 211 and ECO 212 (total of 24 credit hours) according to the following:

Core Courses		
ECO 211	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
ECO 212	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
Required Courses		
ECO 302	Micro Economic Theory ^{1, 2}	3
ECO 303	Macro Economic Theory ²	3
Elective Courses		
Select four courses (12 credits) from the following:		12
ECO 430	Applied Econometrics	
ECO 444	Game Theory in Economic Applications.	
ECO 499	Special Topics (Information Economics or Forecasting only)	
ECO 510	Mathematical Economics And Applications ³	
ECO 512	Mathematical Economics (II)	
ECO 520	Econometrics	
ECO 533	Advanced Microeconomic Theory	
Total Credit Hours		18

- ¹ All advanced courses in Economics (300-500 levels) require ECO 302 as a pre-requisite.
- ² Additional pre-requisite for ECO 302 and for ECO 303 : MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher
- ³ Additional pre-requisite for ECO 510 : MAS 311 or IEN 311 or MTH 224

Note: All specific coursework for the major in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization. All courses must be taken within the current pre-requisite structure.

Minor in Economics for Business Students

Minor Area of Specialization in Economics for Business Students (P&S)

Business students may pursue a minor in Economics by taking 12 credit hours of Economics courses in addition to the Business Core courses ECO 211 and ECO 212 (total of 18 credits). All courses must be taken within the current pre-requisite structure.

Core Courses		
ECO 211	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
ECO 212	Economic Principles and Problems (Taken as part of the Business Core, ECO 211 & ECO 212 are pre-requisites for all other Economics courses)	
Required Course - Select one of the following:		3
ECO 300	Microeconomic Theory And Applications ^{1, 2} or ECO 302 Micro Economic Theory	
Elective Courses ³		
Select three courses (9 credit hours) from the Economics departmental offerings - check all pre-requisites		9
Total Credit Hours		12

- ¹ Additional pre-requisite for ECO 300: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher
- ² Additional pre-requisite for ECO 302 : MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher
- ³ All advanced courses in Economics (300 - 500 levels) require ECO 300 or the more technical version, ECO 302.

NOTE: All specific coursework for the minor in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the minor area of specialization.

Minor in Economics for Non-Business Students

Minor Area of Specialization in Economics for Non-Business Students (P&S)

Non-Business students in any school or college may pursue a minor in Economics in the School of Business Administration. Interested students should consult with an academic advisor *in the School or College of their degree/major* to determine if the minor in Economics is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Economics department is necessary for a student to choose or complete a minor in Economics. Instead the non-business student should simply declare the Economics minor and complete the required 15 credit hours of Economics courses, according to the following:

Required Courses		
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ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
ECO 300 or ECO 302	Microeconomic Theory And Applications ^{1, 2} Micro Economic Theory	3
Elective Courses ³		
Select two courses (6 credit hours) from the Economics departmental offerings - check all pre-requisites		6
Total Credit Hours		15

¹ Additional pre-requisite for ECO 300: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent calculus course or higher

² Additional pre-requisite for ECO 302: MTH 141 or MTH 151 or MTH 161 or MTH 171 or an equivalent Calculus 1 course or higher

³ All advanced courses in Economics (300 - 500 levels) require ECO 300 or the more technical version, ECO 302.

NOTE: All specific coursework for the minor in Economics must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the minor area of specialization.

Finance

Department Code: FIN

Introduction

The finance major is designed to prepare business students for a wide variety of careers. Because finance is focused on valuation and decision making, it is applicable to virtually every possible type of organization.

Educational Objectives

The finance discipline is focused on two primary issues. The first is determining value. The second is making the best decisions with respect to value. We study these issues in a variety of contexts and industries.

The three primary areas of finance are financial management, investments, and financial markets and intermediaries. Financial management focuses on how an organization can accomplish its mission. For example, a corporation seeks to create and maintain wealth, and a non-profit organization seeks to improve the world in some way. All organizations want to achieve their mission to the greatest extent possible, and that requires making the best decisions with respect to value. The area of investments studies the purchase and sale of financial securities, such as stocks, bonds, options, and futures from the point of view of an investor. Financial markets are created to facilitate the trading (buying/selling) of financial securities. Financial intermediaries sell claims on themselves to investors, such as stock, life insurance, or a bank deposit. Financial intermediaries then invest the money from such sales in other assets such as loans, real estate, or other financial securities.

Degree Programs

A student pursuing a major in the Finance Department can earn either a Bachelor of Business Administration (BBA) or a Bachelor of Science in

Business Administration (BSBA) by meeting the degree requirements set forth in this Academic Bulletin.

Majors

- Finance
- International Finance and Marketing
- Real Estate

Important Note: To be eligible for any of the three majors offered by the Finance Department, a student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify), and must have a cumulative University of Miami GPA of 2.5 or higher after having completed FIN 302.

Minor

- Finance

Majors

Majors in Finance, International Finance and Marketing, and Real Estate

- B.B.A. in Finance (p. 165)
- B.S.B.A. in Finance (p. 168)
- B.B.A. in International Finance and Marketing (p. 166)
- B.S.B.A. in International Finance and Marketing (p. 169)
- B.B.A. in Real Estate (p. 167)
- B.S.B.A. in Real Estate (p. 170)

Minors

Minor in Finance

- Finance (p. 171)

B.B.A. in Finance

Major Area of Specialization in Finance (STEM)

Students pursuing the BBA in Finance must complete the BBA Business Core and the specific coursework for the Finance major area of specialization as follows:

BBA Business Core Requirements for the Finance Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3

MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Finance Major Area of Specialization (STEM)

Students must complete a minimum of 18 credit hours of Finance courses beyond the core course, FIN 302 (total of 21 credit hours). All courses must be taken within the current pre-requisite structure.

Core Course		
FIN 302	Fundamentals of Finance (taken as part of the Business Core) ¹	
Required Courses		
FIN 303	Intermediate Financial Management (pre-requisite FIN 302) ²	3
FIN 320	Investment and Security Markets (pre-requisite FIN 302) ²	3
Elective Courses		
	Select two courses (6 credit hours) at the 300 - 500 level from the Finance departmental offerings. ³	6
	Select two courses (6 credit hours) at the 400 or 500 level from the Finance departmental offerings.	6
Total Credit Hours		18

¹ **Important Note:** In order to pursue a major in Finance, a student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 after having completed FIN 302.

² Students are strongly encouraged to take FIN 303 and FIN 320 during the same semester.

³ Excluding FIN 300 and FIN 308.

Note: All specific coursework for the major in Finance must be completed with a grade of "C-" or higher (except for the minimum "B"

grade required for FIN 302, as noted). A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization.

B.B.A. in International Finance and Marketing

Major Area of Specialization in International Finance and Marketing (STEM)

Introduction

The International Finance and Marketing major area of specialization is aimed at meeting the needs of business students seeking to pursue a career in international business, finance, and/or marketing.

Educational Objectives

The International Finance and Marketing major area of specialization is designed to prepare students for the most critical areas of decision making in international business. The objective is to provide business students with a comprehensive curriculum based on a strong program of international courses, and to create opportunities for access to multinational companies and the international business community.

Curriculum

Students pursuing the BBA in International Finance and Marketing must complete the BBA Business Core and the specific coursework for the International Finance and Marketing major area of specialization as follows:

BBA Business Core Requirements for the International Finance and Marketing Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the International Finance and Marketing Major Area of Specialization (STEM)

Students must complete a minimum of 21 credit hours of Finance and Marketing courses beyond the core courses FIN 302 and MKT 201/MKT 301 (total of 27 credit hours) as follows:

Core Courses		
FIN 302	Fundamentals of Finance (taken as part of the Business Core) ¹	
MKT 201/301	Foundations of Marketing (taken as part of the Business Core) ¹	
Required Courses ²		
FIN 320	Investment and Security Markets (pre-requisite FIN 302)	3
FIN 330	International Finance (pre-requisite FIN 302)	3
FIN 431	International Financial Management (pre-requisites FIN 302, FIN 330)	3
MKT 302	Marketing Research and Market Analysis (pre-requisites MKT 201/MKT 301, MAS 202)	3
MKT 360	International Marketing (pre-requisite MKT 201/MKT 301)	3
MKT 469	International Marketing Management (pre-requisites MKT 302 (Pre or co-requisite) & MKT 360)	3
Elective Course ²		
	Select one course (3 credit hours) at the 400 level from Finance departmental offerings. ³	3
Total Credit Hours		21

¹ **Important Note:** In order to pursue a major in International Finance and Marketing, a student must earn a grade of "B" (grade point of 3.0) or higher in both FIN 302 and MKT 201/MKT 301 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 after having completed FIN 302.

² All courses must be taken within the current pre-requisite structure.

³ No 300-level Finance course may be used to satisfy this requirement. Additionally, some 400-level Finance courses require FIN 303 as a pre-requisite.

Note: All specific coursework for the major in International Finance and Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302 and MKT 201/MKT 301, as noted). A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization.

B.B.A. in Real Estate

Major Area of Specialization in Real Estate (STEM)

Introduction

The Real Estate major in the School of Business Administration is created for business students seeking to apply the theoretical and analytical concepts of finance to real estate lending, investment, and development.

Educational Objectives

The importance of understanding developments in real estate and mortgage markets and the integration of real estate investments into the national and international economy have led to increased interest in this important field. The real estate major strengthens ties with important segments of the business community and builds on the University's strategic strengths in architecture (New Urbanism) and urban planning.

Students pursuing the major in Real Estate should consider taking the courses necessary to meet the requirements of the Urban Studies Minor (p. 139) (For more information, contact the Director of the Urban Studies Program. (<http://www.as.miami.edu/urbanstudies/contact>))

Curriculum

Students pursuing the BBA in Real Estate must complete the BBA Business Core and the specific coursework for the Real Estate major area of specialization as follows:

BBA Business Core Requirements for the Real Estate Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a “C-” or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Real Estate Major Area of Specialization (STEM)

Students must complete a minimum of 18 credit hours of Real Estate coursework beyond the core course FIN 302 (total of 21 credit hours). All courses must be taken within the current pre-requisite structure.

Core Course		
FIN 302	Fundamentals of Finance (taken as part of the Business Core) ¹	
Required Courses		
FIN 303	Intermediate Financial Management (pre-requisite FIN 302) ²	3
or FIN 320	Investment and Security Markets	
FIN 344	Real Estate Investment Analysis (pre-requisites FIN 302 & FIN 303 or FIN 320)	3
BSL 333	Legal Aspects of Real Estate Transactions (pre-requisite BSL 212)	3
ARC 584	Special Problems (Introduction to Real Estate and Urbanism)	3
Elective Courses		
Select two courses (6 credit hours) from the following:		6
FIN 427	Fixed Income Markets and Analysis (Pre-requisites FIN 302, FIN 320)	
FIN 445	Real Estate Finance (Pre-requisites FIN 302 & FIN 303 or FIN 320)	
FIN 499	Special Topics in Finance (Real Estate Market Analysis) ³	
Optional Courses (Strongly Recommended)		
Introductory ARGUS and Advanced ARGUS, offered as one-credit enhancements in the spring semester		
Total Credit Hours		18

¹ **Important Note:** In order to major in Real Estate, a student must earn a grade of “B” (grade point of 3.0) or higher in FIN 302 (note that a grade of “B-” does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 after having completed FIN 302.

² In choosing to take FIN 303 or FIN 320, students are strongly advised to consider the prerequisites of the 400 level classes they might want to take later.

³ FIN 344 is the pre-requisite or co-requisite for FIN 499: Real Estate Market Analysis.

Note: All specific coursework for the major in Real Estate must be completed with a grade of “C-” or higher (except for the minimum “B”

grade required for FIN 302, as noted). A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization.

B.S.B.A. in Finance

Major Area of Specialization in Finance (STEM)

Students pursuing the BSBA in Finance must complete the BSBA Business Core and the specific coursework for the Finance major area of specialization as follows:

BSBA Business Core Requirements for the Finance Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should

be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Finance Major Area of Specialization (STEM)

Students must complete a minimum of 18 credit hours of Finance courses beyond the core course, FIN 302 (total of 21 credit hours). All courses must be taken within the current pre-requisite structure.

Core Course		
FIN 302	Fundamentals of Finance (taken as part of the Business Core) ¹	
Required Courses		
FIN 303	Intermediate Financial Management (pre-requisite FIN 302) ²	3
FIN 320	Investment and Security Markets (pre-requisite FIN 302) ²	3
Elective Courses		
Select two courses (6 credit hours) at the 300 - 500 level from the Finance departmental offerings. ³		6
Select two courses (6 credit hours) at the 400 or 500 level from the Finance departmental offerings.		6
Total Credit Hours		18

¹ **Important Note:** In order to pursue a major in Finance, a student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 after having completed FIN 302.

² Students are strongly encouraged to take FIN 303 and FIN 320 during the same semester.

³ excluding FIN 300 and FIN 308.

Note: All specific coursework for the major in Finance must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302, as noted). A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization.

B.S.B.A. in International Finance and Marketing

Major Area of Specialization in International Finance and Marketing (STEM)

Introduction

The International Finance and Marketing major area of specialization is aimed at meeting the needs of business students seeking to pursue careers in international business, finance, and/or marketing.

Educational Objectives

The International Finance and Marketing major area of specialization is designed to prepare students for the most critical areas of decision making in international business. The objective is to provide business students with a comprehensive curriculum based on a strong program

of international courses, and create opportunities for access to multinational companies and the international business community.

Curriculum

Students pursuing the BSBA in International Finance and Marketing must complete the BSBA Business Core and the specific coursework for the International Finance and Marketing major area of specialization as follows:

BSBA Business Core Requirements for the International Finance and Marketing Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should

be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the International Finance and Marketing Major Area of Specialization (STEM)

Students must complete a minimum of 21 credit hours of Finance and Marketing courses beyond the core courses FIN 302 and MKT 201/MKT 301 (total of 27 credit hours) as follows:

Core Courses		
FIN 302	Fundamentals of Finance (taken as part of the Business Core) ¹	
MKT 201/301	Foundations of Marketing (Taken as part of the Business Core) ¹	
Required Courses ²		
FIN 320	Investment and Security Markets (pre-requisite FIN 302)	3
FIN 330	International Finance (pre-requisite FIN 302)	3
FIN 431	International Financial Management (pre-requisites FIN 302, FIN 330)	3
MKT 302	Marketing Research and Market Analysis (pre-requisites MKT 201/MKT 301, MAS 202)	3
MKT 360	International Marketing (pre-requisite MKT 201/MKT 301)	3
MKT 469	International Marketing Management (pre-requisites MKT 302 (Pre or co-requisite) & MKT 360)	3
Elective Course ²		
Select one course (3 credit hours) at the 400 level from Finance departmental offerings. ³		3
Total Credit Hours		21

¹ **Important Note:** In order to pursue a major in International Finance and Marketing, a student must earn a grade of "B" (grade point of 3.0) or higher in both FIN 302 **and** MKT 201/MKT 301 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 after having completed FIN 302.

² All courses must be taken within the current pre-requisite structure.

³ No 300-level Finance course may be used to satisfy this requirement. Additionally, some 400-level Finance courses require FIN 303 as a pre-requisite.

Note: All specific coursework for the major in International Finance and Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302 and MKT 201/MKT 301, as noted). A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization.

B.S.B.A. in Real Estate

Major Area of Specialization in Real Estate (STEM)

Introduction

The Real Estate major in the School of Business Administration is created for business students seeking to apply the theoretical and analytical concepts of finance to real estate lending, investment, and development.

Educational Objectives

The importance of understanding developments in real estate and mortgage markets and the integration of real estate investments into the national and international economy have led to increased interest in this important field. The real estate major strengthens ties with important segments of the business community and builds on the University's strategic strengths in architecture (New Urbanism) and urban planning.

Business students pursuing the major in Real Estate should consider taking the courses necessary to meet the requirements of the Urban Studies Minor (p. 139) (For more information, contact the Director of the Urban Studies Program. (<http://www.as.miami.edu/urbanstudies/contact>))

Curriculum

Students pursuing the BSBA in Real Estate must complete the BSBA Business Core and the specific coursework for the Real Estate major area of specialization as follows:

BSBA Business Core Requirements for the Real Estate Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		

Select one of the suggested courses approved by the academic advisor:	3
BTE 324 Object-Oriented Programming	
BTE 423 Database Management Systems	
ECO 430 Applied Econometrics	
ECO 510 Mathematical Economics And Applications	
MAS 342 Introduction to Optimization and Decision Making	
MAS 442 Stochastic Models in Operations Research	
MAS 547 Computer Simulation Systems	
MGT 445 Supply Chain Modeling and Analysis	
MGT 446 Supply Chain Strategy	
Total Credit Hours	62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Real Estate Major Area of Specialization (STEM)

Students must complete a minimum of 18 credit hours of Real Estate coursework beyond the core course FIN 302 (total of 21 credit hours). All courses must be taken within the current pre-requisite structure.

Core Course	
FIN 302	Fundamentals of Finance (taken as part of the Business Core) ¹
Required Courses	
FIN 303	Intermediate Financial Management (pre-requisite FIN 302) ²
or FIN 320	Investment and Security Markets
FIN 344	Real Estate Investment Analysis (pre-requisites FIN 302 & FIN 303 or FIN 320)
BSL 333	Legal Aspects of Real Estate Transactions (pre-requisite BSL 212)
ARC 584	Special Problems (Introduction to Real Estate and Urbanism)
Elective Courses	
Select two courses (6 credit hours) from the following:	
FIN 427	Fixed Income Markets and Analysis (Pre-requisites FIN 302, FIN 320)
FIN 445	Real Estate Finance (Pre-requisites FIN 302 & FIN 303 or FIN 320)
FIN 499	Special Topics in Finance (Real Estate Market Analysis) ³
Optional Courses (Strongly Recommended)	

Introductory ARGUS and Advanced ARGUS, offered as one-credit enhancements in the spring semester	
Total Credit Hours	18

- Important Note:** In order to major in Real Estate, a student must earn a grade of "B" (grade point of 3.0) or higher in FIN 302 (note that a grade of "B-" does not qualify), and must have a minimum cumulative University of Miami GPA of 2.5 after having completed FIN 302.
- In choosing to take FIN 303 or FIN 320, students are strongly advised to consider the prerequisites of the 400 level classes they might want to take later.
- FIN 344 is the pre-requisite or co-requisite for FIN 499: Real Estate Market Analysis.

Note: All specific coursework for the major in Real Estate must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for FIN 302, as noted). A minimum cumulative GPA of 2.0 is required for all courses taken in the major area of specialization.

Minor in Finance

Minor Area of Specialization in Finance (STEM)

Students in the School of Business Administration, as well as students in the other schools and colleges of the University of Miami, may pursue a minor in Finance by officially declaring the minor at their home school or college. Interested *non-business* students, before declaring the minor, should consult with an academic advisor in the School or College of their degree/major to determine if the minor in Finance is acceptable. If so, neither the advice nor the consent of either the Office of Undergraduate Business Education or the Finance Department is necessary.

The 12 credit hour minor in Finance consists of the following (all courses must be taken within the current pre-requisite structure):

Required Courses		
FIN 302	Fundamentals of Finance (part of Business Core for Business students)	3
FIN 303	Intermediate Financial Management ¹	3
FIN 320	Investment and Security Markets ¹	3
Elective Course		
Select one course (3 credit hours) at the 300 or 400 level from Finance departmental offerings. ²		3
Total Credit Hours		12

¹ Pre-requisite is FIN 302

² excluding FIN 300 and FIN 308.

NOTE: All specific coursework for the minor in Finance must be completed with a grade of "C-" or higher. A minimum cumulative GPA of 2.0 is required for all courses taken in the minor area of specialization.

Health Sector Management and Policy

Department Code: HSM

Introduction

The Health Sector Management and Policy major area of specialization is designed for students seeking to pursue careers in health management

and policy in any of a variety of health care organizations and public settings. The curriculum enables students to gain skills and understanding in the specialized language of health care and to comprehend concepts of management, financing, politics, law, and ethics as applied to the health care sector. The major area of specialization is also ideal for students aspiring to earn advanced degrees in health administration, health economics, medical sociology, public health, or law.

Educational Objectives

The purpose of the major area of specialization in Health Sector Management and Policy is to provide the business student with a basic understanding of the management, economic and financial structure, as well as the legal, ethical, and governmental policy aspects of the health care industry. Appropriate candidates for the major area of specialization in Health Sector Management and Policy include School of Business Administration students interested in exploring the health care sector, working in the legal, management, or policy-making aspects of the health care sector or those wanting to have an augmentation to their pre-med, pre-law or pre-MBA, MPA or MPH studies, as well as those who expect to pursue a Ph.D. The minor area of specialization in Health Sector Management and Policy is available to students from all UM schools and colleges. Members of the Department are prepared to counsel students in the selection of courses and in other matters relating to the preparation for careers.

Degree Programs

The major area of specialization in Health Sector Management and Policy is available to students seeking a Bachelor of Business Administration (BBA) or a Bachelor of Science in Business Administration (BSBA), by declaring it and meeting the degree requirements set forth in this Academic Bulletin.

Majors

Major in Health Sector Management and Policy

- B.B.A. in Health Sector Management and Policy (p. 172)
- B.S.B.A. in Health Sector Management and Policy (p. 173)

Minors

Minor in Health Sector Management and Policy

- Health Sector Management and Policy (p. 174)

B.B.A. in Health Sector Management and Policy

Major Area of Specialization in Health Sector Management and Policy (P&S)

Students pursuing the BBA in Health Sector Management and Policy must complete the BBA Business Core and the specific coursework for the Health Sector Management and Policy major area of specialization as follows:

BBA Business Core Requirements for the Health Sector Management and Policy Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3

BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Health Sector Management and Policy Major Area of Specialization (P&S)

All courses must be taken within the current pre-requisite structure.

Students must complete a minimum of 21 credit hours of Health Sector Management and Policy coursework as follows:

Foundational Course		
MGT 270	Introduction To Health Sector Organization And Management ¹	3
Required Courses		
ACC 315	Accounting for Health Care Organizations. (pre-requisites ACC 211 & ACC 212)	3
BSL 460	Health Care Law and Ethics (pre-requisite BSL 212)	3
BTE 450	Introduction to Health Informatics	3
ECO 386	Health Economics ²	3
MKT 388	Health Care Marketing (pre-requisite MKT 201/ MKT 301)	3
Elective Course		

Select one course (3 credit hours) from the following:	3
BPH 206 Introduction To Public Health	
BPH 305 Issues In Health Disparities	
BPH 309 Health & Environ.	
BPH 310 Global Health	
BPH 322 Introduction To Health Policy	
INS 570 Globalization and Health	
INS 571 International Development and Human Welfare	
INS 572 Global Health Policy and Ethics	
INS 573 Disasters, Terrorism and Global Public Health	
POL 536 U.S. Health Care Crisis: Politics and Policies	
SOC 321 Applied Health Policy	
Total Credit Hours	21

¹ MGT 270 is foundational to all other major coursework

² Pre-requisites: ECO 211, ECO 212, ECO 300 or ECO 302, and a calculus course

Note: All specific coursework for the major in Health Sector Management and Policy must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

B.S.B.A. in Health Sector Management and Policy

Major Area of Specialization in Health Sector Management and Policy (P&S)

Students pursuing the BSBA in Health Sector Management and Policy must complete the BSBA Business Core and the specific coursework for the Health Sector Management and Policy major area of specialization as follows:

BSBA Business Core Requirements for the Health Sector Management and Policy Major Area of Specialization (P&S)

ACC 211 Principles of Financial Accounting	3
ACC 212 Managerial Accounting	3
BSL 212 Introduction to Business Law	3
BTE 210 Fundamentals Of Business Technology & Innovation	3
BTE 320 Introduction to Programming	3
BUS 101 First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150 Business Analytics	3
BUS 300 Critical Thinking & Persuasion for Business	3
ECO 211 Economic Principles and Problems	3
ECO 212 Economic Principles and Problems	3
FIN 302 Fundamentals of Finance	3
MAS 311 Applied Probability and Statistics	3
MAS 312 Statistical Methods and Quality Control	3
MTH 161 Calculus I	4
MTH 162 Calculus II	4
MGT 303 Operations Management	3

MGT 304 Organizational Behavior	3
MGT 401 Strategic Management (must be taken in final semester)	3
MKT 201 Foundations of Marketing	3
Quantitative Elective	
Select one of the suggested courses approved by the academic advisor:	3
BTE 324 Object-Oriented Programming	
BTE 423 Database Management Systems	
ECO 430 Applied Econometrics	
ECO 510 Mathematical Economics And Applications	
MAS 342 Introduction to Optimization and Decision Making	
MAS 442 Stochastic Models in Operations Research	
MAS 547 Computer Simulation Systems	
MGT 445 Supply Chain Modeling and Analysis	
MGT 446 Supply Chain Strategy	
Total Credit Hours	62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Health Sector Management and Policy Major Area of Specialization (P&S)

All courses must be taken within the current pre-requisite structure.

Students must complete a minimum of 21 credit hours of Health Sector Management and Policy coursework as follows:

Foundational Course	
MGT 270 Introduction To Health Sector Organization And Management ¹	3
Required Courses	
ACC 315 Accounting for Health Care Organizations. (pre-requisites ACC 211 & ACC 212)	3
BSL 460 Health Care Law and Ethics (pre-requisite BSL 212)	3
BTE 450 Introduction to Health Informatics	3
ECO 386 Health Economics ²	3
MKT 388 Health Care Marketing (pre-requisite MKT 201/ MKT 301)	3
Elective Course	
Select one course (3 credit hours) from the following:	3
BPH 206 Introduction To Public Health	
BPH 305 Issues In Health Disparities	
BPH 309 Health & Environ.	
BPH 310 Global Health	

BPH 322	Introduction To Health Policy	
INS 570	Globalization and Health	
INS 571	International Development and Human Welfare	
INS 572	Global Health Policy and Ethics	
INS 573	Disasters, Terrorism and Global Public Health	
POL 536	U.S. Health Care Crisis: Politics and Policies	
SOC 321	Applied Health Policy	
Total Credit Hours		21

¹ MGT 270 is foundational to all other major coursework.

² Pre-requisites: ECO 211, ECO 212, ECO 300 or ECO 302, and a calculus course

Note: All specific coursework for the major in Health Sector Management and Policy must be completed with a grade of “C” or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

Minor in Health Sector Management and Policy

Minor Area of Specialization in Health Sector Management and Policy (P&S)

The purpose of the minor in Health Sector Management and Policy is to provide the student with a basic understanding of the organizational, management, economic, and financial structure, as well as the legal, ethical, and governmental policy of the health care industry. Appropriate candidates for this minor will include students interested in: exploring the health care sector; working in the legal, management, or policy making aspects of the health care sector; or those wanting to have an augmentation to their health sciences, nursing, pre-med, pre-law or pre-MBA/MPA studies.

Students in the School of Business Administration, as well as students in the other schools and colleges of the University of Miami, may pursue the minor in Health Sector Management and Policy by officially declaring the minor at their home school or college and completing the coursework specified below. Interested *non-business* students, before declaring the minor, should consult with an academic advisor *in the School or College of their degree/major* to determine if the minor in Health Sector Management and Policy is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Department of Health Sector Management and Policy is necessary.

The 12 credit hour minor in Health Sector Management and Policy consists of four courses— three required and one elective as indicated below (all courses must be taken within the current pre-requisite structure):

Foundational Course		
MGT 270	Introduction To Health Sector Organization And Management ¹	3
Required Courses		
BSL 460	Health Care Law and Ethics (pre-requisite BSL 212)	3
ECO 386	Health Economics ²	3
Elective Course		

Select one course (3 credit hours) from the following:		3
INS 570	Globalization and Health	
INS 571	International Development and Human Welfare	
INS 572	Global Health Policy and Ethics	
INS 573	Disasters, Terrorism and Global Public Health	
SOC 321	Applied Health Policy	
Total Credit Hours		12

¹ MGT 270 is foundational to all other minor coursework.

² Pre-requisites: ECO 211, ECO 212, ECO 300 or ECO 302, and a calculus course

Note: All specific coursework for the minor in Health Sector Management and Policy must be completed with a grade of “C” or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the minor area of specialization.

Management

Department Code: MGT

Introduction

The Department of Management in the School of Business Administration is heterogeneous with respect to both research and teaching areas. Faculty are specialized in and teach courses that span a number of fields including entrepreneurship, human resources, international management, leadership, operations management, organizational behavior, strategic management, supply chain management, and teams. Given both the multinational context and diversity present in twenty first century organizations, coursework in the Department of Management is focused on preparing business students to be productive and effective contributors to the various communities they are embedded within or impact. Students who select any of the Management major areas of specialization pursue a variety of careers after graduation including starting businesses, running family businesses, accepting management positions in domestic or international organizations, attending law school, or pursuing other advanced graduate degrees.

Educational Objectives

- The development of critical thinking skills to evaluate decision choices, challenges, and issues confronting managers today;
- The improvement of interpersonal skills and learning to work effectively in teams;
- An understanding of the tools, methods, and procedures used to successfully lead people and organizations; and
- An awareness of the ethical issues and responsibilities inherent in being a member of the global business community.

Degree Programs

A student pursuing any major from the Department of Management may earn either a Bachelor of Business Administration (BBA) or a Bachelor of Science in Business Administration (BSBA) by meeting the degree requirements set forth in this Academic Bulletin.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All

area specific coursework for any major and/or minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major and/or minor area of specialization.

Majors

Majors in Management, Entrepreneurship, and Human Resource Management

- B.B.A. in Management (p. 176)
- B.S.B.A. in Management (p. 179)
- B.B.A. in Entrepreneurship (p. 175)
- B.S.B.A. in Entrepreneurship (p. 177)
- B.B.A. in Human Resource Management (p. 176)
- B.S.B.A. in Human Resource Management (p. 178)

Minors

Minors in Management and Entrepreneurship

- Management for Business Students (p. 181)
- Management for Non-Business Students (p. 181)
- Entrepreneurship for Business Students - High Growth/Technology Ventures (p. 180)
- Entrepreneurship for Business Students - Health Care Ventures (p. 180)
- Entrepreneurship for Non-Business Students (p. 180)

B.B.A. in Entrepreneurship

Major Area of Specialization in Entrepreneurship (P&S)

The Entrepreneurship major prepares business students to engage in the process of value creation, regardless of organizational context. Students will develop a holistic view of organizational creation and change that is applicable to either starting a new venture (for profit or nonprofit), or working effectively within an existing organization.

Students pursuing the BBA in Entrepreneurship must complete the BBA Business Core and the specific coursework for the Entrepreneurship major area of specialization as follows:

BBA Business Core Requirements for the Entrepreneurship Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3

MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Entrepreneurship Major Area of Specialization (P&S)

The 18 credit hour major area of specialization in Entrepreneurship consists of the following:

Required Courses ¹		
MGT 353	Introduction to Entrepreneurship	3
MGT 454	Business Planning for Entrepreneurs (pre-requisite MGT 353)	3
MGT 455	Entrepreneurial Consulting (pre-requisites MGT 353, MGT 454)	3
FIN 308	Intermediate Financial Management for Entrepreneurs (pre-requisite FIN 302)	3
Elective Courses ¹		
Select two courses (6 credit hours) from the following:		6
BSL 324	Negotiation	
BSL 424	Intellectual Property Law (recommended)	
BSL 435	Law Of Entrepreneurship	
FIN 320	Investment and Security Markets	
FIN 410	Financial Institutions and Markets	
FIN 425	Business and Security Valuation	
MGT 251	Nature and Foundations of Entrepreneurship	
MGT 349	International Business	
MGT 357	Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO	
MGT 360	Effective Leadership (pre-requisite MGT 304)	
MKT 302	Marketing Research and Market Analysis	
MKT 310	Consumer Behavior and Marketing Strategy	
MKT 320	Retailing	
MKT 340	Professional Selling	
MKT 380	New Product Development	

MKT 385	Marketing for Entrepreneurs	
MKT 387	Digital Marketing	
MKT 388	Health Care Marketing	
MKT 389	Understanding Media Metrics In The Digital World	
Total Credit Hours		18

¹ All courses must be taken within the current pre-requisite structure.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All specific coursework for the major in Entrepreneurship must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

B.B.A. in Human Resource Management

Major Area of Specialization in Human Resource Management (P&S)

The Human Resource Management major area of specialization is designed for business students who intend to pursue a career in human resources or personnel.

Students pursuing the BBA in Human Resource Management must complete the BBA Business Core and the specific coursework for the Human Resource Management major area of specialization as follows:

BBA Business Core Requirements for the Human Resource Management Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and

400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Human Resource Management Major Area of Specialization (P&S)

The 15 credit hour major area of specialization in Human Resource Management consists of the following:

Required Courses ¹		
MGT 302	Human Resource Management	3
MGT 307	Advanced Organizational Behavior (pre-requisite MGT 304)	3
Elective Courses ¹		
Select three courses (9 credit hours) from the following:		9
MGT 308	Training and Development	
MGT 360	Effective Leadership (pre-requisite MGT 304)	
MGT 422	Leading Teams	
MGT 428	Compensation and Benefits Design	
MGT 480	Organizational Development and Change	
Total Credit Hours		15

¹ All courses must be taken within the current pre-requisite structure.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All specific coursework for the major in Human Resource Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

B.B.A. in Management

Major Area of Specialization in Management (P&S)

Business students who pursue the Management major will be prepared for future careers in all areas of management, including small business and corporate levels. The Management major also provides a solid preparation for the pursuit of other graduate degree programs, particularly in law and business.

Students pursuing the BBA in Management must complete the BBA Business Core and the specific coursework for the Management major area of specialization as follows:

BBA Business Core Requirements for the Management Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3

BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Management Major Area of Specialization (P&S)

Students must complete a minimum of 15 credit hours in Management departmental courses beyond the core courses MGT 303 and MGT 304 (total of 21 credit hours). All courses must be taken within the current pre-requisite structure.

Core Courses		
MGT 303	Operations Management (taken as part of the Business Core)	
MGT 304	Organizational Behavior (taken as part of the Business Core)	
Required Courses		
MGT 302	Human Resource Management	3
MGT 307	Advanced Organizational Behavior (pre-requisite MGT 304)	3
Elective Courses		
Select 3 courses (9 credit hours) from the Department of Management ¹		9
Total Credit Hours		15

¹ Excluding any 100-level Management courses and MGT 401.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All specific coursework for the major in Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

B.S.B.A. in Entrepreneurship

Major Area of Specialization in Entrepreneurship (P&S)

The Entrepreneurship major prepares business students to engage in the process of value creation, regardless of organizational context. Students pursuing this major will develop a holistic view of organizational creation and change that is applicable to either starting a new venture (for profit or nonprofit) or working effectively within an existing organization.

Students pursuing the BSBA in Entrepreneurship must complete the BSBA Business Core and the specific coursework for the Entrepreneurship major area of specialization as follows:

BSBA Business Core Requirements for the Entrepreneurship Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	

MGT 446 Supply Chain Strategy	
Total Credit Hours	62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Entrepreneurship Major Area of Specialization (P&S)

The 18 credit hour major area of specialization in Entrepreneurship consists of the following:

Required Courses ¹		
MGT 353	Introduction to Entrepreneurship	3
MGT 454	Business Planning for Entrepreneurs (pre-requisite MGT 353)	3
MGT 455	Entrepreneurial Consulting (pre-requisites MGT 353, MGT 454)	3
FIN 308	Intermediate Financial Management for Entrepreneurs (pre-requisite FIN 302)	3
Elective Courses ¹		
Select two courses (6 credit hours) from the following:		6
BSL 324	Negotiation	
BSL 424	Intellectual Property Law (recommended)	
BSL 435	Law Of Entrepreneurship	
FIN 320	Investment and Security Markets	
FIN 410	Financial Institutions and Markets	
FIN 425	Business and Security Valuation	
MGT 251	Nature and Foundations of Entrepreneurship	
MGT 349	International Business	
MGT 357	Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO	
MGT 360	Effective Leadership (pre-requisite MGT 304)	
MKT 302	Marketing Research and Market Analysis	
MKT 310	Consumer Behavior and Marketing Strategy	
MKT 320	Retailing	
MKT 340	Professional Selling	
MKT 380	New Product Development	
MKT 385	Marketing for Entrepreneurs	
MKT 387	Digital Marketing	
MKT 388	Health Care Marketing	
MKT 389	Understanding Media Metrics In The Digital World	
Total Credit Hours		18

¹ All courses must be taken within the current pre-requisite structure.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All specific coursework for the major in Entrepreneurship must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

B.S.B.A. in Human Resource Management

Major Area of Specialization in Human Resource Management (P&S)

The Human Resource Management major area of specialization is designed for business students intending to pursue careers in human resources or personnel management.

Students pursuing the BSBA in Human Resource Management must complete the BSBA Business Core and the specific coursework for the Human Resource Management major area of specialization as follows:

BSBA Business Core Requirements for the Human Resource Management Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	

MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Human Resource Management Major Area of Specialization (P&S)

The 15 credit hour major area of specialization in Human Resource Management consists of the following:

Required Courses ¹		
MGT 302	Human Resource Management	3
MGT 307	Advanced Organizational Behavior (pre-requisite MGT 304)	3
Elective Courses ¹		
Select three courses (9 credit hours) from the following:		9
MGT 308	Training and Development	
MGT 360	Effective Leadership (pre-requisite MGT 304)	
MGT 422	Leading Teams	
MGT 428	Compensation and Benefits Design	
MGT 480	Organizational Development and Change	
Total Credit Hours		15

¹ All courses must be taken within the current pre-requisite structure.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All specific coursework for the major in Human Resource Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

B.S.B.A. in Management

Major Area of Specialization in Management (P&S)

Business students who pursue the Management major will be prepared for future careers in all areas of management, including small business and corporate levels. The Management major also provides solid preparation for pursuit of graduate degree programs, particularly in law and business.

Students pursuing the BSBA in Management must complete the BSBA Business Core and the specific coursework for the Management major area of specialization as follows:

BSBA Business Core Requirements for the Management Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3

BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis (may not double count as major elective in Management unless additional major)	
MGT 446	Supply Chain Strategy (may not double count as major elective in Management unless additional major)	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Management Major Area of Specialization (P&S)

Students must complete a minimum of 15 credit hours in Management departmental courses beyond the core courses MGT 303 and MGT 304

(total of 21 credit hours). All courses must be taken within the current pre-requisite structure.

Core Courses		
MGT 303	Operations Management (taken as part of the Business Core)	
MGT 304	Organizational Behavior (taken as part of the Business Core)	
Required Courses		
MGT 302	Human Resource Management	3
MGT 307	Advanced Organizational Behavior (pre-requisite MGT 304)	3
Elective Courses		
Select 3 courses (9 credit hours) from the Department of Management ¹		9
Total Credit Hours		15

¹ excluding any 100-level Management courses and MGT 401.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All specific coursework for the major in Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

Minor in Entrepreneurship for Business Students - Health Care Ventures Track

Minor Area of Specialization in Entrepreneurship - Health Care Ventures Track (P&S)

This minor is one of two specialized tracks offered to business students seeking to pursue a minor in Entrepreneurship. Eligible business students must have a declared business major other than Entrepreneurship.

The 12 credit hour minor in Entrepreneurship - Health Care Ventures Track consists of the following:

Required Courses ¹		
MGT 353	Introduction to Entrepreneurship	3
MGT 454	Business Planning for Entrepreneurs (pre-requisite MGT 353)	3
MGT 270	Introduction To Health Sector Organization And Management	3
BSL 460	Health Care Law and Ethics (pre-requisite BSL 212)	3
Total Credit Hours		12

¹ All courses must be taken within the current pre-requisite structure.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management.

All specific coursework taken for any minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the minor area of specialization.

Minor in Entrepreneurship for Business Students - High Growth/Technology Ventures Track

Minor Area of Specialization in Entrepreneurship - High Growth/Technology Ventures Track (P&S)

This minor is one of two specialized tracks offered to business students who wish to pursue a minor in Entrepreneurship. Eligible business students must have a declared business major other than Entrepreneurship.

The 12 credit hour minor in Entrepreneurship - High Growth/Technology Ventures Track consists of the following:

Required Courses ¹		
MGT 353	Introduction to Entrepreneurship	3
MGT 454	Business Planning for Entrepreneurs (pre-requisite MGT 353)	3
FIN 320	Investment and Security Markets (check all pre-requisites)	3
or FIN 425	Business and Security Valuation	
Elective Course ¹		
Select one course (3 credit hours) from the following:		3
BTE 389	Launching High Technology Ventures	
MGT 357	Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO	
Total Credit Hours		12

¹ All courses must be taken within the current pre-requisite structure.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management.

All specific coursework taken for any minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the minor area of specialization.

Minor in Entrepreneurship for Non-Business Students

Minor Area of Specialization in Entrepreneurship for Non-Business Students (P&S)

This minor is for non-business students who seek to learn about developing business plans or how to initiate and manage small business enterprises. Interested students should consult with an academic advisor *in the School or College of their degree/major* to determine if a minor in Entrepreneurship is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Department of Management is necessary. Instead the non-business student should simply declare the minor and complete the required six courses, or 18 credit hours, as follows:

Required Courses ¹		
ACC 211	Principles of Financial Accounting	3
ECO 211	Economic Principles and Problems	3

FIN 300	Fundamentals of Finance for Non-Finance Majors	3
MGT 353	Introduction to Entrepreneurship	3
MKT 301	Marketing Foundations	3
Elective Course ¹		
Select one course (3 credit hours) from the following:		3
BSL 435	Law Of Entrepreneurship (pre-requisite BSL 212)	
MGT 251	Nature and Foundations of Entrepreneurship	
MGT 357	Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO	
MGT 454	Business Planning for Entrepreneurs (pre-requisite MGT 353)	
MGT 498	Selected Topics (related to entrepreneurship)	
MKT 385	Marketing for Entrepreneurs (pre-requisite MKT 301)	
Total Credit Hours		18

¹ All courses must be taken within the current pre-requisite structure.

Note: No one course may be applied toward more than one minor area of specialization in the Department of Management. All coursework taken for any minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the minor area of specialization.

Minor in Management for Business Students

Minor Area of Specialization in Management for Business Students (P&S)

A minor in Management for business students consists of 12 credit hours in Management courses beyond the required courses in the BBA or BSBA Business Core. All courses must be taken within the current pre-requisite structure.

Core Courses		
MGT 303	Operations Management (taken as part of the Business Core)	
MGT 304	Organizational Behavior (taken as part of the Business Core)	
Elective Courses		
Select four courses (12 credit hours) from the Department of Management ¹		12
Total Credit Hours		12

¹ excluding any 100-level Management courses and MGT 401.

Note: No one course may be applied toward more than one major and/or minor area of specialization in the Department of Management. All specific coursework for any minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the minor area of specialization.

Minor in Management for Non-Business Students

Minor Area of Specialization in Management for Non-Business Students (P&S)

Non-Business students in any school or college may pursue a minor in Management in the School of Business Administration. Interested students should consult with an academic advisor *in the School or College of their degree/major* to determine if a minor in Management is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Management Department is necessary for a student to choose or complete a minor in Management. Instead the non-business student should simply declare the Management minor and complete the required 12 credit hours of Management courses, as follows:

Required Courses ¹		
MGT 302	Human Resource Management	3
MGT 303	Operations Management ²	3
MGT 304	Organizational Behavior	3
Elective Course ¹		
Select one course (3 credit hours) at the 300 - 400 level from the Department of Management. ³		3
Total Credit Hours		12

¹ All courses must be taken within the current pre-requisite structure.

² pre-requisite of a Statistics 1 course, such as MAS 201, MAS 311, IEN 311, MTH 224, or the equivalent.

³ excluding MGT 401

Note: No one course may be applied toward more than one minor area of specialization in the Department of Management. All specific coursework for any minor in the Department of Management must be completed with a grade of "C" or higher. A minimum cumulative GPA of 2.5 is required for all courses taken in the minor area of specialization.

Management Science

Department Code: MAS

Introduction

Management Science uses the ideas and methods of science, mathematics, statistics, and computing, which collectively are often referred to as Business Analytics, to help managers make better business decisions. Management Science techniques have been applied in a wide variety of areas including financial modeling, marketing research, organizational theory, transportation and logistics, health care, environmental protection, and manufacturing. Almost any decision can benefit from the methods of Management Science/Analytics.

Educational Objectives

The Department of Management Science offers a major area of specialization in Business Analytics as well as a minor in Business Analytics. The Business Analytics curriculum is designed to give business students the necessary educational background and experience to allow them to work as successful business analytics professionals.

In addition to the general education, business, and economics courses of the Bachelor of Science in Business Administration degree program, the major in Business Analytics requires a solid background in the natural sciences and mathematics. Additionally, students are required to take sequences of courses in optimization, decision science, and data analytics. A number of the courses in the Business Analytics curriculum require projects, in which the student evaluates a real-world system or process. As the system is studied and modeled, the student applies management science methods to find ways to improve the process. In such a course, written and oral presentation of findings is part of the learning and evaluation process. A major or minor area of specialization in Business Analytics is recommended to qualified students as preparation for direct entry into the field of Analytics or as preparation for future graduate studies.

Degree Programs

The Bachelor of Science in Business Administration (BSBA) is awarded with the major in Business Analytics by meeting the appropriate School of Business Administration requirements.

Majors

Major in Business Analytics

- B.S.B.A. in Business Analytics (p. 182)

Minors

Minor in Business Analytics

- Business Analytics (p. 183)

B.S.B.A. in Business Analytics

Major Area of Specialization in Business Analytics (STEM)

The Department of Management Science offers a major area of specialization in Business Analytics for students pursuing the Bachelor of Science in Business Administration degree. Students who choose the major area of specialization in Business Analytics are trained to combine quantitative, statistical, and computational tools and techniques to help companies understand, predict, and act on large amounts of data, improving decision-making in increasingly complex and interconnected business environments.

Students pursuing the BSBA in Business Analytics must complete the BSBA Business Core and the specific coursework for the Business Analytics major area of specialization as follows:

BSBA Business Core Requirements for the Business Analytics Major Area of Specialization (STEM)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3

ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming (may not double count for the major elective in Business Analytics)	
BTE 423	Database Management Systems (may not double count for the major elective in Business Analytics)	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making (may only be used if Business Analytics is an additional major area of specialization)	
MAS 442	Stochastic Models in Operations Research (may only be used if Business Analytics is an additional major area of specialization)	
MAS 547	Computer Simulation Systems (may not double count for the major elective in Business Analytics)	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Business Analytics Major Area of Specialization (STEM)

In order to complete the specific requirements for the major in Business Analytics, students must take a minimum of 18 credit hours of coursework. All courses must be taken within the current pre-requisite structure.

Required Courses		
MAS 332	Data Acquisition, Preparation and Visualization (pre-requisite MAS 202 or MAS 312) ¹	3
MAS 342	Introduction to Optimization and Decision Making (pre-requisites MTH 162 or MTH 172 & MAS 201 or MAS 311) ¹	3
MAS 432	Data Analysis (Pre-requisite MAS 312) ²	3
MAS 442	Stochastic Models in Operations Research (pre-requisite MAS 311) ²	3
Elective Courses - Select two courses (6 credit hours) from the following:		
At least one course must be selected from MAS 547 or MAS 548.		
BTE 324	Object-Oriented Programming (pre-requisite BTE 320)	
BTE 423	Database Management Systems (pre-requisite BTE 320 or BTE 324)	
MAS 547	Computer Simulation Systems (pre-requisite MAS 311) ¹	
MAS 548	Data Mining and Knowledge Acquisition (pre-requisite MAS 312) ²	
Total Credit Hours		18

¹ offered in fall semester

² offered in spring semester

Note: All specific coursework for the major in Business Analytics must be completed with a grade of "C-" or better. In addition, a minimum cumulative GPA of 2.5 is required for all courses taken in the major area of specialization.

Minor in Business Analytics

Minor Area of Specialization in Business Analytics (STEM)

Business students who choose the minor area of specialization in Business Analytics are trained to combine quantitative, statistical, and computational tools and techniques to help companies understand, predict, and act on large amounts of data, improving decision-making in increasingly complex and interconnected business environments.

The 12 credit hour minor in Business Analytics consists of the following:

Required Courses ¹		
MAS 332	Data Acquisition, Preparation and Visualization (pre-requisite MAS 202 or MAS 312 or equivalent) ²	3
MAS 342	Introduction to Optimization and Decision Making (pre-requisites MTH 162 or equivalent & MAS 201 or MAS 311 or equivalent) ²	3
MAS 432	Data Analysis (pre-requisite MAS 312 or equivalent) ³	3
MAS 442	Stochastic Models in Operations Research (pre-requisite MAS 311 or equivalent) ³	3
Total Credit Hours		12

¹ All courses must be taken within the current pre-requisite structure. In order to complete this minor, students will need pre-requisite courses of MTH 162, MAS 311, and MAS 312 or their equivalents.

² offered in fall semester

³ offered in spring semester

Note: All specific coursework for the minor in Business Analytics must be completed with a grade of "C-" or better. In addition, a minimum cumulative GPA of 2.5 is required for all courses taken in the minor area of specialization.

Marketing

Department Code: MKT

Introduction

Rapidly increasing global competition, emergence of new markets, and technological advancements make today's marketplace a highly dynamic and challenging environment for companies. Effective marketing is therefore crucial for organizations to survive and prosper in such an environment. Marketing is the process through which organizations develop and distribute products and services that satisfy the needs of customers. Customer satisfaction is critical to the profitable operations

and growth of organizations and, as such, an integral component of modern-day marketing.

Educational Objectives

The primary goals of the Department of Marketing are:

1. to contribute to marketing knowledge through conducting scholarly research and disseminating the research findings through leading journals;
2. to excel in imparting marketing knowledge to students and honing their critical-thinking skills so as to prepare them for potentially successful careers in an increasingly competitive, dynamic, global, and service-and technology-oriented environment; and
3. to be of service to the business and professional communities at large.

The marketing curriculum offers courses and programs to undergraduate and graduate students for their professional development in domestic and world business.

A program of study in marketing offers students better understanding of and insights into:

- Marketing's role within the organization and society;
- The various 'markets' for goods and services through better identification and analysis of consumer needs, wants, and interests;
- Marketing's responsibility to society in legal, ethical, and moral matters;
- Methods, procedures, and techniques used in planning and managing marketing decisions.

Degree Programs

A student pursuing the Marketing major can earn either a Bachelor of Business Administration (BBA) or a Bachelor of Science in Business Administration (BSBA) by meeting the appropriate School of Business Administration requirements.

Majors

Major in Marketing

- B.B.A. in Marketing (p. 184)
- B.S.B.A. in Marketing (p. 185)

Minors

Minor in Marketing

- Marketing for Business Students (p. 187)
- Marketing for Non-Business Students (p. 187)

B.B.A. in Marketing

Major Area of Specialization in Marketing (P&S)

The Marketing major area of specialization provides business students with an understanding of the basic concepts of marketing with an emphasis on emerging techniques and technologies. This major area of specialization prepares students to practice marketing in a changing competitive environment. Specifically, it covers the 4 Ps of marketing (i.e., product/service, price, promotion and place/distribution) from a managerial perspective. Additionally, the marketing program of

study is flexible, allowing students to concentrate on specific areas of professional pursuit such as sales management, advertising, retailing, or marketing research.

A program of study in marketing offers business students a comprehensive understanding of such topics as:

- The critical role within organizations;
- Identification of markets for products and services through better understanding and analysis of consumers' wants and needs;
- The nature of global competition and identification of viable competitive strategies;
- Methods used in planning and implementing marketing strategies;
- The legal and ethical responsibilities of marketers.

Students pursuing the BBA in Marketing must complete the BBA Business Core and the specific coursework for the Marketing major area of specialization as follows:

BBA Business Core Requirements for the Marketing Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems (Microeconomics)	3
ECO 212	Economic Principles and Problems (Macroeconomics)	3
FIN 302	Fundamentals of Finance	3
MAS 110	Quantitative Applications in Business (Calculus)	3
MAS 201	Introduction to Business Statistics	3
MAS 202	Intermediate Business Statistics	3
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Total Credit Hours		51

NOTE: ENG 105 and ENG 106, or their equivalents, and all 100 and 200-level Business Core courses must be completed before taking 300 and 400-level Business Core courses and coursework in the major, with the exception of ACC 212, ECO 212, and MAS 202. These three courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: MAS 110 and MAS 201 must be completed with a "C-" or better. Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Marketing Area of Specialization (P&S)

Students must complete a minimum of 15 credit hours of Marketing courses beyond the core course of MKT 201/MKT 301 (total of 18 credit hours). All courses must be taken within the current pre-requisite structure.

Core Course		
MKT 201	Foundations of Marketing (taken as part of the Business Core; pre-requisite for all other MKT courses.) ^{1,2}	
	or MKT 301 Marketing Foundations	
Required Courses		
MKT 302	Marketing Research and Market Analysis (pre-requisites MKT 201/MKT 301 & MAS 202 or MAS 312)	3
MKT 403	Marketing Management (pre-requisites MKT 302 (pre or co-requisite) & FIN 302)	3
Elective Courses		
Select three courses (9 credit hours) from the following:		9
MKT 310	Consumer Behavior and Marketing Strategy	
MKT 320	Retailing	
MKT 340	Professional Selling	
MKT 360	International Marketing	
MKT 380	New Product Development	
MKT 385	Marketing for Entrepreneurs	
MKT 386	Advertising Management	
MKT 387	Digital Marketing	
MKT 388	Health Care Marketing	

MKT 389	Understanding Media Metrics In The Digital World	
MKT 469	International Marketing Management (pre-requisites MKT 302 (pre or co-requisite) & MKT 360)	
Total Credit Hours		15

¹ **Important Note:** In order to pursue a major in Marketing, a student must earn a grade of "B" (grade point of 3.0) or higher in MKT 201/MKT 301 (note that a grade of "B-" does not qualify).

² MKT 201 *is intended for freshman business students only.* MKT 301 *is an equivalent course, but is intended for students at the sophomore level or higher.*

Note: All specific coursework for the major in Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for MKT 201/MKT 301, as noted). A minimum cumulative GPA of 2.5 is required for all courses taken in this major area of specialization. All graded departmental courses in Marketing will be calculated into the major GPA.

B.S.B.A. in Marketing

Major Area of Specialization in Marketing (P&S)

The Marketing major area of specialization provides business students with an understanding of the basic concepts of marketing with an emphasis on emerging techniques and technologies. This major area of specialization prepares students to practice marketing in a changing competitive environment. Specifically, it covers the 4 Ps of marketing (i.e., product/service, price, promotion and place/distribution) from a managerial perspective. Additionally, the marketing program of study is flexible, allowing business students to concentrate on specific areas of professional pursuit such as sales management, advertising, retailing, or marketing research.

A program of study in marketing offers students a comprehensive understanding of such topics as:

- The critical role within organizations;
- Identification of markets for products and services through better understanding and analysis of consumers' wants and needs;
- The nature of global competition and identification of viable competitive strategies;
- Methods used in planning and implementing marketing strategies;
- The legal and ethical responsibilities of marketers.

Students pursuing the BSBA in Marketing must complete the BSBA Business Core and the specific coursework for the Marketing major area of specialization as follows:

BSBA Business Core Requirements for the Marketing Major Area of Specialization (P&S)

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
BSL 212	Introduction to Business Law	3
BTE 210	Fundamentals Of Business Technology & Innovation	3
BTE 320	Introduction to Programming	3

BUS 101	First Step (Freshman Integrity, Responsibility, and Success through teamwork)	3
BUS 150	Business Analytics	3
BUS 300	Critical Thinking & Persuasion for Business	3
ECO 211	Economic Principles and Problems	3
ECO 212	Economic Principles and Problems	3
FIN 302	Fundamentals of Finance	3
MAS 311	Applied Probability and Statistics	3
MAS 312	Statistical Methods and Quality Control	3
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MGT 303	Operations Management	3
MGT 304	Organizational Behavior	3
MGT 401	Strategic Management (must be taken in final semester)	3
MKT 201	Foundations of Marketing	3
Quantitative Elective		
Select one of the suggested courses approved by the academic advisor:		3
BTE 324	Object-Oriented Programming	
BTE 423	Database Management Systems	
ECO 430	Applied Econometrics	
ECO 510	Mathematical Economics And Applications	
MAS 342	Introduction to Optimization and Decision Making	
MAS 442	Stochastic Models in Operations Research	
MAS 547	Computer Simulation Systems	
MGT 445	Supply Chain Modeling and Analysis	
MGT 446	Supply Chain Strategy	
Total Credit Hours		62

NOTE: ENG 105 and ENG 106, or their equivalents, all 100 and 200-level Business Core courses, and MAS 311 must be completed before taking other upper level Business Core courses and coursework in the major, with the exception of ACC 212 and ECO 212. These two courses may be taken concurrently with 300-level Business Core courses, but should be completed before taking MGT 401 or any upper level courses in the major.

NOTE: Students who do not earn at least a C- in ENG 106 must complete ENG 230 with at least a C- before enrolling in BUS 300.

Specific Coursework for the Marketing Area of Specialization (P&S)

Students must complete a minimum of 15 credit hours of Marketing courses beyond the core course of MKT 201/MKT 301 (total of 18 credit hours). All courses must be taken within the current pre-requisite structure.

Core Course		
MKT 201	Foundations of Marketing (taken as part of the Business Core; pre-requisite for all other MKT courses) ^{1,2}	
or MKT 301 Marketing Foundations		
Required Courses		
MKT 302	Marketing Research and Market Analysis (pre-requisites MKT 201/MKT 301 & MAS 202 or MAS 312)	3
MKT 403	Marketing Management (pre-requisites MKT 302 (pre or co-requisite) & FIN 302)	3
Elective Courses		
Select three courses (9 credit hours) from the following:		9
MKT 310	Consumer Behavior and Marketing Strategy	
MKT 320	Retailing	
MKT 340	Professional Selling	
MKT 360	International Marketing	
MKT 380	New Product Development	
MKT 385	Marketing for Entrepreneurs	
MKT 386	Advertising Management	
MKT 387	Digital Marketing	
MKT 388	Health Care Marketing	

MKT 389	Understanding Media Metrics In The Digital World	
MKT 469	International Marketing Management (pre-requisites MKT 302 (pre or co-requisite) & MKT 360)	
Total Credit Hours		15

¹ **Important Note:** In order to pursue a major in Marketing, a student must earn a grade of "B" (grade point of 3.0) or higher in MKT 201/MKT 301 (note that a grade of "B-" does not qualify).

² MKT 201 is intended for freshman business students only. MKT 301 is an equivalent course, but is intended for students at the sophomore level or higher.

Note: All specific coursework for the major in Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for MKT 201/MKT 301, as noted). A minimum cumulative GPA of 2.5 is required for all courses taken in this major area of specialization. All graded departmental courses in Marketing will be calculated into the major GPA.

Minor in Marketing for Business Students

Minor Area of Specialization in Marketing for Business Students (P&S)

The 12 credit hour minor in Marketing for business students consists of 9 credit hours of Marketing courses beyond the core course MKT 201/MKT 301, as follows:

Core Course		
MKT 201/301	Foundations of Marketing (taken as part of the Business Core; pre-requisite for all other MKT courses) ^{1,2}	
Elective Courses		
Select three courses (9 credit hours) from the Department of Marketing ³		9
Total Credit Hours		9

¹ **Important Note:** In order to pursue the minor in Marketing, a student must earn a grade of "B" (grade point average of 3.0) or higher in MKT 201/MKT 301 (note that a grade of "B-" does not qualify).

² MKT 201 is intended for freshman business students only. MKT 301 is an equivalent course, but is intended for students at the sophomore level or higher.

³ All courses must be taken within the current pre-requisite structure.

Note: All specific coursework for the minor in Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for MKT 201/MKT 301, as noted). A minimum cumulative GPA of 2.5 is required for all courses taken in this minor area of specialization. All graded departmental courses in Marketing will be calculated into the minor GPA.

Minor in Marketing for Non-Business Students

Minor Area of Specialization in Marketing for Non-Business Students (P&S)

Non-Business students in any school or college may pursue a minor in Marketing in the School of Business Administration. Interested students should consult with an academic advisor in the School or College of their degree/major to determine if a minor in Marketing is acceptable. If so, neither advice nor consent from either the Office of Undergraduate Business Education or the Marketing Department is necessary for a student to choose or complete a Marketing minor. Instead the non-business student should simply declare the minor and complete the required 12 credit hours of Marketing courses, as follows:

Required Course		
MKT 301	Marketing Foundations (pre-requisite for all other MKT courses) ¹	3
Elective Courses		
Select three courses (9 credit hours) from the Department of Marketing. ²		9
Total Credit Hours		12

¹ **Important Note:** In order to pursue the minor in Marketing, a student must earn a grade of "B" (grade point average of 3.0) or higher in MKT 301 (note that a grade of "B-" does not qualify).

² All courses must be taken within the current pre-requisite structure.

Note: All specific coursework for the minor in Marketing must be completed with a grade of "C-" or higher (except for the minimum "B" grade required for MKT 301, as noted). A minimum cumulative GPA of 2.5 is required for all courses taken in this minor area of specialization. All graded departmental courses in Marketing will be calculated into the minor GPA.

Communication

<http://www.miami.edu/com>

Introduction

The School of Communication houses four departments that offer courses in eight majors leading to the Bachelor of Science in Communication degree. The departments are: Cinema and Interactive Media (Motion Pictures), Communication Studies (Communication Studies), Journalism and Media Management (Broadcast Journalism, Electronic Media, Journalism, Media Management), and Strategic Communication (Advertising, Public Relations). In addition, the Master of Arts, Master of Fine Arts, and Doctor of Philosophy degrees are offered in the School.

Students engage with a diverse faculty of communication scholars, artists and professionals in a variety of hands-on learning experiences embracing research, writing, production, creative problem-solving and multimedia storytelling. On-campus television and radio facilities, soundstages and multimedia labs are available for academic and extra curricular student projects. Students utilize contemporary digital imaging technology and learn skills that cut across a variety of media platforms. Digital editing, recording and mixing facilities are available. New media technology is incorporated throughout the curriculum and the School has numerous computer labs and digitally "smart" classrooms.

Two video-conference centers with broadcast-quality interactive capability for remote interviews and programming support the School's mission. The School also houses a film soundstage and two fully digital, high-definition television studios and control rooms. In addition, a fiber-optic linked studio allows for real-time, broadcast-quality transmissions to sites around the world. Under Communication faculty supervision, student-produced programming is distributed through the University's cable facility and carried throughout the community by the local cable operator and is available through online streaming. The School operates several online sites that afford students outlets for multimedia, interactive and cross-platform writing, research, reporting and creative work.

The University's FM radio station, and student online and print newspapers and magazines, offer additional opportunities for career development. The Bill Cosford Cinema, a 240-seat movie theatre, supports the Motion Picture Program and offers film programming for the Miami community. The School's Norton Herrick Center for Motion Picture Studies is dedicated to research into the history and aesthetics of motion pictures and their social and cultural impact.

The School's Center for Communication, Culture, and Change focuses on promoting positive social and behavioral change through communication research. The Center seeks to address urgent social issues, and make a positive difference in people's lives.

The School supports student chapters of the American Advertising Association, the Public Relations Society of America, the Society of Professional Journalists, the National Broadcasting Society, the University Film and Video Association and other professional organizations. In addition, the School sponsors a nationally competitive intercollegiate debate team, which annually produces several members of the All American Debate Team.

Internships in professional settings are available to Communication students at the sophomore, junior and senior levels. Professionals at daily and weekly newspapers, magazines, news bureaus, cable systems, radio and television stations and networks, production houses and motion picture studios cooperate in faculty-supervised internships. Executives of city and county governments, advertising agencies, public relations firms and other business and nonprofit organizations join in providing internship opportunities. The Stein Family Office of Career Services and Internships assists students seeking internships and offers career planning services. Summer and semester-length study abroad opportunities are also available.

Mission

The School of Communication is dedicated to a global educational perspective and is committed to providing a socially responsible and ethically grounded learning environment guided by a diverse faculty of scholars, artists and professionals. The School is committed to quality undergraduate and graduate programs in communication that emphasize the relationship between theory and practice. We believe in freedom of expression and creativity, and encourage both collaboration and independent thinking as we prepare future scholars, professionals and leaders for a lifetime of service and learning.

Accreditation

The University of Miami is accredited by:

The Southern Association of Colleges and Schools
1866 Southern Lane
Decatur, GA 30033-4097

Academic Policies

Internal Transfer into the School of Communication

A student enrolled at the University of Miami in a School or College other than the School of Communication may apply for admission into the School. Applications are accepted throughout the year. A minimum overall grade point average of 2.5 is necessary for consideration. Applications are available in the Admissions, Academic & Alumni Services Office of the School of Communication (2037 Wolfson Building) and must be submitted prior to the end of each semester. Admission decisions will be made promptly after semester grades are final. Students will be notified in writing of the School's decision.

Transfer Students

A transfer student must complete in residence a minimum of 18 credit hours toward a Communication major or a minimum of 9 credit hours toward a Communication minor. Courses taken elsewhere in Communication or related disciplines are not automatically accepted toward a major or minor at the University of Miami. Students who have obtained the written approval of the Chair of a Communication major to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major. Students should consult a School of Communication advisor to determine whether the transfer of Communication courses will increase beyond 120 the total number of credit hours required for a degree. In general, transfer credit hours will not be accepted to satisfy requirements for any course in any major or minor

at the 300-level or above. Student petitions to transfer credit hours will be considered on an individual basis.

Transfer credit hours may not be used to satisfy requirements for any major or minor in Communication without the written approval of the Chair of the program concerned.

Academic Progress & Probation/Dismissal

Students must maintain a grade point average (GPA) of 2.5 or higher in courses taken in residence and submitted for their School of Communication major. Following the first semester in which any student's GPA in the major falls below a 2.5, the School may issue a warning to that student that his or her work does not meet School expectations. Should that student's GPA in the major be below a 2.5 in any subsequent semester, he or she may be placed on Academic Probation. The School may dismiss from the University any student who is on probation a total of two semesters (not necessarily consecutive). A student who has been dismissed from the School may apply for admission to one of the other Schools or Colleges within the University, but will not be readmitted to the School of Communication.

Those who wish to appeal their probation or dismissal must do so in writing to the Dean within 30 days of the notice of probation or dismissal. See also GOOD ACADEMIC STANDING, WARNING, PROBATION, AND DISMISSAL (p. 21).

Internship Credit Hours

All programs allow students to complete multiple internships for academic credit. Students should consult with their faculty advisor or the School's academic advising office for their department's specific internship credit hour policies.

Credit Hours and Advanced Placement Credit

Credit hours may be earned through Advanced Placement, IB, CLEP Examinations and Advanced Placement by Proficiency Examinations. These credit hours may be applied to the appropriate General Education Required Areas of Study or as electives except:

1. where prohibited by the University or a specific program area; or
2. if the course is remedial (e.g., ENG 103, MTH 099).

To earn credit hours, each student must pay a recording fee and have exempted course credit hours entered on his or her University transcript. An exemption may be granted for ENG 105 by the Department of English, but this exemption will not earn credit hours toward the 120 University credit hours required for graduation.

Grade Point Average

A candidate for the Bachelor of Science in Communication (B.S.C.) must complete the credit hours and achieve the grade point average specified for students in the University at large as stated in the section titled ACADEMIC PROCEDURES AND INFORMATION (p. 13), subject to additional requirements specified in School and Program sections.

General Education Requirements

In April 2012, the University of Miami Faculty Senate adopted a new set of General Education Requirements (GERs). The new Cognate Program of General Education was implemented in the 2013-2014 academic year (AY 2014).

Please note, students completing majors and minors within the same department may only satisfy one required cognate area of study.

See GENERAL EDUCATIONAL REQUIREMENTS (p. 19).

Degree Programs

The School of Communication offers courses in eight programs of study leading to the degree Bachelor of Science in Communication. The programs are Advertising, Public Relations, Communication Studies, Electronic Media, Broadcast Journalism, Journalism, Media Management, and Motion Pictures.

Minors

The School of Communication offers minors in its eight programs of study and a general minor in Communication (COM). School of Communication students may complete a minor in a specific program of study, but are not eligible for the general minor in Communication.

Concentrations

Most degree programs offer concentrations or tracks of study in specialty areas. See the individual program sections for details on these concentrations.

Requirements for Graduation

Bachelor of Science Degree in Communication

Required University General Education Requirements

The General Education Requirements provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently. The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor.

All School of Communication students must complete the University's General Education Requirements. These requirements can be found in the General Education Requirements (p. 19) section. Note that the General Education Requirements differ for incoming freshmen and transfer students.

Completion of each School of Communication major or minor fulfills one of the three cognate areas required by the University: People & Society, Arts & Humanities and STEM. (See individual program descriptions below identifying the specific cognate area covered.)

Students completing a second major or minor in the School which fulfills a cognate area different from their first major, and offered in a different department, may apply the second major or minor toward a second cognate area. No course submitted toward a School of Communication major or minor used to fulfill a University cognate may be applied toward any other cognate area. No more than two cognate areas may be completed in the School of Communication.

Students should meet with their advisors for assistance in completing all University and School requirements.

Developing Proficiency in Advanced Writing and Communication Skills

By their nature, Schools of Communication aspire to help students understand communication processes and develop high-level skills in writing, oral presentation and the use of digital communication technologies for crafting meaningful and effective messages. To fulfill the University's Advanced Writing and Communication Skills requirement, all students enrolled in one of the eight undergraduate majors offered by the School will be required to complete their program's core writing course, at least one public speaking/presentational skills course, and one digital skills course.

Major/Minor Requirements

In addition to completing a major in the School of Communication, students must also complete a minor (or a second major) in either a second Program of Study within the School or in an academic program outside of the School. Students completing majors and/or minors in the School must complete all School of Communication courses with grades of C or higher (a grade of C- or lower is not acceptable.) Students may not enroll in a School of Communication course without grades of C or higher in prerequisite courses. Students completing a minor or second major outside the School of Communication should consult this Bulletin for minimum grade requirements.

The Major in the School of Communication

Majors in the School of Communication leading to a Bachelor of Science in Communication require between 39 and 48 credit hours in School of Communication courses specified in Program Statements (below). Courses within each major must be completed with a grade of C or higher (a grade of C- or lower is not acceptable.) In addition, students must maintain a grade point average of 2.5 or higher in courses taken in residence and submitted for their School of Communication majors.

The Minor

Each Communication student, in addition to completing requirements for a Communication major (below), must complete a minor field in either a second Program of Study within the School or in an academic program outside the School. Each course submitted for a minor offered in the School of Communication must be completed with a grade of C or higher (a grade of C- or lower is not acceptable). To find the requirements for a given minor, students should consult this Bulletin and confer with the appropriate department representative.

School of Communication advisors will aid students in identifying appropriate minors. The candidate for a Communication degree may choose from among any of the disciplines offering minors at the University for which they may qualify. The choice of a minor should be made no later than the beginning of the junior year and must be approved by the discipline concerned.

The Second Major Option

Students may choose to complete a second major, either within the School or in an academic program outside the School, in place of the minor requirement. Some second majors are impractical within the minimum 120 credit hours degree program. Students should consult with a Communication advisor before selecting a second major. The choice of a second major should be made no later than the beginning of the junior year and must be approved by the discipline concerned.

Double Counting

Students completing a major and a minor in the School of Communication, or two majors within the School of Communication, may count only COM 250 toward both Programs of Study. No other course duplication is allowed. Students should consult with the Department Chair of the minor or second major for acceptable course substitutions where appropriate.

Upper Division Credit Hours

In earning a Bachelor of Science in Communication, each School of Communication student must complete a minimum of 36 credit hours of course work at the 300-level or above. Upper division transfer credit hours also apply if completed at a four-year institution and if approved by the Department Chair.

Electives

Only Free Elective courses may be taken under the University's Credit Only option (see CREDIT ONLY OPTION (p. 17)). Free Electives are defined as courses not taken to fulfill the requirements of the major within the School of Communication, of the second major or minor, or of the School's General Education Requirements. Free Electives are courses that are not taken to meet any of the above requirements or their prerequisites, but taken solely to meet the requirement of a minimum total of 120 credit hours for the degree.

General Electives

A sufficient number of University electives must be completed to fulfill a minimum total of 120 credit hours. Electives may be chosen from any course offered by the University except certain unapproved courses such as:

DAN 102	Stretching and Body Work	1
ENG 103	Basic Academic Writing	3
MTH 099	Intermediate Algebra	3

Students should consult a School of Communication advisor before selecting elective courses. Because specific courses are required in some School of Communication majors, students are advised to read Program Statements carefully and seek the advice of a School of Communication advisor prior to taking general University electives.

Schedules

Fifteen to sixteen credit hours constitute a normal semester schedule in the School of Communication. Students who wish to register for more than 18 credit hours must obtain prior approval from the Office of Admissions, Academic & Alumni Services (2037 Wolfson Building). Students who are on academic probation will be limited to a maximum of thirteen credit hours.

Honors

School of Communication students may graduate with School Honors in Communication noted upon their diplomas and transcripts. Students must contact the School's Office of Admissions, Academic & Alumni Services (2037 Wolfson Building) for details about the School of Communication Honors Program.

Students may receive recognition as graduates cum laude, magna cum laude, or summa cum laude if they meet the requirements set forth under GRADUATION HONORS (p. 25).

Foote Fellows

General Information

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Foote Fellows are exempt from the Cognates Program of General Education requirements. Within the curricular framework of their school or college, Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Foote Fellows in the School of Communication

The School of Communication hosts several activities geared for our Foote Fellows throughout the academic year. School of Communication Foote Fellows will be receiving information from Assistant Dean Luis Herrera regarding our specific programs. For further inquiries, please contact him at lherrera@miami.edu.

Cinema and Interactive Media

<http://com.miami.edu/programs>

The Department of Cinema and Interactive Media offers a major in Motion Pictures and minors in Motion Pictures (CMP) and Interactive Media (CIMI).

Introduction

The Motion Picture Program offers a complete curriculum for a new generation of media specialists, providing historical context and embracing the moving image creative process from writing and development, through production and post-production, to all forms of exhibition.

Visual storytelling requires technical skill, historical perspective and the ability to think critically in cinematic terms. The undergraduate Motion Pictures major provides the practical, collaborative and analytical skills required in today's global and complex media environments.

The accomplished faculty is dedicated to engaging students in the discovery and development of their talents. Students are trained in innovation, creativity, critical thinking, adaptability, and the capacity to integrate theory and practice, technology and art. They are also well-equipped to understand the business and legal environments in which media industries operate.

Facilities in the Motion Picture Program include digital cameras; grip and electrical equipment; a soundstage; digital post-production image and sound facilities; and a digital animation lab. The School also operates the Bill Cosford Cinema, a state-of-the-art theater that exhibits first-run alternative, foreign and classic films. The Cosford Cinema provides an on-campus venue for various film festivals, including the annual Canes Film Festival featuring UM undergraduate and graduate work. A professional showcase screening of the best student work is held annually in Los Angeles.

The Motion Picture Program offers special summer programs in Prague (FAMU), Greece, and Los Angeles (LA Experience).

Major Cognate Area

- Arts and Humanities

Minor Cognate Areas

- Motion Pictures- Arts and Humanities
- Interactive Media- STEM

Please note, students completing majors and minors within the same department may only satisfy one required cognate area of study.

Dept. Code: CIM

Degree Programs

The Bachelor of Science in Communication is offered in the Motion Picture Program.

Major in Motion Pictures

A major is offered in Motion Pictures.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study. Motion Pictures majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Motion Pictures Major

Before admission as a Motion Pictures (CMP) major, a student must:

- Complete the five Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).
- Students who have obtained the written approval of the Chair of Cinema and Interactive Media to use transfer credit hours to satisfy one or more requirements of that major may be required to complete

additional courses in residence at the University before being admitted to that major.

- Upon completion of a student's first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student's major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to the major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School. See PROBATION AND DISMISSAL (p. 21).

The Motion Pictures Major

Students majoring in Motion Pictures are required to choose one of the following five areas of concentration: General, Production, Screenwriting, Business or Critical Studies.

Minor in Motion Pictures and Interactive Media

Minors are offered in:

- Motion Pictures and
- Interactive Media.

Both minors require a grade of C or higher in all courses (a C- is not acceptable).

Majors

Majors in Cinema and Interactive Media

- B.S.C. in Motion Pictures - General Concentration (p. 193)
- B.S.C. in Motion Pictures - Production Concentration (p. 193)
- B.S.C. in Motion Pictures - Screenwriting Concentration (p. 194)
- B.S.C. in Motion Pictures - Business Concentration (p. 192)
- B.S.C. in Motion Pictures - Critical Studies Concentration (p. 192)

Minors

Minors in Cinema and Interactive Media

- Motion Pictures (p. 194)
- Interactive Media (p. 194)

B.S.C. in Motion Pictures - Business Concentration

Core Courses		
CIM 103	Survey of Motion Pictures	3
CIM 126	Introduction to Screenwriting	3
CIM 151	Introduction to Digital Production	3
CIM 204	History of International Cinema I	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement ¹		
COS 211	Public Speaking	3

or COS 333	Business Communication	
Other Required Courses		
CIM 205	History of International Cinema II	3
CIM 251	Motion Picture Workshop: Storytelling	3
CIM 364	Business of Motion Pictures	3
Select four of the following:		12
CIM 351	Introduction to Film Production	
CIM 462	Motion Picture Marketing and Distribution	
CIM 494	Motion Picture Internship	
CIM 499	Projects and Directed Research	
CIM 570	Producing the Motion Picture	
CIM 409	Legal Aspects of Motion Pictures	
Select one of the following:		3
CIM 310	Introduction To Game Design	
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
Select one additional Motion Picture elective ²		3
Total Credit Hours		45

¹ /undergraduate-academic-programs/communication/ (p. 188)

² If this elective is outside the Motion Pictures major (but within the School of Communication) it must be approved by the chair.

B.S.C. in Motion Pictures - Critical Studies Concentration

Core Courses		
CIM 103	Survey of Motion Pictures	3
CIM 126	Introduction to Screenwriting	3
CIM 151	Introduction to Digital Production	3
CIM 204	History of International Cinema I	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement ¹		
COS 211	Public Speaking	3
or COS 333	Business Communication	
Other Required Courses		
CIM 205	History of International Cinema II	3
CIM 251	Motion Picture Workshop: Storytelling	3
Select five of the following:		15
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	

Select two additional Motion Picture electives ²	6
Total Credit Hours	45

¹ /undergraduate-academic-programs/communication/ (p. 188)

² If these electives are outside the Motion Pictures major (but within the School of Communication) they must be approved by the chair.

B.S.C. in Motion Pictures - General Concentration

Core Courses	
CIM 103	Survey of Motion Pictures 3
CIM 126	Introduction to Screenwriting 3
CIM 151	Introduction to Digital Production 3
CIM 204	History of International Cinema I 3
COM 250	Freedom of Expression and Communication Ethics 3
Advanced Writing and Communication Skills Requirement ¹	
COS 211	Public Speaking 3
or COS 333	Business Communication
Other Required Courses	
CIM 205	History of International Cinema II 3
CIM 251	Motion Picture Workshop: Storytelling 3
Select one of the following:	3
CIM 326	Intermediate Screenwriting
CIM 351	Introduction to Film Production
CIM 364	Business of Motion Pictures
Select three of the following:	9
CIM 310	Introduction To Game Design
CIM 329	Writing for Series Television
CIM 353	Post Production Sound Editing and Design
CIM 356	Cinematography
CIM 357	Editing
CIM 386	Online Screenwriting
CIM 395	Directing Techniques I
CIM 458	Documentary Production
CIM 462	Motion Picture Marketing and Distribution
CIM 494	Motion Picture Internship
CIM 499	Projects and Directed Research
CIM 550	Motion Graphics And Compositing
CIM 409	Legal Aspects of Motion Pictures
CIM 570	Producing the Motion Picture
Select two of the following:	6
CIM 401	Nonfiction Film and Digital Media
CIM 403	Film Directors
CIM 404	Aspects of Contemporary Cinema
CIM 406	Genres
CIM 407	National Cinemas
CIM 408	Women, Media, and Popular Culture

Select one additional Motion Picture elective ²	3
Total Credit Hours	45

¹ /undergraduate-academic-programs/communication/ (p. 188)

² If this elective is outside the Motion Pictures major (but within the School of Communication) it must be approved by the chair.

B.S.C. in Motion Pictures - Production Concentration

Core Courses	
CIM 103	Survey of Motion Pictures 3
CIM 126	Introduction to Screenwriting 3
CIM 151	Introduction to Digital Production 3
CIM 204	History of International Cinema I 3
COM 250	Freedom of Expression and Communication Ethics 3
Advanced Writing and Communication Skills Requirement ¹	
COS 211	Public Speaking 3
or COS 333	Business Communication
Other Required Courses	
CIM 205	History of International Cinema II 3
CIM 251	Motion Picture Workshop: Storytelling 3
CIM 351	Introduction to Film Production 3
Select two of the following:	6
CIM 353	Post Production Sound Editing and Design
CIM 356	Cinematography
CIM 357	Editing
CIM 364	Business of Motion Pictures
CIM 395	Directing Techniques I
CIM 550	Motion Graphics And Compositing
Select two of the following:	6
CIM 310	Introduction To Game Design
CIM 451	Motion Picture Practicum
CIM 456	Advanced Cinematography
CIM 457	Advanced Editing
CIM 458	Documentary Production
CIM 494	Motion Picture Internship
CIM 551	Advanced Motion Graphics and Compositing
CIM 595	Directing Techniques
Select one of the following:	3
CIM 401	Nonfiction Film and Digital Media
CIM 403	Film Directors
CIM 404	Aspects of Contemporary Cinema
CIM 406	Genres
CIM 407	National Cinemas
CIM 408	Women, Media, and Popular Culture
Select one additional Motion Picture elective ²	3
Total Credit Hours	45

¹ /undergraduate-academic-programs/communication/ (p. 188)

² If this elective is outside the Motion Pictures major (but within the School of Communication) it must be approved by the chair.

B.S.C. in Motion Pictures - Screenwriting Concentration

Core Courses		
CIM 103	Survey of Motion Pictures	3
CIM 126	Introduction to Screenwriting	3
CIM 151	Introduction to Digital Production	3
CIM 204	History of International Cinema I	3
COM 250	Freedom of Expression and Communication Ethics	3
Advanced Writing and Communication Skills Requirement ¹		
COS 211	Public Speaking	3
or COS 333	Business Communication	
Other Required Courses		
CIM 205	History of International Cinema II	3
CIM 251	Motion Picture Workshop: Storytelling	3
CIM 326	Intermediate Screenwriting	3
Select four of the following:		12
CIM 329	Writing for Series Television	
CIM 386	Online Screenwriting	
CIM 426	Advanced Screenwriting	
CIM 429	Advanced Television Writing	
CIM 489	Projects in Screenwriting	
Select one of the following:		3
CIM 310	Introduction To Game Design	
CIM 401	Nonfiction Film and Digital Media	
CIM 403	Film Directors	
CIM 404	Aspects of Contemporary Cinema	
CIM 406	Genres	
CIM 407	National Cinemas	
CIM 408	Women, Media, and Popular Culture	
Select one additional Motion Picture elective ²		3
Total Credit Hours		45

¹ /undergraduate-academic-programs/communication/ (p. 188)

² If this elective is outside the Motion Pictures major (but within the School of Communication) it must be approved by the chair.

Minor in Interactive Media

The 15-16 credit hour minor in Interactive Media requires:

CIM 111	Web Lab	3
CIM 211	Interaction Design	3
CSC 120	Computer Programming I	3-4
or CIM 540	Intro to Creative Coding	
or ECE 118	Introduction to Programming	
Select two of the following:		6
STC 102	Graphic Design for Strategic Communication	

JMM 106	Visual Design	
JMM 108	Writing For The Digital Age	
CIM 126	Introduction to Screenwriting	
CIM 151	Introduction to Digital Production	
STC 202	Advanced Graphic Design for Advertising	
CIM 310	Introduction To Game Design	
JMM 341	Web Design	
JMM 435	Media Technology	
CIM 413	Mobile Application Development	
CIM 544	Media Activism	
CIM 550	Motion Graphics And Compositing	
CIM 593	Dynamic Data: Building Database Driven Websites	
Total Credit Hours		15-16

A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Motion Pictures

The minor in Motion Pictures requires:

CIM 103	Survey of Motion Pictures ¹	3
Select 6 credit hours in CIM at the 300 level or above ¹		6
Select 6 additional credit hours in CIM ¹		6
Total Credit Hours		15

¹ A grade of C or higher is required in all courses (a C- is not acceptable).

Communication Minor

Minor in Communication

A student seeking a minor in the general area of Communication must complete 15 credit hours, at least six of which must be at the 300-level or above. At least 9 credit hours towards the minor must be taken at UM.

- Students in the School of Communication cannot minor in Communication.
- Courses taken for this minor must be taken from the departments of Cinema Interactive Media, Communication Studies, Journalism and Media Management and Strategic Communication. Course prefixes include: CIM, COM, COS, JMM and STC.
- Each course submitted for a Communication minor must be completed with a grade of C or higher (a grade of C- or lower is not acceptable).
- Please see an advisor in the School of Communication, Undergraduate Academic Services Office for further assistance.

Communication Studies

<http://com.miami.edu/programs>

The Department of Communication Studies offers a major in Communication Studies and minors in Communication Studies (COS) and Health Communication (CHCO).

Introduction

The major in Communication Studies empowers students to acquire advanced skills in many areas involving human interaction, cross-cultural and international communication, advocacy, argumentation, relationship building, leadership, presentation (oral and written), critical thinking, research and writing. Students become familiar with the rich tradition of communication theory and research, investigate emerging knowledge about communication, and contribute to the growth of new understanding by developing and applying their research capabilities. Students also are challenged to employ their communication understanding and skills in meaningful ways through experiential learning, and professional and community involvement. Communication Studies blends a broad-based theoretical understanding of communication principles with specific and concrete applications to particular contexts.

Students are prepared for a variety of career options in health communication, business and the professions, politics and public advocacy, education, training and media, as well as further graduate and professional study in

Major Cognate Area

- Communication Studies
 - People and Society

Minor Cognate Area

- Communication Studies
 - People and Society
- Health Communication
 - People and Society

Dept. Code: COS

communication, law and other areas.

Degree Programs

The Bachelor of Science in Communication is offered in Communication Studies.

Major in Communication Studies

A major is offered in Communication Studies.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study (p. 19). Communication Studies majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Communication Studies major

Before admission as a Communication Studies (COS) major, a student must:

- Complete the four Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).
- Students who have obtained the written approval of the Chair of Communication Studies to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.
- Upon completion of a student's first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student's major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to the major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School. See PROBATION AND DISMISSAL (p. 21).

Majors

Major in Communication Studies

- B.S.C. in Communication Studies - General Concentration (p. 195)
- B.S.C. in Communication Studies - Intercultural Concentration (p. 196)
- B.S.C. in Communication Studies - Organizational Concentration (p. 196)
- B.S.C. in Communication Studies - Public Advocacy Concentration (p. 196)

Minors

Minors in Communication Studies

- Communication Studies (p. 197)
- Health Communication (p. 197)

B.S.C. in Communication Studies - General Concentration

Core Courses		
COM 110	Communication Theory	3
COM 250	Freedom of Expression and Communication Ethics	3
COS 112	Interpersonal Communication	3
COS 210	Writing for Communication Studies	3
Advanced Writing and Communication Skills Requirement ¹		
CIM 111	Web Lab	3
or JMM 106	Visual Design	
or STC 102	Graphic Design for Strategic Communication	
General Concentration Courses		
COS 211	Public Speaking	3

or COS 333 Business Communication	
Select 12 elective credit hours in COS with the prior approval of a Communication Studies advisor.	12
Other Required Courses	
Students majoring in Communication Studies - General Concentration must complete the following courses:	9
COS 351 Qualitative Research Methods	
COS 353 Quantitative Communication Research Methods and Analyses	
COS 479 Capstone for Communication Studies	
Total Credit Hours	39

¹ /undergraduate-academic-programs/communication/ (p. 188)

B.S.C. in Communication Studies - Intercultural Concentration

Core Courses	
COM 110 Communication Theory	3
COM 250 Freedom of Expression and Communication Ethics	3
COS 112 Interpersonal Communication	3
COS 210 Writing for Communication Studies	3
Advanced Writing and Communication Skills Requirement ¹	
CIM 111 Web Lab	3
or JMM 106 Visual Design	
or STC 102 Graphic Design for Strategic Communication	
Intercultural Concentration Courses	
COS 211 Public Speaking	3
or COS 333 Business Communication	
COS 318 Nonverbal Communication	3
COS 343 Introduction to Intercultural Communication	3
COS 545 Intercultural Communication: International Perspectives	3
or COS 546 Intercultural Communication: Domestic Perspectives	
Select 3 elective credit hours in Communication Studies with prior approval of a Communication Studies advisor.	3
Other Required Courses	
Students majoring in Communication Studies - Intercultural Concentration must complete the following courses:	9
COS 351 Qualitative Research Methods	
COS 353 Quantitative Communication Research Methods and Analyses	
COS 479 Capstone for Communication Studies	
Total Credit Hours	39

¹ /undergraduate-academic-programs/communication/ (p. 188)

B.S.C. in Communication Studies - Organizational Concentration

Core Courses	
COM 110 Communication Theory	3

COM 250 Freedom of Expression and Communication Ethics	3
COS 112 Interpersonal Communication	3
COS 210 Writing for Communication Studies	3
Advanced Writing and Communication Skills Requirement ¹	
CIM 111 Web Lab	3
or JMM 106 Visual Design	
or STC 102 Graphic Design for Strategic Communication	
Organizational Concentration Courses	
COS 316 Small Group Communication	3
COS 330 Conflict Management	3
COS 333 Business Communication	3
COS 418 Organizational Communication	3
Select 3 elective credit hours in Communication Studies with prior approval of a Communication Studies advisor.	3
Other Required Courses	
Students majoring in Communication Studies - Organizational Concentration must complete the following courses:	9
COS 351 Qualitative Research Methods	
COS 353 Quantitative Communication Research Methods and Analyses	
COS 479 Capstone for Communication Studies	
Total Credit Hours	39

¹ /undergraduate-academic-programs/communication/ (p. 188)

B.S.C. in Communication Studies - Public Advocacy Concentration

Core Courses	
COM 110 Communication Theory	3
COM 250 Freedom of Expression and Communication Ethics	3
COS 112 Interpersonal Communication	3
COS 210 Writing for Communication Studies	3
Advanced Writing and Communication Skills Requirement ¹	
CIM 111 Web Lab	3
or JMM 106 Visual Design	
or STC 102 Graphic Design for Strategic Communication	
Public Advocacy Concentration Courses	
COS 211 Public Speaking	3
COS 311 Advanced Oral Advocacy	3
COS 472 Persuasion	3
Select One Course:	3
COS 304 Intercollegiate Debate Theory and Practice (Must complete 3 credit hours)	
COS 377 Argumentation And Critical Thinking	
Select One Course:	3
COS 314 The Power of Dialogue	
or COS 316 Small Group Communication	
or COS 318 Nonverbal Communication	
or COS 336 Political Communication	

or COS 473 Words that Shaped the World or COS 474 Presidential Debates	
Other Required Courses	
Students majoring in Communication Studies - Public Advocacy Concentration must complete the following courses:	9
COS 352 Critical Research In Communication	
COS 354 Organizing for Action	
COS 477 Capstone In Engaged Communication Studies	
Total Credit Hours	39

¹ /undergraduate-academic-programs/communication/ (p. 188)

Minor in Communication Studies

Communication Studies Minor

The minor in Communication Studies requires 15 credit hours, at least six of which must be at the 300-level or above. The additional credit hours must be chosen with prior approval of a Communication Studies advisor. A grade of C or higher is required in all courses (a C- is not acceptable).

Students, in conjunction with an advisor, can construct a Communication Studies minor focusing on areas of specific interest. These sample areas of concentration listed below are notated on the transcript as a Communication Studies Minor. Possible areas of concentration include the following:

Sample Concentration in General Communication Studies

Offers a rich background in the field of human communication in a variety of contexts applicable to all personal, social and professional endeavors. Complements any major or academic/career objective.

COM 110 Communication Theory	3
Select four of the following:	12
COS 112 Interpersonal Communication	
COS 211 Public Speaking	
COS 316 Small Group Communication	
COS 318 Nonverbal Communication	
COS 333 Business Communication	
COS 336 Political Communication	
COS 343 Introduction to Intercultural Communication	
COS 418 Organizational Communication	
Total Credit Hours	15

Sample Concentration in Public Advocacy

Offers theory and application of oral communication and argumentation as it is used to influence others to promote social change and accomplish persuasive advocacy. Appropriate for students interested in a wide range of objectives, including legal studies and pre-law, sales, advertising, marketing, entrepreneurship, and civic and political engagement.

COS 211 Public Speaking	3
Select one of the following:	3

COS 304 Intercollegiate Debate Theory and Practice (complete three credits)	
COS 377 Argumentation And Critical Thinking	
Select three of the following:	9
COS 311 Advanced Oral Advocacy	
COS 314 The Power of Dialogue	
COS 318 Nonverbal Communication	
COS 336 Political Communication	
COS 352 Critical Research In Communication	
COS 472 Persuasion	
COS 473 Words that Shaped the World	
COS 474 Presidential Debates	
Total Credit Hours	15

Minor in Health Communication

Health Communication Minor

The minor in Health Communication requires COS 324 (Health Communication) and BPH 206 (Introduction to Public Health), plus six additional credits in Communication Studies and three additional credits in Public Health from the list below.

The 15 credit hour minor in Health Communication requires:

COS 324 Health Communication	3
BPH 206 Introduction To Public Health	3
Select two Communication Studies Electives	6
COS 325 Communication In Health Organization	
COS 426 Patient-Provider Communication	
COS 427 Health Behavior And Risk	
COS 472 Persuasion	
Select one Public Health elective	3
BPH 305 Issues In Health Disparities	
BPH 310 Global Health	
BPH 321 Health Promotion And Disease Prevention	
BPH 322 Introduction To Health Policy	
Total Credit Hours	15

A grade of C or higher is required in all courses (a grade of C- or lower is not acceptable).

Journalism and Media Management

<http://com.miami.edu/programs>

The Department of Journalism and Media Management offers majors and minors in Journalism, Broadcast Journalism, Electronic Media, and Media Management.

Introduction

The Department of Journalism and Media Management emphasizes hands-on learning and critical thinking within a multicultural, international context. Our students consistently win regional and national awards and obtain prestigious internships, long-term positions and admission

to excellent graduate programs and professional schools in a variety of fields.

Four majors and four minors are offered in the Department of Journalism and Media Management. The department's programs attract students interested in working in these specific fields, but also provide strong writing, creative, and analytical skills to students who pursue careers in other fields, such as law and business.

The School of Communication's Electronic Media and Broadcast Journalism majors are designed for students who intend to pursue professional work in the arts, crafts and businesses of electronic mass communication and allied fields.

Students majoring or minoring in these subjects study all aspects of television, radio, cable, broadband, digital and mobile operations. All Broadcast Journalism and Electronic Media students are encouraged to become involved in UMTV (the campus cable television channel available to the community, the UM campus and over the web) and the student-run radio station, WVUM-FM, serving South Florida.

The School's Media Management major is designed for students interested in the business and management aspects of contemporary media. Students may pursue interests in entrepreneurship, sales, management, technology and research, among other topics. Students are encouraged to network with industry professionals at Media Management Association meetings and expand their knowledge of media business operations on various platforms through local and national internships.

The School's major in Journalism prepares students to be writers, editors and designers for a variety of media from mainstream and alternative newspapers and magazines to online media and entrepreneurial ventures. We emphasize effective storytelling through writing, audio and video recording, photography, graphics and data visualization. Reporting skills, analytical thinking and journalistic ethics are stressed throughout the program. Students are encouraged to work for *The Miami Hurricane*, UM's award-winning online and print student-run newspaper, *Distraction* magazine, the *Ibis* yearbook, and various professional publications and websites.

The School's facilities include a state-of-the-art radio studio, two high-definition television studios, digital post-production suites and related capabilities.

Major Cognate Area

- People and Society (all department majors)

Minor Cognate Area

- People and Society (all department minors)

Dept. Code: JMM

Degree Programs

The Bachelor of Science in Communication is offered in Journalism, Electronic Media, Broadcast Journalism, and Media Management.

Major

Majors are offered in:

- Electronic Media

- Broadcast Journalism
- Media Management
- Journalism

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study. All majors must also complete a separate minor or second major within the School or in an academic program outside the School. Major/Minor pairing among Journalism, Broadcast Journalism, and Electronic Media is not permitted.

NOTE: Departmental Majors, if you wish to both major and minor in the Department of Journalism and Media Management, you must first obtain the written approval of the Chair of the department.

Admission to the Electronic Media, Broadcast Journalism, Media Management and Journalism Majors

Before admission as an Electronic Media, Broadcast Journalism, Media Management or Journalism major, a student must:

- Complete the Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).
- Students who have obtained the written approval of the Chair of Journalism and Media Management to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.
- Upon completion of a student's first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student's major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to a major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School. See PROBATION AND DISMISSAL (p. 21).

Majors

Majors in Journalism and Media Management

- B.S.C. in Electronic Media (p. 199)
- B.S.C. in Broadcast Journalism (p. 199)
- B.S.C. in Media Management (p. 200)
- B.S.C. in Journalism (p. 199)

Minors

Minors in Journalism and Media Management

- Electronic Media (p. 200)
- Broadcast Journalism (p. 200)
- Media Management (p. 201)
- Journalism (p. 201)

B.S.C. in Broadcast Journalism

JMM 108	Writing For The Digital Age	3
JMM 208	Fundamentals Of Newsgathering	3
COM 250	Freedom of Expression and Communication Ethics	3
JMM 245	Introduction to Electronic Media Production	3
JMM 106	Visual Design	3
Advanced Writing and Communication Skills Requirement ¹		
COS 211	Public Speaking	3
or COS 333	Business Communication	
or JMM 233	Television Performance	
Other Required Courses		
JMM 102	Understanding Media And Content In The Digital Age	3
JMM 303	Communication Law And Policy	3
JMM 317	Broadcast Journalism	3
JMM 345	Intermediate Electronic Media Production	3
JMM 301	Media Research And Analysis	3
or JMM 309	Data Journalism	
JMM 331	Information Graphics and Visualization	3
or JMM 341	Web Design	
JMM 517	Television News Reporting	3
or JMM 527	Television News Producing	
Select 3 additional credit hours in School of Communication courses ²		3
Additional Suggested Courses		
Consider additional elective options in Broadcast Journalism, which include (but are not limited to) the following:		
JMM 233	Television Performance	
JMM 235	Radio Production and Performance	
JMM 445	Advanced Electronic Media Production	
JMM 523	Sports Reporting	
JMM 533	Social Media For Journalists	
JMM 537	The Business Of Modern Journalism	
JMM 419	Interactive Storytelling	
JMM 541	Advanced Audio Video Narratives	
Additional Requirements		
Complete a minor or second major within or outside of the School ³		
Total Credit Hours		42

¹ /undergraduate-academic-programs/communication/ (p. 188)

² Chosen with the prior approval of a Broadcast Journalism faculty advisor.

³ Broadcast Journalism students may not minor in Journalism or in Electronic Media.

B.S.C. in Electronic Media

JMM 102	Understanding Media And Content In The Digital Age	3
JMM 245	Introduction to Electronic Media Production	3

JMM 108	Writing For The Digital Age	3
COM 250	Freedom of Expression and Communication Ethics	3
JMM 106	Visual Design	3
Advanced Writing and Communication Skills Requirement ¹		
COS 211	Public Speaking	3
or COS 333	Business Communication	
or JMM 233	Television Performance	
Other Required Courses		
JMM 301	Media Research And Analysis	3
or JMM 309	Data Journalism	
Select one of the following:		3
JMM 208	Fundamentals Of Newsgathering	
CIM 126	Introduction to Screenwriting	
STC 232	Writing for Public Relations	
		3
Additional Requirements		
Select 9 additional JMM credit hours at the 300-level or above ²		9
Select 6 additional JMM credit hours at the 400-level or above ²		6
Total Credit Hours		42

¹ /undergraduate-academic-programs/communication/ (p. 188)

² All electives must be chosen with prior approval of an Electronic Media faculty advisor. Students majoring in Electronic Media may not minor in Broadcast Journalism or Journalism.

B.S.C. in Journalism

Core Courses		
JMM 108	Writing For The Digital Age	3
JMM 208	Fundamentals Of Newsgathering	3
COM 250	Freedom of Expression and Communication Ethics	3
JMM 245	Introduction to Electronic Media Production	3
JMM 106	Visual Design	3
Advanced Writing and Communication Skills Requirement ¹		
COS 211	Public Speaking	3
or COS 333	Business Communication	
or JMM 233	Television Performance	
Other Required Courses		
JMM 102	Understanding Media And Content In The Digital Age	3
JMM 303	Communication Law And Policy	3
JMM 341	Web Design	3
JMM 221	Introduction to Documentary Photography	3
or JMM 331	Information Graphics and Visualization	
Select one of the following:		3
JMM 301	Media Research And Analysis	
JMM 309	Data Journalism	
JMM 444	Public Affairs Reporting	

JMM 317 Broadcast Journalism	
Select 6 additional credit hours at the 400-level or above in School of Communication courses ²	6
Select 3 additional credit hours in School of Communication courses ²	3
Additional Requirements	
Complete a minor or second major within or outside of the School. ³	
Total Credit Hours	42

¹ /undergraduate-academic-programs/communication/ (p. 188)

² Chosen with the approval of a Journalism faculty advisor.

³ Journalism students may not minor in Broadcast Journalism or in Electronic Media.

B.S.C. in Media Management

JMM 102 Understanding Media And Content In The Digital Age	3
COM 250 Freedom of Expression and Communication Ethics	3
JMM 108 Writing For The Digital Age	3
Select one of the following:	3
JMM 245 Introduction to Electronic Media Production	
JMM 106 Visual Design	
JMM 341 Web Design	
Advanced Writing and Communication Skills Requirement ¹	
COS 211 Public Speaking	3
or COS 333 Business Communication	
Other Required Courses	
JMM 301 Media Research And Analysis	3
JMM 305 Legal Issues In Media Management	3
JMM 314 Media Programming	3
JMM 402 Strategic Media Management	3
JMM 407 Media Entrepreneurship	3
JMM 435 Media Technology	3
Select 6 additional credit hours in School of Communication courses ²	6
Select a minimum of 3 additional credit hours at the 300-level or above in School of Communication courses ¹	3
Suggested electives might include, but are not limited to:	
JMM 313 Media Sales	
JMM 333 Social Media	
JMM 403 Media Economics	
JMM 495 Internship In Journalism And Media Management	
JMM 537 The Business Of Modern Journalism	
CIM 364 Business of Motion Pictures	
COS 418 Organizational Communication	
COS 472 Persuasion	
STC 388 Media Planning	
STC 423 Crisis Communication And Management	

STC 428 Public Relations Management	
STC 495 Advertising Management	
Additional Suggested Courses	
Media Management students are encouraged to complete:	
ECO 211 Economic Principles and Problems	
MKT 301 Marketing Foundations	
Total Credit Hours	42

¹ /undergraduate-academic-programs/communication/ (p. 188)

² Chosen with the prior approval of a Media Management faculty advisor.

Students seeking a Marketing minor from the School of Business Administration must complete:

MKT 301 Marketing Foundations ³	3
Select three additional courses in Marketing	9
Total Credit Hours	12

³ with a grade of B or higher.

Students must earn a cumulative grade point average of 2.5 or higher in the four courses submitted for the minor. Consult the School of Business Administration (p. 142) section.

Minor in Broadcast Journalism

The minor in Broadcast Journalism requires:

JMM 102 Understanding Media And Content In The Digital Age	3
JMM 108 Writing For The Digital Age	3
JMM 208 Fundamentals Of Newsgathering	3
JMM 245 Introduction to Electronic Media Production	3
JMM 317 Broadcast Journalism	3
Select 3 additional credit hours at the 300-level or above ¹	3
Total Credit Hours	18

¹ Chosen with the prior approval of a Broadcast Journalism faculty advisor.

A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Electronic Media

The minor in Electronic Media requires:

JMM 102 Understanding Media And Content In The Digital Age	3
Select 6 credit hours at the 300-level or above ¹	6
Select 6 additional credit hours ¹	6
Total Credit Hours	15

¹ Chosen with the prior approval of an Electronic Media faculty advisor.

A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Journalism

JMM 108	Writing For The Digital Age	3
JMM 208	Fundamentals Of Newsgathering	3
Select a minimum of 6 credit hours at the 300-level or above in Journalism ¹		6
Select 6 additional credit hours in Journalism ¹		6
Total Credit Hours		18

¹ Chosen with the approval of a Journalism faculty advisor.

A grade of C or higher is required in all courses (a C- is not acceptable).

Minor in Media Management

The minor in Media Management requires:

JMM 102	Understanding Media And Content In The Digital Age	3
JMM 301	Media Research And Analysis	3
JMM 314	Media Programming	3
Select a minimum of 3 credit hours at the 300-level or above ¹		3
Select 3 additional credit hours ¹		3
Total Credit Hours		15

¹ with the prior approval of a Media Management faculty advisor.

A grade of C or higher is required in all courses (a C- is not acceptable).

Strategic Communication

<http://com.miami.edu/programs>

The Department of Strategic Communication offers majors and minors in Advertising and Public Relations and a minor in Strategic Communication.

Dept. Code: STC

Introduction

The Department of Strategic Communication offers majors and minors in Advertising and Public Relations.

Students majoring in Advertising learn the art, craft and business of promoting brands from an integrated marketing perspective. The program gives students a well-rounded education in advertising that emphasizes strategy building, data gathering and analysis, creative development and media planning skills. The program includes practical and theoretical approaches to the world of professional advertising, both domestically and internationally. The curriculum is hands-on and students learn how to create an advertising campaign that meets their client's goals. Qualified students may elect to participate in the internship program, which provides an opportunity to work in the professional community of the Greater Miami area or other regions. The School's Advertising Program also has an active alliance with the American Advertising Federation.

Students majoring in Public Relations learn how to promote a client's business, image, product or service. Public relations is a strategic communication process that builds mutually beneficial relationships between organizations (business, government, nonprofit, individual) and their public's. PR practitioners develop and deliver key messages through traditional and social media channels. The program provides a well-rounded education in public relations that emphasizes research and analysis, creative development and the relationship of all media to PR in both public and private sectors.

The hands-on curriculum reflects the importance of strategic critical thinking, research for understanding target audiences, writing, design expertise and creativity. Students create and execute a PR campaign in a senior-level capstone course that serves a client organization in the community. Demand for PR interns is high, and qualified students may elect to participate in the internship program to acquire professional experience in South Florida and other regions. The program has ties to the Public Relations Society of America and maintains a Public Relations Student Society of America chapter.

Major Cognate Area

- Advertising General Track:
 - People and Society
- Advertising Management Track:
 - People and Society
- Advertising Creative Track:
 - People and Society or
 - Arts and Humanities
- Public Relations:
 - People and Society

Minor Cognate Area

- Advertising Minor:
 - People and Society
- Public Relations Minor:
 - People and Society
- Strategic Communication Minor:
 - People and Society

Please note, students completing majors and minors within the same department may only satisfy one required cognate area of study.

Degree Programs

The Bachelor of Science in Communication is offered in Advertising and Public Relations

Majors are offered in:

- Advertising General Track
- Advertising Creative Track
- Advertising Management Track
- Public Relations

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's General Education Required Areas of Study (p. 19). Advertising majors must also complete a separate minor or a second

major in either a second Program of Study within the School or in an academic program outside the School.

Admission to the Advertising and Public Relations Majors

Before admission as an Advertising or Public Relations major, a student must:

- Complete the five Core courses listed below, in residence at the University, all with grades of C or higher (C- is not acceptable).
- Students who have obtained the written approval of the Chair of Strategic Communication to use transfer credit hours to satisfy one or more requirements of that major may be required to complete additional courses in residence at the University before being admitted to that major.
- Upon completion of a student's first 45 University credit hours while enrolled in the School of Communication, all University credit hours earned toward the major will be used in computing a student's major cumulative grade point average; only those students with a cumulative average of 2.5 or higher will be admitted to a major.
- A student who has completed 45 credit hours while enrolled in the School of Communication, but who has not been admitted to one of the Communication majors, may be dismissed from the School. A student who has completed 60 University credit hours while enrolled in the School, but who has not been admitted to one of the Communication majors, will be dismissed from the School. See PROBATION AND DISMISSAL (p. 21).

Major in Advertising

Students majoring in advertising will choose one of the following three tracks:

- Advertising General Track
- Advertising Management Track
- Advertising Creative Track

Major in Public Relations

A major is offered in Public Relations.

Each candidate for the degree of Bachelor of Science in Communication will complete School of Communication requirements including courses in the School's [General Education Required Areas of Study](#). Public Relations majors must also complete a separate minor or a second major in either a second Program of Study within the School or in an academic program outside the School.

Minors in Strategic Communication Department

The Department of Strategic Communication offers minors in:

- Advertising
- Public Relations
- Strategic Communication

The minors in Advertising, Public Relations and Strategic Communication require a grade of C or higher in all courses (a C- is not acceptable).

Majors

Majors in Strategic Communication

- B.S.C. in Advertising - General Advertising Track (p. 203)
- B.S.C. in Advertising - Advertising Management Track (p. 203)
- B.S.C. in Advertising - Advertising Creative Track (p. 202)
- B.S.C. in Public Relations (p. 204)

Minors

Minors in Strategic Communication

- Advertising (p. 204)
- Public Relations (p. 205)
- Strategic Communication (p. 205)

B.S.C. in Advertising - Advertising Creative Track

Core Courses		
STC 102	Graphic Design for Strategic Communication	3
JMM 108	Writing For The Digital Age	3
STC 114	Principles of Advertising	3
STC 200	Advertising Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3
Other Required Courses		
STC 202	Advanced Graphic Design for Advertising	3
STC 231	Advertising Copywriting and Concept	3
STC 331	Advanced Copywriting	3
or STC 390	Art Direction	
STC 384	Advertising Creative Strategy and Execution	3
STC 434	Advertising Campaigns	3
STC 496	Advertising Portfolio Development	3
Select two additional Advertising Electives ¹		6
STC 103	Statistical Reasoning For Strategic Communication	
STC 202	Advanced Graphic Design for Advertising	
STC 331	Advanced Copywriting	
STC 334	Social Media Messaging And Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	
STC 380	Advertising Internship	
STC 384	Advertising Creative Strategy and Execution	
STC 389	Media Buying and Advertising Sales	
STC 390	Art Direction	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
STC 482	International Public Relations	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics In Advertising	
STC 491	The Business Of Account Management	
Additional Requirements		
COS 211	Public Speaking	3

MKT 301	Marketing Foundations	3
MKT 310	Consumer Behavior and Marketing Strategy	3
Total Credit Hours		48

¹ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

Electives outside the Advertising major (but within the School of Communication) must be approved by the Chair of Strategic Communication.

Students seeking a Marketing minor from the School of Business Administration must complete:

MKT 301	Marketing Foundations ²	3
Select three additional courses in Marketing		9
Total Credit Hours		12

² with a grade of B or higher.

Students must earn a cumulative grade point average of 2.5 or higher in the four courses submitted for the minor. Consult the School of Business Administration (p. 142) section.

B.S.C. in Advertising - Advertising Management Track

Core Courses		
STC 102	Graphic Design for Strategic Communication	3
JMM 108	Writing For The Digital Age	3
STC 114	Principles of Advertising	3
STC 200	Advertising Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3
Other Required Courses		
STC 233	Writing for Advertising Account Management	3
STC 312	Research Methods for Advertising	3
STC 388	Media Planning	3
STC 434	Advertising Campaigns	3
STC 491	The Business Of Account Management	3
STC 495	Advertising Management	3
Select two additional Advertising Electives¹		6
STC 103	Statistical Reasoning For Strategic Communication	
STC 202	Advanced Graphic Design for Advertising	
STC 331	Advanced Copywriting	
STC 334	Social Media Messaging And Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
COS 343	Introduction to Intercultural Communication	
STC 350	International and Cross-cultural Advertising	
STC 380	Advertising Internship	

STC 384	Advertising Creative Strategy and Execution	
STC 389	Media Buying and Advertising Sales	
STC 390	Art Direction	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
STC 482	International Public Relations	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics In Advertising	
STC 491	The Business Of Account Management	
Additional Requirements		
COS 211	Public Speaking	3
MKT 301	Marketing Foundations	3
MKT 310	Consumer Behavior and Marketing Strategy	3
Total Credit Hours		48

¹ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

Electives outside the Advertising major (but within the School of Communication) must be approved by the Chair of Strategic Communication.

Students seeking a Marketing minor from the School of Business Administration must complete:

MKT 301	Marketing Foundations ²	3
Select three additional courses in Marketing		9
Total Credit Hours		12

² with a grade of B or higher.

Students must earn a cumulative grade point average of 2.5 or higher in the four courses submitted for the minor. Consult the School of Business Administration (p. 142) section.

B.S.C. in Advertising - General Advertising Track

Core Courses		
STC 102	Graphic Design for Strategic Communication	3
JMM 108	Writing For The Digital Age	3
STC 114	Principles of Advertising	3
STC 200	Advertising Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3
Other Required Courses		
STC 231	Advertising Copywriting and Concept	3
STC 233	Writing for Advertising Account Management	3
STC 312	Research Methods for Advertising	3
STC 388	Media Planning	3
STC 434	Advertising Campaigns	3
Select three additional Advertising Electives¹		9

STC 103	Statistical Reasoning For Strategic Communication	
STC 202	Advanced Graphic Design for Advertising	
STC 331	Advanced Copywriting	
STC 334	Social Media Messaging And Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	
STC 380	Advertising Internship	
STC 384	Advertising Creative Strategy and Execution	
STC 389	Media Buying and Advertising Sales	
STC 390	Art Direction	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
STC 482	International Public Relations	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics In Advertising	
STC 491	The Business Of Account Management	
Additional Requirements		
COS 211	Public Speaking	3
MKT 301	Marketing Foundations	3
MKT 310	Consumer Behavior and Marketing Strategy	3
Total Credit Hours		48

¹ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

Students seeking a Marketing minor from the School of Business Administration must complete:

MKT 301	Marketing Foundations ²	3
Select three additional courses in Marketing		9
Total Credit Hours		12

² with a grade of B or higher.

Students must earn a cumulative grade point average of 2.5 or higher in the four courses submitted for the minor. Consult the School of Business Administration (p. 142) section.

B.S.C. in Public Relations

Core Courses		
STC 102	Graphic Design for Strategic Communication	3
STC 103	Statistical Reasoning For Strategic Communication	3
JMM 108	Writing For The Digital Age	3
STC 116	Principles of Public Relations	3
STC 201	Public Relations Strategy Development	3
COM 250	Freedom of Expression and Communication Ethics	3

Other Required Courses		
STC 203	Advanced Graphic Design For Public Relations	3
STC 232	Writing for Public Relations	3
STC 311	Public Relations Research	3
STC 346	Public Relations Message Development And Execution	3
STC 436	Public Relations Campaigns	3
Select two additional Public Relations Electives¹		6
STC 330	Travel & Tourism	
STC 334	Social Media Messaging And Strategies	
STC 350	International and Cross-cultural Advertising	
STC 381	Public Relations Internship	
STC 412	Public Opinion and Mass Communication	
STC 416	Public Relations Ethics	
STC 423	Crisis Communication And Management	
STC 424	Media Relations	
STC 426	Sports, Publicity, & Promotions	
STC 427	Religion, Communication, & Culture	
STC 428	Public Relations Management	
STC 460	Corporate Communication And Public Relations	
STC 481	Public Relations Experience Program (Prep)	
STC 482	International Public Relations	
STC 493	Special Topics in Public Relations	
Additional Requirements		
COS 211	Public Speaking	3
MKT 301	Marketing Foundations	3
Total Credit Hours		45

¹ Students must complete at least one course with an international or intercultural focus. Courses that meet this requirement include: STC 350, STC 482, COS 343, and COS 545. Other courses may be used to fulfill this requirement with the approval of an Advertising faculty advisor. Studying abroad also fulfills this requirement.

Students seeking a Marketing minor from the School of Business Administration must complete:

MKT 301	Marketing Foundations ¹	3
Select three additional courses in Marketing		9
Total Credit Hours		12

¹ with a grade of B or higher.

Students must earn a cumulative grade point average of 2.5 or higher in the four courses submitted for the minor. Consult the School of Business Administration (p. 142).

Minor in Advertising

Advertising Minor

The minor in Advertising requires 15 credit hours. A grade of C or higher is required in all courses (a C- is not acceptable).

Required Courses		
STC 114	Principles of Advertising	3
STC 200	Advertising Strategy Development	3
Select 9 credit hours with the approval of an Advertising faculty advisor ¹		9
STC 102	Graphic Design for Strategic Communication	
STC 103	Statistical Reasoning For Strategic Communication	
STC 202	Advanced Graphic Design for Advertising	
STC 231	Advertising Copywriting and Concept	
STC 233	Writing for Advertising Account Management	
STC 312	Research Methods for Advertising	
STC 331	Advanced Copywriting	
STC 334	Social Media Messaging And Strategies	
STC 340	Interactive, Digital, and Social Media in Advertising	
STC 350	International and Cross-cultural Advertising	
STC 380	Advertising Internship	
STC 384	Advertising Creative Strategy and Execution	
STC 388	Media Planning	
STC 389	Media Buying and Advertising Sales	
STC 390	Art Direction	
STC 401	Seminar in Advertising and Society	
STC 412	Public Opinion and Mass Communication	
STC 483	Integrated Marketing Communication	
STC 490	Special Topics In Advertising	
STC 491	The Business Of Account Management	
Total Credit Hours		15

¹ It is the student's responsibility to meet any prerequisites for elective courses other than STC 114 and STC 200. Such prerequisites (these are listed as a link for each course) will not be waived.

Minor in Public Relations

Public Relations Minor

The minor in Public Relations requires 15 credit hours. A grade of C or higher is required in all courses (a C- is not acceptable).

Required Courses		
STC 116	Principles of Public Relations	3
STC 201	Public Relations Strategy Development	3
Select 9 credit hours from the list below with the approval of an Public Relations faculty advisor ¹		9
STC 102	Graphic Design for Strategic Communication	
STC 103	Statistical Reasoning For Strategic Communication	
STC 203	Advanced Graphic Design For Public Relations	
STC 232	Writing for Public Relations	
STC 311	Public Relations Research	
STC 330	Travel & Tourism	
STC 334	Social Media Messaging And Strategies	

STC 346	Public Relations Message Development And Execution	
STC 381	Public Relations Internship	
STC 412	Public Opinion and Mass Communication	
STC 416	Public Relations Ethics	
STC 423	Crisis Communication And Management	
STC 424	Media Relations	
STC 426	Sports, Publicity, & Promotions	
STC 427	Religion, Communication, & Culture	
STC 428	Public Relations Management	
STC 460	Corporate Communication And Public Relations	
STC 481	Public Relations Experience Program (Prep)	
STC 482	International Public Relations	
STC 493	Special Topics in Public Relations	
Total Credit Hours		15

¹ It is the student's responsibility to meet any prerequisites for elective courses other than STC 116 and STC 201. Such prerequisites (these are listed as a link for each course) will not be waived.

Minor in Strategic Communication

Strategic Communication Minor

The minor in Strategic Communication requires 15 credit hours. A grade of C or higher is required in all courses (a C- is not acceptable).

STC 114	Principles of Advertising	3
STC 116	Principles of Public Relations	3
STC 200	Advertising Strategy Development	3
or STC 201	Public Relations Strategy Development	
Select two additional STC courses with approval of faculty advisor		6
Total Credit Hours		15

NOTE: Students majoring in Advertising (all tracks) and Public Relations may not minor in Strategic Communication.

Continuing and International Education

<http://www.continue.miami.edu>

The University of Miami's Division of Continuing & International Education (DCIE) is dedicated to providing the highest quality education and training – both on campus and online – to people of all ages, throughout every stage of life.

DCIE offers a wide range of undergraduate, graduate and noncredit courses (including fully online and hybrid options) that span a wide array of industry- and academic-related disciplines. Our programs help advance and enrich students who are either beginning their academic journey to those seasoned professionals pursuing career opportunities in South Florida or within the global community.

DCIE manages the following programs:

- Non degree credit courses in undergraduate and graduate studies
- Noncredit professional certificate programs
- Bachelor of General Studies degree program for adults 22+
- Online middle school and high school
- Summer college credit programs for high school students
- Intensive English-language programs for international students
- Intensive language programs
- Osher lifelong learning community for adults aged 50+
- Corporate/custom training and workforce development programs

Adult Student Access Program

www.miami.edu/asap

Students that meet the minimum requirements may take up to 30 credit hours in an undergraduate, non-degree seeking category which may be applied to certain degree programs, after all application and degree seeking requirements are met. In order to be enrolled in this category, students submit an online application with any required documents. A minimum 2.5 G.P.A. is required to continue in the program beyond 12 attempted credit hours. The application for enrollment may be found on the Web at www.miami.edu/asap (<http://www.miami.edu/asap>).

Students may take up to 6 credit hours, lifetime maximum, in a graduate, non-degree seeking category which may be applied to certain degree programs, after all application and degree seeking requirements are met. Not all graduate departments participate in this program. In order to enroll in this category, students submit an online application, after securing the written permission of the participating graduate department. The application for enrollment may be found on the Web at www.miami.edu/asap (<http://www.miami.edu/asap>).

For more information, contact: The Adult Student Access Program, DCIE, University of Miami, umnondegree@miami.edu, 305-284-4000.

Bachelor of General Studies

www.miami.edu/bgs

Introduction

Under the leadership of Collegiate Studies, the DCIE offers the Bachelor of General Studies (BGS) degree program, which provides a solid and

rigorous, interdisciplinary academic experience for adult, part-time students. It is designed specifically for adults who have previously attended college but have not yet completed their undergraduate degrees, as well as for those who have never had the opportunity to pursue post-secondary studies. You are eligible for admission if you graduated from high school at least four years ago, have not attended the University of Miami during the past calendar year, have a minimum of 2.2 grade-point average on previous college work, and are a U.S. citizen or permanent resident.

The BGS curriculum allows an individual the flexibility to design an area of concentration to enhance professional or personal goals. Designed to strengthen critical thinking and writing skills of the students, each course is taught by exceptional University of Miami faculty who are committed to the adult student.

Advisors offer personalized attention in career exploration and academic advising and discuss educational alternatives with potential students. Every effort is made to ensure that the process - from admission to registration - is efficient and convenient. Students may attend day, evening, or weekend classes to complete their educational goals.

To underscore its commitment to the adults in our community, the University offers a special tuition to students in the Bachelor of General Studies program which enables the adult, part-time student to pursue this degree at an affordable tuition rate. What's more, many courses are available online allowing for greater scheduling flexibility.

The admission process takes into consideration that one's grade-point average, while significant, is only one factor in determining an applicant's qualification for acceptance. Therefore, an admissions interview with an advisor from the DCIE will be scheduled to supplement the information you provide on the BGS application form, which may be obtained by calling Collegiate Studies at 305-284-2727 or at www.miami.edu/bgsdegree (<http://www.miami.edu/bgsdegree>).

Requirements for Graduation

I. Candidates for the Bachelor of General Studies (BGS) degree must complete the required credit hours and achieve the quality point average specified for students in the University at large as stated in the section Academic Regulations and Procedures. Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

1. Advanced Standing and Placement (Credit Hour Granted);
2. Credit by Examination;
3. Advanced Placement (by proficiency examination);

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the credit hours for that subject as a general requirement for graduation, toward the 120 credit hours required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for ENG 105, but these credit hours may not be applied towards the 120 required for graduation.

III. Credit Only

Only free electives may be taken under this option. Courses which satisfy the major, the distributions of the School, the General Education

Requirements of the University or any course for which a C or better is required may not be taken for credit only.

IV. Required Areas of Study

English Composition ¹		
ENG 105	English Composition I (or their equivalent)	3
ENG 106	English Composition II (or their equivalent)	3
Foreign Languages		
Select a minimum of 3 credit hours of foreign language at the 200 course level or higher.		3
People and Society (History/Social Sciences)		
Select 6 credit hours in a single two-semester History survey sequence		6
Select 9 credit hours in courses taught by at least two of the following disciplines:		9
African American Studies		
American Studies in Social Science		
Anthropology		
Communication		
Economics		
Education and Psychological Studies		
Geography		
Judaic Studies		
Political Science		
Psychology and Sociology		
Arts and Humanities		
Select a total of 12 credit hours in each of the following disciplines:		12
Art History		
Literature		
Philosophy and Religious Studies		
Select a total of 9 credit hours in each of the following disciplines:		9
American Studies in Humanities		
Art		
Art History		
Communications (Motion Pictures)		
Dance		
Theatre Arts		
Musicology		
English		
Italian		
German		
Portuguese		
Spanish or French Literature		
Philosophy		
Religion or Women's Studies in Humanities		
Mathematics/Computer Information Systems		
MTH 101	Algebra for College Students (or an acceptable score on the math placement test is required)	3
MTH 113	Finite Mathematics	3

Select one 3 credit hour course in computer information systems	3
Natural World (Natural Sciences)	
Select 6 credit hours in one or more of the following disciplines:	6
Biology	
Chemistry	
Geological Sciences	
Environmental Science	
Marine Sciences	
Physics and Physical Sciences	
Area of Concentration	
Every candidate for a degree must select an area of concentration. ²	30
Interdisciplinary Courses ³	
ENG 333 Writing the Research Paper	3
Select four more interdisciplinary courses to meet requirements for graduation	12
Electives	
Select elective courses in consultation with their advisor to meet the 120 credit hour graduation requirement	15
Total Credit Hours	120

- ¹ during the first year of enrollment in the School.
- ² The candidate designs an area of concentration that meets his/her professional and personal goals. The course of study is reviewed and approved by the Dean and/or Director of the program.
- ³ BGS Interdisciplinary courses are especially designed to foster critical thinking and taught by faculty from all departments.

Credit Certificate Programs

miami.edu/ccp

Not everyone needs or wants a complete degree program. Recognizing this, the DCIE - in cooperation with several other colleges and schools of the University - offers special Credit Certificate Programs.

Focusing on a single subject, these certificate programs allow students to concentrate on courses that offer the specific knowledge and skills needed for career advancement. All courses are taught by University of Miami faculty at the undergraduate level and are taken for academic credit hour.

Each certificate program varies in the number of required credit hours. While required courses are noted, students may work with an advisor in developing an individually-designed program.

Credit certificate programs are currently available in the following subject areas:

Certificate in Accounting

The Undergraduate Certificate in Accounting is awarded by the Division of Continuing and International Education and the Department of Accounting. It is designed for those who hold at least an undergraduate degree (preferably in business) from an accredited college or university, and whose present interest or occupation is accounting. The program

requires students to take the same 24 credit hours of accounting courses required for the undergraduate major in Accounting. To sit for the Certified Public Accountant (CPA) examination in Florida, students must have completed 120 credit hours, including 24 credit hours of accounting (above the elementary level) and 24 credit hours of business courses, including a minimum of six credit hours of business law. There are additional educational requirements to become licensed as a Certified Public Accountant in Florida. Students may wish to consider either the Graduate Certificate in Accounting or the Graduate Certificate in Taxation (offered by the School of Business) to meet those additional education requirements.

Certificate in Computer Information Systems

The Certificate in Computer Information Systems program is designed to provide a broad background in business computer information systems and to develop the technical skills one needs to stay competitive in this challenging field. The program will be of particular benefit to programmers and to management information systems analysts. The certificate is awarded by the DCIE and the Department of Computer Information Systems upon the successful completion of 18 credit hours.

For more information, contact:

Division of Continuing and International Education
Collegiate Studies
<http://www.miami.edu/ccp>
305-284-2727

Global Academy

<http://www.umga.miami.edu>

University of Miami Global Academy (UMGA) offers an online middle and high school college preparatory program for both full-time and part-time students. Students have the option of either taking courses and transferring them back to their local school or completing all of their courses at UMGA and graduating from the University of Miami Global Academy. In addition, UMGA offers courses on an accelerated schedule for credit advancement or credit recovery. Whether students are at the middle or high school level, all are provided with the following:

- Instruction from certified, highly qualified teachers
- Academic coaching to assist with schedules and college acceptance
- Small class size
- A highly interactive learning environment that promotes engagement
- Comprehensive curriculum offering regular, honors, Advanced Placement (AP) and world language courses including French, Latin, and Mandarin Chinese
- iESOL Program to increase English language proficiency

Additional information regarding middle school, high school, and summer school can be found at www.umga.miami.edu (<http://www.umga.miami.edu>).

Intensive Language Institute

The Intensive Language Institute offers comprehensive language instruction for academic, professional, and personal purposes. The Intensive English Program, a full-time course of study for international students who wish to pursue university studies in the United States, provides instruction in English language and academic study skills. The

ILI also offers certificate programs, part-time language courses and customized language programs.

Intensive English Program

The Intensive English Program is designed to prepare students to participate successfully in the academic environment. Students are given a placement test upon arrival to determine the most appropriate level of study. Courses are offered at five levels of instruction. The skills-based curriculum integrates reading and writing, listening and speaking into one complete program of study. The focus is on English language acquisition and application in an academic setting. Specialized classes vary by level; focusing on the needs of the language learners. Satisfactory completion of the highest level meets the English language requirement for acceptance to undergraduate programs at the University.

For more information contact:

Intensive English Program
PO Box 248005
Coral Gables, FL 33124-1610
305-284-2752
E-mail: iep@miami.edu
Visit our website at www.miami.edu/iep (<http://www.miami.edu/iep>)

Intensive Language Programs

Communicative language classes are offered in the evenings and on weekends in Spanish, Portuguese, Italian, French, Mandarin Chinese and ESL throughout the year. These courses focus on meaningful communication in the chosen language. Specialized classes focus on Accent Reduction, Medical Spanish or Medical Haitian Creole, and/or Business Writing. A 7-day immersion-style program in Spanish is also offered. Several non-credit certificates are available: the English for Law School Studies Certificate is a 6-week summer program for international students, the Business Communication Certificate focuses on oral and written skills necessary for the workplace, and the Teaching English as a Foreign Language Certificate teaches skills needed to teach ESL or EFL abroad. The Intensive Language Institute also develops and conducts customized language courses on or off campus tailored for individuals, groups, and organizations with specialized language training needs. For further information, or to register for classes, please call us at 305-284-4000 or visit us on the web at: www.continue.miami.edu (<http://www.continue.miami.edu>). Email: alc.cstudies@miami.edu.

Office of Professional Advancement

Dedicated to providing the highest quality, competency-based, continuing professional education, the Office of Professional Advancement offers seminars, courses and certificate programs to meet the training and professional development needs of both corporations and individuals.

For more information, specific curriculum descriptions and a listing of current seminars, courses and workshops, contact the:

Office of Professional Advancement, DCIE
University of Miami
111 Allen Hall
Coral Gables, Florida 33124-1610
305-284-5800 or
email opa@miami.edu.

Additional information on the web at: <http://www.continue.miami.edu>.

Alfus Healthcare Advocacy

This program offers a comprehensive curriculum geared to educate students in the complex field of the US healthcare system. Healthcare advocates strive to maintain high individual services for clients in a system that is frequently impersonal and intimidating. Classes are taught by industry leaders. The program is offered online in cohorts of 8 modules for a period of approximately 9 months. Upon completion, students are prepared to successfully enter this promising new field.

For detailed course descriptions, calendar and tuition cost, please visit our website at: <http://www.continue.miami.edu/pac>.

Electronic Medical Records Specialist Certificate

Manage electronic medical records and gain the professional knowledge to become an essential member of the healthcare team. Learn through hands-on practice sessions using PrimeSUITE®, electronic medical records software. The Program prepares students to sit for the Certified Electronic Health Records Specialist (CEHRS) examination through the National Health Career Association.

For detailed course description, calendar and tuition cost, please visit our website at www.continue.miami.edu.

Business and Leadership Certificate Programs

The Office of Professional Advancement offers certificate programs in the areas of business, Leadership and Nonprofit areas. These non-credit certificate programs are tailored for individuals who want to improve their business and leadership skills.

For a full list of business certificate programs offered, please visit our website: <http://www.continue.miami.edu>.

Certified Professional Coach Program

This Coach Certificate Training Program is designed to support you in becoming a professional coach or in using coaching skills to enhance your leadership, management, and/or communication skills. This program has been written by master coaches and aligns with the International Coach Federation (ICF) Core Coaching Competencies. The University of Miami has designed a thorough program that will allow you to make a powerful leap into using coaching skills and becoming a professional coach. The Certified Professional Coach Program is a 140 hour, eleven month program designed for those interested in a career in coaching, who also want outstanding training in order to serve clients at the highest level. Additionally, it is designed for leaders, managers, human resource professionals, teachers, or service professionals (doctors, lawyers, counselors, consultants, etc.) who want to dramatically improve their ability to communicate, motivate, inspire, and empower others.

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu/coach>.

Human Resources Management Certificate Program

This certificate provides the latest in proven techniques and strategies to effectively manage organizational challenges. The curriculum covers the following topics: Strategic Management, Legal and Regulatory Issues; Employment, Planning, and Placement; Benefits and Compensations; Development and Administration; Training and Development and Employee and Labor Relations. The HR Program is recognized by the Greater Miami Society for Human Resource Management. The comprehensive curriculum works for the newcomer as well as the seasoned professional and is especially useful to small and medium-size business owners. (6 months)

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu/hrm>.

SHRM® Certification Course (SHRM-CP™ / SHRM-SCP™)

Establish yourself as a globally-recognized human resource expert by earning the new standard in HR Certification: SHRM Certified Professional (SHRM-CPT®) and SHRM Senior Certified Professional (SHRM-SCP®). Designed for SHRM credential candidates, this course will expand and test your knowledge of practical, real-life competencies in areas critical for HR career success. Combining expert instruction with the SHRM Learning System® for SHRM - CP™/SHRM-SCP™, you will learn faster, retain more knowledge, and stay on track for success on the exam.

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu>

Interior Design Certificate Program

If you have always had an eye for design, and have a knack for taking an ordinary space and making it feel extraordinary, then the University of Miami Certificate in Interior Design is for you. The Certificate in Interior Design Program offers non-credit courses to those who want to enrich their cultural experiences or who are interested in improving their professional or occupational skills. Taught by industry professionals, our Certificate in Interior Design program focuses on the important fundamentals to enter the design field. A hands-on program, students will learn history of interiors, principles and elements of design, freehand and computer drafting, specification and materials, professional practice, photography and building a portfolio.

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu>

Paralegal Studies Certificate Program

The UM Paralegal Studies program is an intense four-month course of study which certifies the successful student as a qualified professional ready to start an exciting new career as a paralegal. Classes are taught by prominent local attorneys, Judges and Magistrates. The Paralegal Program classes are offered on the weekends, weekdays or weekday evenings at the Coral Gables campus and on weekday evenings in

Broward. This program is also available online in both English and Spanish. (4 months)

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu/paralegal>.

Paralegal Specialist Certificate

The Paralegal Specialist Certificates provide both beginning and experienced paralegals with expansive educational and professional opportunities. The certificate programs allow paralegals to augment current skills and focus on virtually any area of the law. Choose from over 20 Paralegal Specialist Certificates and give yourself an edge in today's competitive job market. All specialist courses are available online so students are able to enroll at any time. (6 months)

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu/paralegal>.

Personal Financial Planning Certificate Program

Designed for students preparing for professional examinations and professional practice in personal financial planning.

Our program consists of providing the highest quality CFP education through Dalton Education, a leading provider of innovative education solutions in financial planning. The founders of Dalton Education have helped thousands of financial professionals earn the CFP® certification marks with their leading CFP review course, THE DALTON REVIEW®. Students can choose from an independent, self-paced, online education program or a live, instructor – led, internet delivered program.

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu/pfp>.

Social Media Management Education Program

University of Miami is proud to offer a Social Media Professional Certificate and Social Media Strategist Certificate. This is a cutting edge program, designed to teach the business applications of social media communications. This self-paced online program is convenient, practical, and affordable with the flexibility to begin at a time that works best for you.

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu>.

Project Management Professional Certificate (PMP®)

This program satisfies the educational requirement needed to qualify to take the Project Management Professional (PMP®) exam.

Learn the core competencies of project management, following the Project Management institute's A Guide to the Project Management Body of Knowledge, (PMBOK®- Guide). Become proficient in the knowledge areas, process groups, skills and techniques delineated in the PMBOK Guide to execute projects effectively and efficiently through all stages.

For more detailed course descriptions, current schedule, and prices please visit our website at <http://www.continue.miami.edu> .

Education and Human Development

<http://www.education.miami.edu>

Introduction

The School of Education and Human Development offers undergraduate majors in:

- Human and Social Development
 - Track I: Individual and Relational Development
 - Track II: Community and Program Development
 - Track III: Human and Social Development Studies
- Athletic Training
- Exercise Physiology
- Sport Administration
- Elementary (K-6)/Exceptional Student Education (K-12) with ESOL and Reading Endorsements (K-12)
- Secondary English with ESOL Endorsement (K-12)
- Secondary Science, Mathematics and Social Science (6-12).

The degrees of Master of Science in Education, Specialist in Education, Doctor of Education, and Doctor of Philosophy are available in various departments within the School. These programs are under the supervision of the Dean of the Graduate School and the School of Education and Human Development Sr. Associate Dean for Graduate Studies.

Vision/Mission

Our vision is to be a center of excellence in the study, promotion and integration of educational, psychological, and physical well-being in multicultural communities.

Our mission is to produce knowledge and prepare the next generation of leaders, researchers, and agents of change and well-being in education and the community.

Academic Policies

Admission

Applications for incoming freshman are processed and reviewed by the Office of Admission.

Application to the Bachelor of Science in Education program is requested by February 1st.

Early application is encouraged.

Transfer students: The academic accomplishments of each transfer student will be evaluated on an individual basis. A 3.0 GPA is recommended for transfer admission.

Application deadline for transfer students is March 1st.

Students admitted into the SEHD programs are held to the program requirements stated in the Bulletin for that term.

Student Responsibilities

Students are responsible for planning their own programs and for meeting degree requirements. It is the student's responsibility to understand and fully comply with the provisions set forth in this Bulletin

and written changes to their program of study. Written requests for variation from program or school requirements are reviewed by an administrative committee.

Matriculated students who elect to transfer courses from another institution over a summer or intersession term, must receive departmental or program approval prior to enrolling in the course. Students are responsible for adhering to the residency rule which states that the last 45 consecutive credits must be earned at UM.

A student advising compact specifies the dual responsibilities between students and advisors in each program.

Academic Progress and Probation

The School will review each student's record at the end of each semester.

When a student's semester or cumulative average is less than stated below, or progress toward degree completion is unsatisfactory, the student will be placed on academic probation or warning in accordance with the School of Education and Human Development policies and procedures.

Students on probation are not permitted to enroll in more than 12 credit hours, shall make arrangements to meet on a monthly basis with their academic advisor, and may have a STOP placed on their future enrollment until grades are further reviewed. The following criteria will determine probationary status.

Credit Hours Earned	CGPA	CGPA (Exercise Physiology Majors Only)
Fewer than 30 credit hours	1.7	2.0
30-59 credit hours	2.0	2.5
60+ credit hours	2.3	2.5

Note: There are different retention and probation policies for Athletic Training majors. Please see the Athletic Training (p. 214) website or the Athletic Training Guidelines Manual for this and other important information regarding the requirements for completion of the Athletic Training major.

Note: The minimum GPA required for graduation from a Teacher Education Program is 2.5.

Subject to Dismissal

A student who remains on academic probation twice during their undergraduate studies can be designated as "Subject to Dismissal" and will be dismissed the following semester if not removed from probationary status. It is not required to be on this status to be dismissed from the School of Education and Human Development or from the University of Miami.

Academic Dismissal

A student in the School of Education and Human Development whose CGPA or progress toward degree completion, falls below the level of the minimum standards of the University of Miami and/or the School of Education and Human Development, may be dismissed.

Accreditation

Kinesiology and Sport Sciences offers the Athletic Training Program that is accredited by the Commission on Accreditation of Athletic Training Education (CAATE); the Sport Administration Program is approved by the North American Society of Sport Management. Teacher Education Programs offered by the School of Education and Human Development are approved by the Florida Department of Education. In conjunction with the Phillip and Patricia Frost School of Music, the School of Education and Human Development offers Teacher Education Programs in Music Education at the undergraduate and graduate levels. Students who successfully complete their program of studies and submit an application to the Florida Department of Education - Bureau of Educator Certification are eligible to receive a Professional Teaching Certificate.

Educational and Psychological Studies

Dept. Code: EPS

Bachelor of Science in Education: Human and Social Development

The major in **Human and Social Development (HSD)** focuses on the promotion of healthy development and well-being. It prepares students to work with people in multiple contexts and settings:

- health and human services
- schools, universities, and community programs
- government and non-government agencies
- grass-roots movements

By exploring the scholarly and practical interconnections among **individual, interpersonal, social, and community approaches to change**, students learn to identify barriers to well-being and to implement effective change-oriented strategies and policies. HSD coursework emphasizes **theory, research, and skills**. It culminates in a **practicum** in a setting related to students' area of interest and prepares them for both graduate studies and careers.

Students choose between three areas of concentration (tracks).

- **Track I: Individual and Relational Development (Track Code: HSDI)**
This track emphasizes individual, relational, and family well-being. Focusing on context and diversity in mental health and on strength-based, preventive, and empowering approaches, courses cover family studies, counseling theories and techniques, interviewing skills, and the basics of human service work. Students are well-prepared for graduate study in the helping professions and careers in health and human services.
- **Track II: Community and Program Development (Track Code: HSDC)**
This track promotes healthy individual and community development by emphasizing how social, institutional, and community dynamics affect personal well-being. Stressing the role of non-government agencies in fostering well-being for people with diverse backgrounds, HSDC prepares students to diagnose institutional and community challenges and offer strategies for positive change. Courses include community-focused planning, needs assessment, and change strategies and nonprofit program development, implementation, and evaluation. Students are well prepared for graduate study in

community psychology and public policy and careers in community organizations.

- **Track III: Human and Social Development Studies (Track Code: HSDS)**

This is a general track which offers a menu of courses relating to individual and community development. HSDS students are free to combine classes from the Individual (HSDI) and Community (HSDC) tracks. This track meets the needs of students who seek greater flexibility in course work and are less concerned with specializing in the individual or community tracks.

HSD students must declare an approved second major or a minor either in the School of Education or through any other school or college.

Requirements for Graduation Bachelor of Science in Education

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES (p. 13), subject to regulations concerning the major specified in departmental and program sections of this Bulletin.

Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

- Advanced Standing and Placement (Credit Hour Granted);
- Credit by Examination;
- Advanced Placement (by proficiency examination);
- Statement of Foreign Language Requirements;

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the credit hours specified for that subject as a general requirement for graduation and, upon payment of a recording fee, toward the 120 credit hours required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for ENG 105, but these credit hours may not be applied toward the 120 credit hours required for graduation.

III. Credit Only. Only free electives may be taken under this option. Courses which satisfy the major, minor, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

IV. Transferred credit hour may not count toward the completion of a major without the written approval of the Assistant Dean of the School of Education and Human Development.

V. Required Areas of Study

1. English Composition 3 – 6 credit hours

Students fulfill this requirement by satisfactorily completing ENG 105 and ENG 106 or its equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy the ENG 105/ENG 106 requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit hour in, ENG 105. Appropriate scores on other tests determined by the Department of English may earn a student exemption from, but not credit hour in, ENG 105.

Courses satisfying the English Composition requirement may not be used to fulfill the Advanced Writing and Communication Requirement.

2. Mathematics

B.S.Ed. degree candidates in the Department of Educational and Psychological Studies are required to take EPS 351. This course fulfills a Math requirement for the HSD major. Prior to taking EPS 351, students must complete MTH 101 or be exempt from MTH 101 based on any of the following tests: AP, IB, or an examination administered by the Department of Mathematics.

3. Foreign Languages (not applicable)

Areas of Knowledge and Cognate Requirements

The University of Miami's General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General Education requirements by selecting a **Cognate**, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credit hours.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Students must take three cognates to fulfill the Areas of Knowledge requirement,
 - one in the **Arts & Humanities (A&H)**,
 - one in **People & Society (P&S)**, and
 - one in **Science, Technology, Engineering & Mathematics (STEM)**.
- Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.
- In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in that one area.
 - Exercise Physiology and Athletic Training majors will fulfill the **STEM** cognate.
 - Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the **P&S** cognate.
- An approved list of cognates can be found on the University of Miami website.

VI. Advanced Writing and Communication Skills Requirement

Every student majoring in Human and Social Development, will meet the Advanced Writing and Communication Requirement upon fulfillment of their major courses. These courses have a prerequisite requirement of ENG 105 and ENG 106 and will be identified as either writing intensive or as an oral/verbal communication proficiency course or both. Digital competency for both written and oral competencies will be assessed. Writing intensive courses require a minimum of 2500 written words; assignments will be assessed for analytical ability, synthesis of information, grammar, content and style. Courses designated as an oral/verbal proficiency class will provide students an opportunity to demonstrate their presentation skills using accurate standard English structure and syntax, non-verbal cues and gestures, as well as audience appropriate language. Courses in the HSD major which meet the Advanced Writing and Communication Skills Requirement are EPS 321, EPS 371 and EPS 579.

VII. Major in Human and Social Development

- Every candidate for the B.S.Ed. degree in the Department of Educational and Psychological Studies must choose a major in Human and Social Development.
- Students choose among three areas of concentration:
 - Track I – Individual and Relational Development (HSDI);
 - Track II – Community and Program Development (HSDC);
 - Track III – Human and Social Development Studies (HSDS).
 To find the requirements for the major, consult this Bulletin under the discipline concerned, and confer with the designated departmental representative.
- HSD majors must maintain a minimum overall grade point average of 2.0 with a grade of "C" or better in all courses in the major.
- HSD students must declare an approved second major or a minor in the School of Education and Human Development or through any other UM school or college.

VIII. Minor

B.S.Ed. majors in Human and Social Development are required to declare a minor.

IX. Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least 6 credit hours must be at the 300 level or above.

X. Senior Assessment

Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS review process.

For further information, address all inquiries to:

Assistant Dean
 School of Education and Human Development
 P. O. Box 248065
 University of Miami
 Coral Gables, Florida 33124
 Telephone: 305-284-3711

Majors

Majors in Educational and Psychological Studies

- B.S.E.D. in Human and Social Development - Individual and Relational Development Track (HSDI) (p. 214)
- B.S.E.D. in Human and Social Development - Community and Program Development (HSDC) (p. 214)
- B.S.E.D. in Human and Social Development - Human and Social Development Studies (HSDS) (p. 214)

Minors

Minor in Educational and Psychological Studies

- Human and Social Development (p. 214)

B.S.E.D. in Human and Social Development - Community and Program Development (HSDC)

EPS 201	Psychosocial Change and Well-being	3
EPS 270	Lifespan Human Development	3
EPS 291	Community and Character Development	3
MGT 304	Organizational Behavior	3
EPS 311	Group Processes and Development	3
EPS 321	Understanding Human Service Organizations	3
EPS 351	Introduction to Statistics and Research Design	3
EPS 361	Community Psychology & Development	3
EPS 371	Applied Social Research Methods	3
EPS 452	Community Program Development And Evaluation	3
EPS 462	Community Consultation and Leadership	3
EPS 578	Human and Social Development Practicum	3-6
EPS 579	Human and Social Development Practicum Seminar	3

B.S.E.D. in Human and Social Development - Human and Social Development Studies (HSDS)

EPS 201	Psychosocial Change and Well-being	3
EPS 270	Lifespan Human Development	3
EPS 291	Community and Character Development	3
EPS 311	Group Processes and Development	3
EPS 321	Understanding Human Service Organizations	3
EPS 351	Introduction to Statistics and Research Design	3
EPS 361	Community Psychology & Development	3
EPS 371	Applied Social Research Methods (Select Three courses from the following list)	3
EPS 578	Human and Social Development Practicum	3-6
EPS 579	Human and Social Development Practicum Seminar	3
Select three courses from the following list:		
EPS 280	Introduction to Family Studies: Dating, Coupling, Parenting	3
EPS 440	Listening and Helping Skills.	3
EPS 420	Introduction to Counseling and Psychotherapy	3
MGT 304	Organizational Behavior	3
EPS 452	Community Program Development And Evaluation	3
EPS 462	Community Consultation and Leadership	3

B.S.E.D. in Human and Social Development - Individual and Relational Development Track (HSDI)

EPS 201	Psychosocial Change and Well-being	3
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EPS 270	Lifespan Human Development	3
EPS 280	Introduction to Family Studies: Dating, Coupling, Parenting	3
EPS 291	Community and Character Development	3
EPS 311	Group Processes and Development	3
EPS 321	Understanding Human Service Organizations	3
EPS 351	Introduction to Statistics and Research Design	3
EPS 361	Community Psychology & Development	3
EPS 371	Applied Social Research Methods	3
EPS 420	Introduction to Counseling and Psychotherapy	3
EPS 440	Listening and Helping Skills.	3
EPS 578	Human and Social Development Practicum	3-6
EPS 579	Human and Social Development Practicum Seminar	3

Minor in Human and Social Development

- The requirements of the minor are 15 credit hours with a grade of C or better.
- Nine of these 15 credit hours must be earned at the University of Miami; with prior approval, three of these nine may be taken through the UM Study Abroad Program.
- All transfer course equivalencies, (up to 6 credits), must be approved by the EPS department.
- EPS 201 is required
- Two courses must be upper division courses (at or above the 300 level)
- The undergraduate coursework in Human and Social Development is open to all qualified University of Miami students.
- Determination for using these courses as a minor, as a specialization, and/or as electives in any program, is made by the individual student's degree granting college or school.

Kinesiology and Sport Sciences

Dept. Code:KIN

The School of Education and Human Development offers undergraduate studies in the Kinesiology and Sport Sciences Department. The Department provides some of the strongest programs in the field, providing a structured classroom setting immersed in theory and knowledge with clinical and practical experiences. The department is committed to fostering unique and collaborative efforts within our diverse University community. Students are encouraged to engage in various work and clinical experiences including opportunities at the Medical School, the Miami Project to cure paralysis, UM Varsity Athletics Department, South Florida sports industry, Sports Medicine Clinics, Veterans Administration Hospital, and local high schools. Students can choose to major in one of the following areas:

- Athletic Training
- Exercise Physiology (with a pre-medical or pre-physical therapy track)
- Sport Administration

Bachelor of Science in Education

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the

quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES (p. 13), subject to regulations concerning the major specified in departmental and program sections of this Bulletin. Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

- Advanced Standing and Placement (Credit Hour Granted);
- Credit by Examination;
- Advanced Placement (by proficiency examination);
- Statement of Foreign Language Requirements;

II. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the credit hours specified for that subject as a general requirement for graduation and, upon payment of a recording fee, toward the 120 credit hours required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for ENG 105, but these credit hours may not be applied toward the 120 credit hours required for graduation.

III. Credit Only

Only free electives may be taken under this option. Courses which satisfy the major, minor, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

IV. Transferred credit hour may not count toward the completion of a major without the written approval of the Assistant Dean of the School of Education and Human Development.

V. Required Areas of Study.

1. English Composition

Students must take ENG 105 and ENG 106 (or their equivalent) during the first year of enrollment in the School. Admission to ENG 105 requires a placement score acceptable to the Department of English. Students whose placement scores are deemed unacceptably low will be required to take the non-credit course, ENG 103, before taking ENG 105 and ENG 106. Students whose placement scores are high may be exempt from ENG 105 but not from ENG 106 or its equivalent.

2. Mathematics

B.S.Ed. degree candidates must complete MTH 113 or higher. Students who do not place directly into MTH 113 must enroll in either MTH 099 or MTH 101 based on results of placement tests. Statistics does not satisfy the Math requirement.

3. Foreign Languages (applicable to Sport Administration majors only)

Students must earn at least 3 credit hours of a foreign language at the 200 course level or higher. Special 200-level courses are required of native speakers who choose to fulfill the language requirement. Two semesters of American Sign Language constitutes an acceptable alternative for the Foreign Language Requirement.

Areas of Knowledge and Cognate Requirements

The University of Miami's General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General

Education requirements by selecting a **Cognate**, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credit hours.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Students must take three cognates to fulfill the Areas of Knowledge requirement,
 - one in the **Arts & Humanities (A&H)**,
 - one in **People & Society (P&S)**, and
 - one in **Science, Technology, Engineering & Mathematics (STEM)**.
- Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.
- In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in one area.
 - Exercise Physiology and Athletic Training majors will fulfill the **STEM** cognate.
 - Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the **P&S** cognate.
- An approved list of cognates can be found on the University of Miami website.

VI. Advanced Writing and Communication Requirement

Every student majoring in a program from the Kinesiology and Sport Sciences Department will meet the Advanced Writing and Communication Requirement upon fulfillment of the courses for that major. These courses have a prerequisite of ENG 105 and ENG 106 and will be identified as either writing intensive or as an oral/verbal communication proficiency course or both. Digital competency for both written and oral components will be assessed. Writing intensive courses require a minimum of 2500 written words; assignments will be assessed for analytical ability, synthesis of information, grammar, content and style. Courses designated as an oral/verbal proficiency class will provide students an opportunity to demonstrate their presentation skills using accurate standard English structure and syntax, non-verbal cues and gestures, as well as audience appropriate language. The following courses meet the Advanced Writing and Communication Skills Requirement for the major:

Athletic Training: KIN 250 and KIN 260

Exercise Physiology: KIN 365 and KIN 457

Sport Administration: KIN 306 and KIN 498

VII. Majors

Every candidate for the B.S.AT. degree must choose Athletic Training as a major. Every candidate for the B.S.EXPH degree must choose Exercise Physiology as a major. Every candidate for the B.S.Ed. degree must choose a major in Sport Administration. To find the requirements for the major, consult this Bulletin under the discipline concerned, and confer with the designated departmental representative.

The choice of majors should be made no later than the beginning of the junior year and must be approved by the major department. Any student

making unsatisfactory progress in a major may be required to change his/her major or to relinquish candidacy for the degree.

VIII. Minors

B.S.Ed. majors in Sport Administration and Exercise Physiology and B.S. EXPH majors are required to declare a minor. Sport Administration students require department approval before declaring a minor. Exercise Physiology students may choose not to declare a minor if following the pre-med track. Students must complete all of the pre-med courses in order to be waived from the minor requirement. Please consult an advisor for clarification of this requirement.

IX. Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least 6 credit hours must be at the 300 level or above.

X. Senior Assessment

Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS review process.

Minors

A minor in any of the three areas below consists of 14-15 credit hours:

Exercise Physiology

Sport Administration

Sports Medicine

- A grade of C or better is required for each course applied toward the minor; the overall grade point average for the minor must be 2.5 or above.
- The undergraduate coursework in Exercise Physiology, Sports Medicine, and Sport Administration are open to all qualified University of Miami students. A student can minor in *either* Exercise Physiology or Sports Medicine but not both.
- Athletic Training majors are not allowed to minor in Sports Medicine.
- Determination for using these courses as a minor, as a specialization, and/or as electives in any program, is made by the individual student's degree granting college or school.
- Seniors are required to participate in the General Education Assessment as part of the SACS review process.

For further information, address all inquiries to:

Assistant Dean
School of Education and Human Development
P. O. Box 248065
University of Miami
Coral Gables, Florida 33124
Telephone: (305) 284-3711

Majors

Majors in Kinesiology and Sport Sciences

- B.S. in Athletic Training (p. 217)
- B.S. in Education, Exercise Physiology (p. 216)

- B.S. in Education, Sport Administration (p. 218)

Minors

Minors in Kinesiology and Sport Sciences

- Exercise Physiology (p. 218)
- Sports Medicine (p. 219)
- Sport Administration (p. 218)

B.S. in Exercise Physiology

The Undergraduate program in Exercise Physiology at the University of Miami, is designed for students to acquire a sound knowledge base in the sciences followed by the application of that knowledge base to human movement, exercise and sports performance. Clinical laboratory experiences supplement applied scientific theory in a rigorous academic setting.

- Students may pursue a pre-med track concurrent with the Exercise Physiology major and should inform their advisor if selecting this track.
- Exercise Physiology requires that students maintain a major GPA of 2.75. Students with a major GPA below 2.75 will have one semester to raise their GPA to meet the requirement. Failure to do so may lead to dismissal from the major.
- Students transferring from another college or university must have a cumulative GPA of 3.0 or above in order to be considered for admission to the major.
- A grade of "C" or better is required for each course applied toward the major. Students are allowed to retake a course one time.
- All 100 level courses and KIN 202, KIN 212, and KIN 232 are open to non-majors. All other courses are open to majors and minors only. KIN 202 is only open to science majors.
- All 300- and 400-level courses are restricted to declared Exercise Physiology majors only.
- KIN 466 has been changed to KIN 399, and should be taken in the Spring semester of the junior year. Students unable to take or retake this class prior to graduation are permitted to take KIN 545 as a substitution.
- Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS accreditation review process.
- The BSEXP degree requires:

Calculus		
MTH 161	Calculus I (or equivalent)	4
Statistics and Research Methods		
EPS 351	Introduction to Statistics and Research Design	3
KIN 415	Evidence Based Sports Medicine	3
Total Credit Hours		10

Courses for Exercise Physiology Major

KIN 202	Applied Nutrition for Health and Performance	3
KIN 212	Elements of Sports Psychology	3.00
KIN 221	Biochemistry And Skeletal Muscle	3

KIN 222	Exercise Physiology Laboratory: Neuromuscular	2
KIN 232	Basic Human Physiology	3
KIN 233	Basic Anatomy Lab	2
KIN 321	Introduction to Systemic Exercise Physiology	3
KIN 322	Exercise Physiology Laboratory: Cardiorespiratory	2
KIN 344	Gross Anatomy For Kinesiology And Sport Sciences	3
KIN 345	Kinesiology	3
KIN 365	Principles of Exercise Prescription: Cardiovascular	3
KIN 366	Exercise Physiology Laboratory: Assessment	3
KIN 399	Neuromuscular Basis For Training	3
KIN 421	Advanced Systemic Exercise Physiology	3
KIN 435	Clinical Biomechanics for Sport Medicine Professionals.	3
KIN 457	Practicum in Kinesiology and Sport Sciences	1-3
KIN 477	Advanced Nutrition for Health and Fitness	3

All students who are majoring in Exercise Physiology must earn 8 credit hours TOTAL in chemistry. The chemistry requirement may be fulfilled by any 8 credit hours in chemistry, provided that the courses are not repeated or considered an equivalent of one another.

Therefore, the chemistry requirement may be fulfilled by one of the following combinations:

Combination 1		
CHM 111	Principles of Chemistry I	4
& CHM 113	and Chemistry Laboratory I	
CHM 112	Principles of Chemistry II	4
& CHM 114	and Chemistry Laboratory II	
Combination 2		
CHM 103	Chemistry for Life Sciences I (Lecture)	4
& CHM 105	and Chemistry for Life Sciences I (Laboratory)	
CHM 104	Chemistry for Life Sciences II (Lecture)	4
& CHM 106	and Chemistry for Life Sciences II (Laboratory)	
Combination 3		
CHM 111	Principles of Chemistry I	4
& CHM 113	and Chemistry Laboratory I	
CHM 104	Chemistry for Life Sciences II (Lecture)	4
& CHM 106	and Chemistry for Life Sciences II (Laboratory)	

Please see an advisor for proper chemistry course placement.

University of Miami Honors Program – Exercise Physiology

The courses below will be available for honors credit hour for Exercise Physiology students provided the following stipulations are met:

1. The course is under the direction of a full-time faculty member in Exercise Physiology.
2. The student completes an honors project permission form and submits this form to the instructor within the first three weeks of the semester.

3. The student completes assigned writing credit work by the end of the semester.
4. Assignments completed for honors credit hour are in addition to the University of Miami Writing Center for review.

The University of Miami currently offers an accelerated programs for undergraduate Exercise Physiology majors who want to obtain a Master's Degree in Exercise Physiology, Strength & Conditioning/Fitness Entrepreneurship, or Nutrition for Health & Human Performance. This can be done by taking one additional year of graduate courses. These students must take two graduate courses in Exercise Physiology in their senior undergraduate year in order to earn an M.S.Ed. degree in one additional year. Please visit our website www.education.miami.edu (<http://www.education.miami.edu>) for additional information on the accelerated master's programs. To be eligible students must apply for admission to the accelerated master's program no later than the end of the Fall semester of their senior year.

B.S. in Athletic Training

The Athletic Training program at the University of Miami is an undergraduate education program that has been accredited by CAATE. The program is designed to provide a structured classroom and clinical experience to prepare students to become eligible to sit for the Board of Certification exam; Didactic courses are sequenced to maximize student learning. Please see the Athletic Training website or the Athletic Training Guidelines Manual for the course sequence form and other important information regarding the requirements for completion of the Athletic Training major.

- A degree in Athletic Training requires a major GPA of 3.0 or higher and an overall GPA of 2.5 or higher.
- Seniors are required to participate in the General Education Assessment prior to graduation as part of the SACS accreditation review process.
- Students must successfully meet all of the retention requirements outlined in the Athletic Training Education Program (ATEP) handbook in order to continue in the major.
- The BSAT degree requires:

Calculus		
MTH 161	Calculus I (or equivalent)	4
Statistics and Research Methods		
EPS 351	Introduction to Statistics and Research Design	3
KIN 415	Evidence Based Sports Medicine	3
Total Credit Hours		10

Courses for the Athletic Training Major

KIN 140	Introduction to Athletic Training	2
KIN 141	Introduction to Athletic Training Lab	1
KIN 145	Responding to Emergencies	2
KIN 184	Athletic and Sport Injuries	3
KIN 202	Applied Nutrition for Health and Performance	3
KIN 210	Foundations in Athletic Training	2
KIN 212	Elements of Sports Psychology	3
KIN 221	Biochemistry And Skeletal Muscle	3

KIN 230	Medical Terminology and Documentation	1
KIN 232	Basic Human Physiology	3
KIN 234	Functional Human Anatomy	3
KIN 235	Personal and Community Health	3
KIN 250	Orthopedic Assessment: Lower Extremity	3
KIN 251	Orthopedic Assessment: Lower Extremity Lab	1
KIN 260	Orthopedic Assessment: Upper Extremity	3
KIN 261	Orthopedic Assessment: Upper Extremity Lab	1
KIN 264	General Medical Conditions Evaluation	1
KIN 345	Kinesiology	3
KIN 365	Principles of Exercise Prescription: Cardiovascular	3
KIN 443	Clinical Athletic Training Lab I	2
KIN 444	Clinical Athletic Training Lab II	2
KIN 455	Clinical Athletic Training Lab III	2
KIN 456	Clinical Athletic Training Lab IV	2
KIN 461	Therapeutic Modalities	2
KIN 462	Therapeutic Modalities Laboratory	1
KIN 463	Therapeutic Rehabilitation	2
KIN 464	Therapeutic Rehabilitation Laboratory	1
KIN 465	Pharmacology	2
KIN 470	Administrative Aspects of Athletic Training	2
KIN 476	Seminar in Athletic training	2
KIN 488	Gross Anatomy	3

Students in the Athletic Training major are not required to declare a minor.

B.S. in Education, Sport Administration

The Sport Administration major at the University of Miami is an undergraduate education program designed to prepare students for careers in the sport industry. The program is committed to the professional development of students so that competencies and skills relevant to the Sport Industry can be acquired over time. Specific competencies in organization, ethics, marketing, leadership and legal issues are emphasized.

- Field experience and internships are an essential component of the major. The KIN department is actively engaged in placing students in visible sports settings and appropriate sport environments so that students acquire relevant competencies and gain pragmatic hands-on experiences that are necessary for success in today's sport industry.
- The Sport Administration major is a 39 credit hour major leading to a Bachelor of Science in Education.
- Students are required to meet a foreign language component. This may be satisfied with two semesters of American Sign Language (TAL 107 and TAL 207), or any intermediate course (200+), in a foreign language that is offered at UM.
- Students transferring from another college or university must have a cumulative GPA of 2.75 or above in order to be considered for admission to the major.
- Students are required to complete a 9-credit internship upon successful completion of **ALL** coursework for the Sport

Administration Major. Exceptions to this policy must be approved by the Undergraduate Program Director and the Assistant Dean.

- A Business minor is suggested to complement the Sport Administration major and provide a well-rounded comprehensive background to the Sport Administration field. A minor in any field is required.
- Students pursuing a degree in Sport Administration must receive a grade of B- or higher in KIN 201 in order to continue with the major.
- **Students will be allowed to retake a course once.**
- All 400-level courses are restricted to declared Sport Administration majors only.
- A degree in Sport Administration requires a major GPA of 2.5 or higher and an overall GPA of 2.3 or higher.
- KIN 306 and KIN 308 may not be taken in the same semester and must be taken during junior year.
- A grade of C or better is required for each course applied toward the major with the exception of KIN 201 which requires a grade of B- or higher in the course, as previously specified.

Courses for the Sport Administration Major

COS 211	Public Speaking	3
KIN 201	Introduction to Sport Administration	3
KIN 206	Sport Facilities and Event Management	3
KIN 212	Elements of Sports Psychology	3
KIN 302	Sport Marketing	3
KIN 306	Essential Leadership in Sports and the Professions	3
KIN 308	Ethical Decision Making in Sport and the Professions	3
KIN 401	Legal Aspects of Sport	3
KIN 403	Sport Information Management	3
KIN 405	Finance and Budget in Sport Administration	3
KIN 410	Problems and Issues in Sport Administration	3
KIN 497	Internship in Sport Administration	1-9
KIN 498	Seminar in Sport Administration	3

Minor in Exercise Physiology

KIN 155	Biological Bases for Physical Activity and Health	3
KIN 202	Applied Nutrition for Health and Performance	3
KIN 232	Basic Human Physiology	3
KIN 233	Basic Anatomy Lab	2
KIN 365	Principles of Exercise Prescription: Cardiovascular	3
Total Credit Hours		14

Minor in Sport Administration

KIN 201	Introduction to Sport Administration	3
Select four of the following:		12
KIN 206	Sport Facilities and Event Management	
KIN 212	Elements of Sports Psychology	
KIN 302	Sport Marketing	

KIN 306	Essential Leadership in Sports and the Professions	
or KIN 308	Ethical Decision Making in Sport and the Professions	
KIN 401	Legal Aspects of Sport	
KIN 403	Sport Information Management	
KIN 405	Finance and Budget in Sport Administration	
KIN 473	Sports Governance	
or KIN 490	Special Topics In Kinesiology And Sports Sciences	
Total Credit Hours		15

Minor in Sports Medicine

KIN 155	Biological Bases for Physical Activity and Health	3
KIN 184	Athletic and Sport Injuries	3
KIN 234	Functional Human Anatomy	3
KIN 235	Personal and Community Health	3
KIN 301	Athletic Injuries & Sport First Aid	3
Total Credit Hours		15

Please note that students majoring in Athletic Training are ineligible for the Sports Medicine minor.

Teaching and Learning

Dept. Code: TAL

The Department of Teaching and Learning offers a Bachelor of Science in Education Degree in **Elementary Education (K-6)/Exceptional Student Education (K-12)** with ESOL (English for Speakers of Other Languages, K-12) and Reading (K-12) endorsements.

In conjunction with the College of Arts and Sciences, the Department also offers majors in **Secondary Education** in English with ESOL endorsement, in Chemistry, in Biology, in Mathematics, and in Social Science (6-12). Students in Secondary Education programs are required to fulfill the general education requirements for the College of Arts and Sciences.

The Department offers two minors:

1. A traditional Education Minor consisting of 15 credit hours and
2. A Professional Training Option minor of 18 credit hours that fulfills the State of Florida "Professional Training Option" (PTO) for teaching in secondary-schools. Candidates must select a minor area of study in English, math, Secondary Science or Secondary Social studies or other areas of recognized certification. In order to obtain teaching credentials from the State of Florida, a PTO completer must successfully teach in an accredited school in Florida for one academic year.

Teacher Preparation Programs

One of the roles of the School of Education and Human Development is to serve as the professional school to conduct and coordinate programs for the preparation of teachers and other educational personnel at the University of Miami. Membership is held in the American Association of Colleges for Teacher Education, the National Association of State Directors of Teacher Education & Certification and in the Florida Association of Colleges for Teacher Educators. Teacher Preparation

Programs (TPP) are accredited by the Florida Department of Education for the preparation of elementary/exceptional student education teachers, secondary teachers, music teachers and other school service personnel.

Professional Development Schools

Bel-Aire Elementary, Henry S. West Laboratory Elementary, Sunset Elementary, Ponce de Leon Middle School and Booker T. Washington Senior High School are operated by Miami-Dade County Public Schools. These schools provide the most up-to-date teaching environments, both in terms of design and curriculum, in partnership with the University of Miami. Students are welcomed at these facilities for field experiences and student teaching, and both students and faculty have the opportunity to contribute to the high quality functioning of these professional development schools.

Teacher Preparation Programs

Teacher Preparation Programs/majors in Elementary/Exceptional Student Education and Secondary Education that lead to professional certification and applicable endorsements are approved by the Florida Department of Education (FLDOE). Please be advised that the State may implement new requirements for certification. **These requirements will be mandatory with or without notice in this bulletin.** The student is responsible for securing the application for certification and submitting the necessary documents and fees to the Florida Department of Education to obtain certification and endorsement. The DOE Certification Ombudsman in the School of Education and Human Development is available to assist with certification and re-certification matters.

Academic Policies

Admission

Selection for the Teaching Profession

The faculty of the School of Education and Human Development conceives its ultimate obligation to be to the children, adolescents, and adults who will be taught by teachers who have completed teacher preparation programs at the University. The quality of students admitted into the teacher education curriculum is as important as the skills, content, and concepts to be learned.

Most courses in the teacher education program require school site-based field experiences, culminating in a full-time 15-week internship. School districts require a criminal background check for field placement students and interns. Fingerprinting and FBI background check procedures are at the applicant's expense. Students with felony arrests may wish to consider these requirements carefully and, if necessary, seek advice from an advisor in the School before applying for admission to the program. Students without a valid social security number will not be eligible for placement in the school district.

The Office of Teacher Preparation and Accreditation will assist students through these requirements.

All students who wish to be considered for admission and/or retention in curricula leading to Florida Teacher Certification will be formally screened at certain points in their program of study with respect to the following criteria:

1. Admission to Teacher Candidacy (see requirements below).

2. Acceptable grade point averages (C or better for courses in the major).
3. Acceptable evaluations by University of Miami faculty.
4. Evaluations by clinical faculty at various field experience sites.
5. Satisfactory progress toward the completion of the Florida Educators Accomplished Practices requirement.

Students who receive a grade below C in their Student Teaching semester will not be recommended for teacher certification.

Note: The Assistant Dean of the School of Education & Human Development and the Director of Teacher Preparation & Accreditation jointly approve appeals to the above policies.

Requirements for Admission to Teacher Candidacy

1. Satisfactory performance on the **General Knowledge Test**.
2. Completion of 45 credit hours. In addition, transfer students must have a minimum of 9 credit hours of acceptable credit earned at the University of Miami.
3. A **2.5 GPA in education core** courses. No education classes lower than C.
4. A **2.5 GPA in the content area** teaching major (for secondary education majors).
5. Completion of the Course Advisement Plan (CAP).
6. Completion of at least one Field Experience requirement.
7. Further enrollment in teacher education course work offered by the School of Education and Human Development is contingent upon the student meeting requirements 1-6 above.
8. All students must successfully complete M-DCPS fingerprinting process. Forms are available in the Office of Undergraduate Academic Services.

NOTE: Appeals to the policies stated 1-6 above must be directed to the Assistant Dean of the School of Education and Human Development.

Please note: **Students may not register for any class above TAL 332 without admission to Teacher Candidacy.**

Requirements for Admission to Student Teaching

Students submit a formal application to the Office of Teacher Preparation and Accreditation for admission to Student Teaching. Application materials are available and are to be completed by students no later than October 15 (Fall semester) or March 15 (Spring semester).

The following requirements must be met:

1. Admission to a Teacher Preparation Program (Teacher Candidacy).
2. Completion of application for admission to Student Teaching, which includes an electronic submission to the Office of Teacher Preparation and Accreditation.
3. Approval of the Assistant Dean for Undergraduate Studies, the TAL Department Chair, and the Director of Teacher Preparation & Accreditation.
4. Recommendations from two members of the faculty familiar with the student's academic proficiency. One of these must be from a faculty member in the School of Education and Human Development.
5. Earned a minimum of 90 credit hours.

6. **Submission of FEAPs Portfolio via Live Text to the Director of Teacher Preparation & Accreditation. The FEAP Portfolio must include evidence at the indicator level in the first five FEAPs.**
7. All secondary majors must have completed approximately two-thirds of the courses in the teaching major and received departmental approval. Elementary/ESE majors must have completed **ALL** of the courses for the Elementary/ESE major.
8. Earned a minimum of 2.5 grade point average in core courses offered by the School of Education and Human Development.
9. A grade of C or better is required of each course applied to the major.
10. Earned a minimum of a 2.5 grade point average overall.
11. Successfully completed pre-internship field experiences.
12. Demonstrate satisfactory progress towards the completion of the Florida Educators Accomplished Practices requirement, as indicated in #6 above.
13. Passed the Florida General Knowledge Test.
14. Taken the Professional Education Test and the Subject Area Exam.

NOTE: A MAXIMUM OF 12 CREDIT HOURS MAY BE TAKEN DURING THE STUDENT TEACHING SEMESTER. No outside job may be held or additional classes taken during the Student Teaching semester.

NOTE: The Assistant Dean and the Director of Teacher Preparation & Accreditation, School of Education and Human Development must approve appeals to the above policies.

Students must complete the Florida Educator Accomplished Practices (FEAPs) and the P- 12 Student Impact Project requirements. Monitoring of FEAPs and progress made toward program completion in the Teacher Education program will occur at the following checkpoints:

1. TAL 306, and TAL 429 ; and application to student teaching
2. Students enrolled in all teacher-education programs will submit complete portfolios at the end of TAL 480/TAL 580.

In addition, students enrolled in all teacher-education programs will submit e-portfolios via Live Text as follows

- TAL 306 Field Experience Seminar I (Must submit an artifact in order to receive a passing grade).
- TAL 429 Field Experience Seminar II (Must submit an artifact in order to receive a passing grade).
- Elementary/ESE major will submit a portfolio artifact through LiveText during (or at the latest) upon completion of TAL 420 and TAL 426;
- Secondary Education major will submit a portfolio artifact through LiveText during or (at the latest) upon completion of TAL 540.
- Music Education major will submit a portfolio artifact through LiveText during or (at the latest) upon completion of TAL 506.

Seniors are required to participate in the General Education Assessment prior to graduation as a part of the SACS review process.

Licensure/Certification Information

Only students who have completed all requirements for any State approved degree or certificate program will have their transcripts stamped as meeting State approved requirements for certification as well as appropriate endorsements. Students must meet requirements of the School of Education and Human Development as well as the college or

school issuing the second major. Evidence of successful completion of all twelve Florida Educator Accomplished Practices is required to receive the FLDOE stamp on the graduate’s final transcript.

Transcript stamp is contingent upon the student taking at least half of the coursework in teacher education at the University of Miami, including the Student Teaching component. At least half of the coursework in the students teaching content area(s) must be taken at the University of Miami in the School of Education and Human Development, Frost School of Music, or other UM schools or colleges as determined by the program in which the student is enrolled.

Department's Honor Code, Ethics FEAP and Plagiarism Policy

At a minimum, students will receive an automatic FAIL for any assignment that shows even minimal evidence of any of the violations listed in the Student Handbook such as cheating, plagiarism, misrepresentation, collusion, falsification of data and documents, or fabrication of findings. The student will not be allowed to improve that grade and the Ethics FEAP will be marked as permanently failed in the student’s portfolio record.

The professor of record will have absolute discretion to judge the severity of an offense involving plagiarism and/pr The Honor Code, including extending the penalty to an F in the course.

Students will receive an automatic FAIL on any **assignment** or **action** which shows a violation to the **Ethics FEAP**. Either the Chair, Director of Accreditation or the Dean’s office may refer a student to the University Honors Council. Consequence for violating the Honor Code include disciplinary warning, disciplinary probation, suspension or expulsion from the university.

For further information, address all inquiries to:

Assistant Dean
 School of Education and Human Development
 P.O. Box 248065
 University of Miami
 Coral Gables, Florida 33124
 Telephone: (305) 284-3711

Majors

Majors in Teaching and Learning

- B.S.E.D. in Elementary/Exceptional Student Education (ESE) with ESOL and Reading Endorsements (p. 221)
- B.S.E.D. in Secondary Education (p. 223)

Minors

Minor in Teaching and Learning

- Education (p. 223)

Certificates

Certificate in Teaching and Learning

- Professional Training Option (p. 224)

B.S.E.D. in Elementary/Exceptional Student Education (ESE) with ESOL and Reading Endorsements

The Department of Teaching and Learning offers a major in Elementary/Exceptional Student Education that leads to certification in Elementary Education (K-6)/ESE (K-12) with ESOL and Reading endorsements. The requirements for Elementary/ESE Education are a major in Elementary/ESE Education and a minor outside of the Department of Teaching and Learning.

Students must earn a grade of C or better in all courses in their major.

REQUIRED COURSES FOR THE ELED/ESE MAJOR (ELEDs)

TAL 101	Social and Technological Foundations of Education.	3
TAL 103	Psychological Foundations of Education	3
TAL 305	Classroom and Behavior Management	3
TAL 306	Field Experience Seminar I	0
TAL 308	Language Development for Linguistically and Culturally Diverse Children	3
TAL 322	Mathematics Instruction in the Elementary School	3
TAL 323	Science Instruction in the Elementary School	3
TAL 330	Introduction to the Education of Exceptional Individuals	3
TAL 332	Assessment of Exceptional Students	3
TAL 420	Introduction to Literacy, Assessment, and Instruction in Elementary School	3
TAL 421	Language Arts And Social Studies In The Elementary School	3
TAL 426	Practicum in Reading	3
TAL 428	ESOL Curriculum and Methods and Assessments	3
TAL 429	Field Experience Seminar li	0
TAL 432	Inclusive Models Of Teaching	3
TAL 434	Specialized Instructional Strategies/Transition	3

Requirements for Graduation

Bachelor of Science in Education

I. Candidates for B.S.Ed. in the School of Education and Human Development must complete the credit hours of work and achieve the quality point average specified for students in the University at large as stated in the section ACADEMIC REGULATIONS AND PROCEDURES (p. 13), subject to regulations concerning the major specified in departmental and program sections of this Bulletin.

Exempted is interpreted to refer exclusively to those exemptions provided under the following headings:

1. Advanced Standing and Placement (Credit Hour Granted);
2. Credit by Examination;
3. Advanced Placement (by proficiency examination);
4. Statement of Foreign Language Requirements;

II. Students must pass the Professional Education, General Knowledge and Subject Area tests of the Florida Teacher Certification Examination (FTCE).

III. Students must complete the Florida Educator Accomplished Practices (FEAPs) and the P- 12 Student Impact Project requirements. Monitoring of FEAPs and progress made toward program completion in the Teacher Education program will occur at the following checkpoints: Students enrolled in all teacher-education programs will submit complete portfolios at

1. application to student teaching and
2. at the end of TAL 480/TAL 580.

In addition, students enrolled in all teacher-education programs will submit e-portfolios via Live Text as follows

- TAL 306 Field Experience Seminar I (Must submit an artifact in order to receive a passing grade).
- TAL 429 Field Experience Seminar II (Must submit an artifact in order to receive a passing grade).
- Elementary/ESE major will submit a portfolio artifact through LiveText during (or at the latest) upon completion of TAL 420 and TAL 426;
- Secondary Education major will submit a portfolio artifact through LiveText during or (at the latest) upon completion of TAL 540.
- Music Education major will submit a portfolio artifact through LiveText during or (at the latest) upon completion of TAL 506.

IV. Except where a required course is one designated to correct a deficiency in his/her college preparation, the student may apply the credit hours of any required course from which he is exempted toward the credit hours specified for that subject as a general requirement for graduation and, upon payment of a recording fee, toward the 120 credit hours required for graduation. (See Departmental Proficiency Examinations.) An exemption may be granted for ENG 105, but these credit hours may not be applied toward the 120 credit hours required for graduation.

V. Credit Only

Only free electives may be taken under this option. Courses which satisfy the major, minor, the distributions of the School, the General Education Requirements of the University or any course for which a C or better is required may not be taken for credit only.

VI. Transferred credit hour may not count toward the completion of a major without the written approval of the Assistant Dean of the School of Education and Human Development.

VII. Required Areas of Study

1. **English Composition 3 – 6 credit hours**

Students fulfill this requirement by satisfactorily completing ENG 105 and ENG 106 or its equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy the ENG 105/ENG 106 requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit hour in, ENG 105. Appropriate scores on other tests determined by the Department of English may earn a student exemption from, but not credit hour in, ENG 105. Courses satisfying the English Composition requirement

may not be used to fulfill the Writing Across the Curriculum Required Area of Study.

2. **Mathematics**

B.S.Ed. degree candidates must complete MTH 113 or higher. Students who do not place directly into MTH 113 must enroll in either MTH 099 or MTH 101 based on results of placement tests.

3. **Foreign Languages (not applicable)**

Areas of Knowledge and Cognate Requirements

The University of Miami's General Education requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. All new students will fulfill the General Education requirements by selecting a **Cognate**, which is a cluster of courses arranged by their content, field and interest.

- A cognate is a group of at least three related courses for at least 9 credit hours.
- The courses in a cognate are related in a topical, thematic, interdisciplinary, sequential, or other such fashion, so that completion of a cognate provides coherent depth of knowledge in the area.
- Student must take three cognates to fulfill the Areas of Knowledge requirement,
 - one in the **Arts & Humanities (A&H)**,
 - one in **People & Society (P&S)**, and
 - one in **Science, Technology, Engineering & Mathematics (STEM)**.
- Each cognate has course options that allow students to complete the cognate in ways that meet their individual interests, while staying within the coherent focus of the cognate.
- In addition to the cognates that have been designed by faculty, each major and minor fulfills the cognate requirement in one area.
 - Exercise Physiology and Athletic Training majors will fulfill the **STEM** cognate.
 - Sport Administration, Human and Social Development, and Elementary/ESE majors will fulfill the **P&S** cognate.
- An approved list of cognates can be found on the University of Miami website.

VIII. Writing

Every student majoring in Teaching and Learning, will meet the Advanced Writing and Communication Requirement upon fulfillment of their major courses. These courses have a prerequisite requirement of ENG 105 and ENG 106 and will be identified as either writing intensive or as an oral/verbal communication proficiency course or both. Digital competency for both written and oral competencies will be assessed. Writing intensive courses require a minimum of 2500 written words; assignments will be assessed for analytical ability, synthesis of information, grammar, content and style. Courses designated as an oral/verbal proficiency class will provide students an opportunity to demonstrate their presentation skills using accurate standard English structure and syntax, non-verbal cues and gestures, as well as audience appropriate language. Courses for the TAL Major which meet the Advanced Writing and Communication Skills Requirement are **TAL 332** and **TAL 426**.

IX. Majors

Every candidate for the B.S.Ed. degree in the Department of Teaching and Learning must choose a major in Elementary/Exceptional Student Education (ESE) with ESOL and Reading endorsements.

X. Minors

Every candidate for a B.S. Ed. in Elementary Education/ESE must select a minor outside of the department of TAL.

XI. Electives

Electives may be chosen from any courses offered by the University. The student should consult an advisor before selecting elective courses. At least 6 credit hours must be at the 300 level or above. Students may select elective course credits beyond the major, minor and general education requirements to complete a total of 120 credits required for the degree.

Note: Common prerequisites and total length for state-approved teacher education programs are subject to revision based on legislative and State of Florida Department of Education rule changes.

XII. Seniors are required to participate in the General Education Assessment prior to graduation as a part of the SACS review process.

Please note: Students may not register for any class above TAL 332 without admission to Teacher Candidacy. Please see the requirements for Teacher Candidacy on the TAL Department page in the University Bulletin.

Please note: Students are strongly encouraged to register for TAL 203 and TAL 324.

B.S.E.D. in Secondary Education

The Department of Teaching and Learning offers a major in Secondary Education (6-12). Certification is offered in the general areas of:

- English/ESOL Endorsement; (Major code- **SECE**)
- Mathematics (Major code- **SECM**)
- Sciences (Biology, Chemistry) (Major code **SECS**)
- Social Science (Economics, Geography, History, International Studies, or Political Science) (Major code **SECH**)

Each student should complete a major from the appropriate department in the College of Arts and Sciences and a second major in the Department of Teaching and Learning.

The requirements for a major leading to secondary certification include:

- A grade of C or higher in all Education courses and a minimum of 2.5 GPA in both the Secondary Education major and the subject area of discipline. An overall 2.5 GPA is required.
- MDC-PS fingerprinting and FBI background check
- Admission to Teacher Candidacy
- Successful completion of the Florida Teacher Certification Exams including
 - The General Knowledge Exam (all 4 sections)- Required for Teacher Candidacy
 - The Professional Education Exam
 - The Subject Area Exam

- Successful submission of the FEAP e-portfolio submission through Live Text
- Successful completion of the following SEC courses:

1. TAL 101	Social and Technological Foundations of Education.	3
TAL 103	Psychological Foundations of Education (for Secondary English majors only)	3
TAL 305	Classroom and Behavior Management	3
TAL 306	Field Experience Seminar I	0
TAL 330	Introduction to the Education of Exceptional Individuals	3
TAL 404	Content Area Literacy in the Secondary Classroom	3
TAL 429	Field Experience Seminar li	0
TAL 434	Specialized Instructional Strategies/ Transition	3
TAL 506	Issues and Strategies for ESOL ^{for all majors} except Secondary English	3
TAL 540	Instruction and Assessment in the Secondary Shcool.	3
TAL 572	Student Teaching in the Secondary School.	6-9
TAL 580	Seminar on Teaching	1-3
	Select one of the following as appropriate for the subject area:	3
TAL 541	Instruction in Secondary English.	
TAL 542	Instruction In Secondary Mathematics	
TAL 543	Instruction In Secondary Science	
TAL 544	Instruction In Secondary Social Studies	
	English majors take the following courses in lieu of TAL 506	
TAL 308	Language Development for Linguistically and Culturally Diverse Children	3
TAL 428	ESOL Curriculum and Methods and Assessments (for Secondary English majors only)	3
Total Credit Hours		40-45

Please note: Students may not register for classes above TAL 404 without admission to Teacher Candidacy.

Minor in Education

The Department of Teaching and Learning offers two minors.

Education Minor (not for certification)

- 15 credit hours in TAL course work.
- TAL 101 and TAL 103 are required.
- Two courses must be taken at the 300 level or higher.
- All courses must be passed with a C or high with a minimum of 2.5 GPA for the minor.
- It is strongly recommended that students enroll in courses for this minor which do not include Field Experience. Please see an advisor for a list of those courses.

- This minor does not lead to teaching credentials.

Professional Training Option Minor

The Professional Training Option (PTO) is a Florida Department of Education approved pathway for non-education majors to complete the Professional Education component, one of the requirements to become a certified teacher in the State of Florida. Please be advised that students seeking the PTO must be majoring or minoring in a teachable subject.

- Fingerprinting and Background check completed with the MDC-PS Office
- 18 credit hours.
- All courses must be passed with a C or high with a minimum of 2.5 GPA for the minor.
- Students must pass the Florida Teacher Certification Exams, (FTCE), prior to graduation in order to be eligible for the State of Florida Stamp applied to transcripts.
- Students must pass all 4 sections of the General Knowledge Exam (GKT), part of the FTCE, in order to be eligible for 400 level courses or higher.

COURSES FOR THE PTO MINOR

TAL 101	Social and Technological Foundations of Education.	3
TAL 103	Psychological Foundations of Education	3
TAL 305	Classroom and Behavior Management	3
TAL 404	Content Area Literacy in the Secondary Classroom	3
TAL 540	Instruction and Assessment in the Secondary Shcool. (Select one course from the following list as appropriate for the subject area)	3
Select one course from the following list as appropriate for the subject area		
TAL 506	Issues and Strategies for ESOL	3
TAL 524	Education and the Arts	3
TAL 541	Instruction in Secondary English.	2-3
TAL 542	Instruction In Secondary Mathematics	1-3
TAL 543	Instruction In Secondary Science	1-3
TAL 544	Instruction In Secondary Social Studies	1-3

Professional Training Option Certificate

The Professional Training Option (PTO) is a Florida Department of Education approved pathway for non-education majors to complete the Professional Education component, one of the requirements to become a certified teacher in the State of Florida. Please be advised that students seeking the PTO must be majoring in a teachable area in order to participate in the program.

The PTO minor consists of 17-18 credit hours passed with a C or higher with an overall GPA of 2.5 or higher. Upon completion of the program courses, participants will receive a Certificate of Completion. UM transcripts will indicate that the student has completed a Florida State-approved PTO program. Program completers will be eligible to apply for a 3-year Temporary Teaching Certificate in the State of Florida. There is

a one-year of successful teaching requirement in an accredited school in Florida in order to apply for a Professional Teaching Certificate.

The required courses for the PTO minor are:

TAL 101	Social and Technological Foundations of Education.	3
TAL 103	Psychological Foundations of Education	3
TAL 305	Classroom and Behavior Management	3
TAL 404	Content Area Literacy in the Secondary Classroom	3
TAL 540	Instruction and Assessment in the Secondary Shcool.	3
Select one of the following as appropriate for the subject area and approved by the advisor:		3
TAL 506	Issues and Strategies for ESOL	
TAL 524	Education and the Arts	
TAL 541	Instruction in Secondary English.	
TAL 542	Instruction In Secondary Mathematics	
TAL 543	Instruction In Secondary Science	
TAL 544	Instruction In Secondary Social Studies	
Total Credit Hours		18

Engineering

<http://www.miami.edu/engineering>

Mission

The College of Engineering is committed to educating tomorrow's technology leaders for career success.

The objective of the College of Engineering is to serve society by offering high quality educational programs in the professional areas that it covers, and by performing research and community service, with high professional standards. The College is dedicated to educating engineers to deal with the major issues of society over the next generation - enhancing competitiveness, advancing health care, coming into harmony with the environment, utilizing technology for humankind's benefit, and supporting a sophisticated infrastructure. The goal of the faculty is to prepare students to be employed effectively in manufacturing, consulting, construction, information technology, service industries, and those related to the medical industry and health care, in roles involving planning, design and implementation at all levels of decision making. Students are broadly prepared in technical, leadership, and management skills. Student development accrues both inside and outside the classroom, with input from faculty, employers, alumni, and other students. They are made acutely aware of environmental and international perspectives. Professional competence in the traditional sense is complemented by a broad capability to function in society. The College places great emphasis on providing students with a learning experience which will enable them to develop productive careers while creating engineering solutions to problems of our society. Learning is centered around real life experiences, which involve an understanding of science, mathematics, social values, and aesthetics, to produce economical solutions to physical problems which society encounters. Protection and enhancement of the environment is stressed at all levels, and emphasis is placed on the creative application of knowledge which will improve the quality of life.

Department and Programs

The College of Engineering has five departments -

- Biomedical Engineering,
- Civil, Architectural, and Environmental Engineering,
- Electrical and Computer Engineering,
- Industrial Engineering, and
- Mechanical and Aerospace Engineering

offering curricula leading to Bachelor of Science degrees in the following fields:

- Aerospace Engineering,
- Architectural Engineering,
- Biomedical Engineering,
- Civil Engineering,
- Computer Engineering,
- Electrical Engineering,
- Engineering Science,
- Environmental Engineering,
- Industrial Engineering, and

- Mechanical Engineering.

Interdisciplinary areas of study, areas of specialization within departments, and study in two entirely different areas are available through options, concentrations and dual degree programs.

Accreditation

The programs in Aerospace Engineering, Architectural Engineering, Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, and Mechanical Engineering are accredited by the

Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (<http://www.abet.org>) (ABET)
415 North Charles Street
Baltimore, MD 21201
telephone: 410-347-7700

The program in Engineering Science is not accredited.

The College offers graduate programs leading to degrees both in the traditional and interdisciplinary areas of study. Programs leading to the M.S. degree may include specialization in the following areas of study: Architectural Engineering, Biomedical Engineering, Civil Engineering, Electrical and Computer Engineering, Engineering Management, Environmental Engineering, Industrial Engineering, Mechanical Engineering, Medical Informatics, Structural Engineering, and Thermal and Fluid Sciences. A joint M.S.I.E./M.B.A. program and a M.S. program in Management of Technology are offered in conjunction with the School of Business Administration, a M.S. in Environmental Health and Safety in conjunction with the School of Medicine and a M.S. in Occupational Health and Safety in conjunction with the School of Medicine.

Combined BS/MS Program

The College offers a five-year Bachelor of Science and Master of Science BS/MS degree program in Architectural Engineering, Biomedical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, and Mechanical Engineering. This program is specifically designed for those students who want to pursue their graduate study as they are completing their undergraduate study. The special conditions and processes for the five-year BS/MS Program are as follows:

Requirements

You must be an undergraduate student in the College of Engineering (CoE). A master's degree is considered the first professional degree in engineering. The Admission Committee will carefully review academic credentials for admission into our M.S. program. Students should discuss the program and possibility of entering with an academic adviser. Completed applications are due prior to the beginning of the final exams in your junior year.

Application Process

Get the application form (It is different for US students and International students) from the CoE Office of Admission, fill it out and then return it to the same office. The application fee is waived for currently enrolled students in the CoE.

Take the GRE Examination before the end of your senior year and attain a combined score of more than 1000 on the Verbal and Quantitative portions.

Financial Implications

Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree. For further information contact the University of Miami Financial Aid Office.

Once admitted into BS-MS program

In your senior year when you have a full time undergraduate status, you may take a maximum of twelve (12) graduate credit hours (a maximum of six (6) credit hours per semester). In order to register for these classes, you must complete and submit the UM Graduate School "Application for Undergraduate to Take Graduate Course" special form.

During your last one or two semesters, when you are taking graduate course work only, register as a graduate student.

A student wishing to withdraw from the BS/MS Program without the MS degree must complete all the requirements for the BS degree.

To qualify for the MS degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA in the credit hours applied toward the MS degree.

The student is awarded both the BS and MS degrees at the end of the fifth year when all degree requirements are satisfied.

The Doctor of Philosophy Degree is currently offered in the area of:

- Biomedical Engineering,
- Civil Engineering,
- Electrical and Computer Engineering,
- Ergonomics and Human Factors,
- Industrial Engineering, and
- Mechanical Engineering.

The Ph.D. programs in Interdepartmental Graduate Studies permit, with approval of the Graduate Council, highly qualified students to pursue a privileged individualized program which cuts across disciplinary lines.

The Bulletin of the Graduate School (p. 498) presents more detailed information on these graduate programs.

The College is primarily housed in the J. Neville McArthur Building. Completed in 1959 and renovated in 1984, this attractive building is the gift of the late J. Neville McArthur, who was a member of the Board of Trustees and a prominent citizen and dairyman. The Engineering Annex is also a gift of the McArthur family. Students in the College of Engineering come from all parts of the United States and from many nations throughout the world, comprising one of the most diverse and cosmopolitan engineering student bodies in the country.

Engineering Laboratories

The College of Engineering maintains a variety of well-equipped laboratories adequate for undergraduate instruction and providing for graduate and sponsored research.

Computer Laboratory

- Clarke Computational Laboratory
- Computer Graphics Laboratory

Biomedical Engineering Laboratories

- Biomedical Design and Instrumentation Laboratory
- Biomaterials/Circulatory Assist Device Laboratory
- Biomedical Atomic Force Microscopy Laboratory
- Biomedical Optics Laboratory
- Diabetes Tissue Engineering Laboratory
- Joint Bioengineering and Endourology Laboratory
- Measurements Laboratory
- Medical Imaging Laboratory
- Neuroprosthetics Research Group
- Neurosensory Engineering Laboratory
- Stem Cell and Mechanobiology Laboratory
- Tissue Biomechanics Laboratory
- Tissue Engineering Laboratory

Civil, Architectural and Environmental Engineering Laboratories

- Environmental Engineering Laboratory
- Geotechnical Engineering Laboratory
- Mechanics of Solids and Materials Laboratory
- Structures and Materials Laboratory
- Sustainable Building Systems Laboratory

Electrical and Computer Engineering Laboratories

- Electronics Laboratory
- Wireless Communications Laboratory
- Digital Signal Processing Laboratory
- Electrical Machinery Laboratory
- Digital Design Laboratory
- Microprocessor Laboratory
- Photonics and Micro-Devices Laboratory
- Distributed Decision Environments Laboratory
- Underwater Imaging Laboratory
- Networks Laboratory
- Embedded Systems Laboratory
- Computer Vision and Image Processing Laboratory
- Information Technology Laboratory
- Multimedia Laboratory
- Digital Audio and Speech Processing Laboratory
- Optics and Fiber Communications Laboratory
- ECE Computer Laboratory
- Nanophotonics and Devices Laboratory
- MEMS and VLSI Laboratory

Industrial Engineering Laboratories

- Computer Integrated Manufacturing Laboratory
- Industrial Hygiene Laboratory

- Biomechanics and Gait Laboratory
- Human Factors and Aging Research Laboratory
- Productivity Research Laboratory
- Work Design Laboratory
- Work Physiology Laboratory
- Systems and Operations Research Laboratory
- Industrial Ventilation Laboratory
- Robotics Laboratory

Mechanical and Aerospace Engineering Laboratories

- Aerospace Materials Simulation Laboratory
- Aerodynamics and Computational Fluid Dynamics Laboratory
- Design and Manufacturing Laboratory
- Fuel Cells Laboratory
- Thermo-Fluid Mechanics Laboratory
- Integrated Nano-Bio-Systems Laboratory
- Internal Combustion Laboratory
- Materials Laboratory
- Materials Modeling Laboratory
- Measurements Laboratory
- Multifunctional Composite Materials Laboratory
- Optimization and Reliability Laboratory
- Robotics and Intelligent Systems Engineering Laboratory
- Stress Analysis Laboratory
- Tissue Biomechanics Laboratory
- Wind Tunnel Laboratory

Academic Policies

Admission

Admission to the College of Engineering is covered under the section on Admission (p. 28) to the University in the General Information section of this Bulletin. Algebra, trigonometry, analytic geometry, chemistry, computer literacy, and physics are high school subjects that are appropriate for students planning on entering the College.

The academic work of each transfer student will be evaluated on an individual basis, and the student will be enrolled in the College at an appropriate level.

Requirements for Graduation

The College believes that emphasis should be placed on the student's ultimate level of attainment in selected subject areas. For those students whose preparation is advanced beyond that of the average secondary school graduate, the University provides proficiency examinations and schedules the students for more advanced work. Graduation for these students may be accelerated. For those students whose secondary school preparation has not provided an adequate background, the University offers preparatory courses. Graduation for these students may be delayed accordingly.

The student's program of study is selected jointly with an adviser, with special attention to the individual student's needs. Flexibility is ordinarily possible within the framework of sound education in the essential fundamentals and within the development of depth in selected fields of design and analysis. An examination of a typical curriculum given under

the various department sections of this Bulletin shows that there is a strong common core of studies. Therefore, students uncertain of their ultimate field of specialization retain a high degree of mobility to enable them to transfer from one curriculum to another.

Each student must demonstrate upon admission an adequate preparation in the necessary skills of reading, writing, and mathematics. Placement test scores will indicate which, if any, supplementary courses must be taken the first semester. Although these courses are recorded for University credit hour, the student must take the full curriculum, as listed, in addition to these courses. Students not prepared in these areas are advised to make every effort to correct deficiencies before the first semester.

Completion of any of the prescribed curricula, except Engineering Science, with an overall grade point average of at least 2.0 (C) in all course work, to include all accepted work from other institution(s), is the basic requirement for graduation in the College. An average of C also must be attained in all work attempted at the University of Miami and the professional studies. The Engineering Science curriculum, because of its special purpose, has a higher requirement, i.e., a grade point average of 3.0 (B).

The requirements for graduation as specified by each Department and Program reflect the general education requirements of the University of Miami and the requirements of the appropriate accrediting agencies. The curricula contain required courses and elective courses. No course required for graduation may be taken under the credit-no credit (Credit-Only) option.

Students are expected to make satisfactory progress toward graduation by meeting the criteria established above. Whenever a student fails to demonstrate positive academic progress, he/she may be placed on academic probation or dismissed by the College of Engineering Scholastic Standards and Advising (SSA) Committee.

General Educational Requirements

Areas of Knowledge

Students at the College of Engineering fulfill the Areas of Knowledge requirement by completing three *cognates*, one from each of the three areas of the university curriculum:

- Arts & Humanities;
- People & Society; and
- Science, Technology, Engineering & Mathematics.

For students in the College of Engineering, their engineering major will count as a cognate in Science, Technology, Engineering & Mathematics. These students have to complete a cognate in People & Society and Arts & Humanities.

A cognate is a group of at least three courses for at least nine credit hours, related in a topical, thematic, interdisciplinary, sequential, or other fashion, so that completion of a cognate provides coherent depth of knowledge. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the coherent focus of the cognate. While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed by students are listed

on the students' transcripts, thus certifying their depth of knowledge in those areas.

The university offers a large number and range of cognates. All approved cognates are visible in a cognate search engine (at www.miami.edu/cognates) that allows students to search for cognates based on cognate features, cognate courses, and keywords. Each cognate is administered by a department or program that is designated as the Responsible Academic Unit (RAU) for the cognate. Inquiries regarding a cognate should be directed to the cognate's RAU.

Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. These requirements are specified under each department.

The student's official records are maintained by the Office of Enrollment Services. It is the student's obligation to take the initiative to assure that all requirements are being met in conformity with his/her own graduation plans.

Degree Programs

Dual Majors

Dual majors are offered for engineering students with strong interest in related fields of study such as Physics or Mathematics. In order to obtain a dual major in one of these areas, the student will have to obtain, in parallel, a degree in one of the engineering programs, plus additional course work approved by the dual majors department. Further information on this dual major program may be obtained from the Dean's Office of the College.

Minors

Minors are offered by the College of Engineering. The departments of:

- Civil, Architectural, and Environmental Engineering,
- Electrical and Computer Engineering,
- Industrial Engineering, and
- Mechanical Engineering

offer minors with various areas of specialization. Details of each area of concentration and its requirements may be found under each departmental listing.

Engineering students can earn a minor offered by any other College/School within the University of Miami, including the College of Engineering. In cases where the major degree requirements satisfy some of the requirements for the minor, at least six credit hours beyond the major degree requirements must be taken in the minor subject area to earn a minor. Minors in Engineering require a minimum GPA of 2.0 in the courses required for the minor.

Departmental Honors Program

A student in the College of Engineering may graduate with Departmental Honors noted upon his/her diploma and transcript upon fulfillment of the following requirements:

1. Completion of at least 18 credit hours of course work in honors courses and/or in courses at the 500 level, including 6 credit hours in independent study, senior thesis, or designated advanced or special

honors courses specified by the department, with grades of at least B in these 6 credit hours.

2. Attainment of at least a 3.4 overall grade point average. Transfer students must also attain at least a 3.4 grade point average in all work taken at the University of Miami.
3. Attainment of at least a 3.5 average in the departmental major courses.
4. A written request from the student to the departmental faculty during his/her semester of expected graduation stating the desire to graduate with Departmental Honors, and specifying those courses taken in compliance with section (A) above.

Certificate Programs in Engineering

In cooperation with the University's School of Continuing Studies, the College of Engineering offers practicing engineers advanced or specialized training without having to meet the stringent entrance requirements of the Graduate School. Persons holding Bachelor's degrees, registered as Professional Engineers, or possessing equivalent qualifications can be granted Certificates of Proficiency by the University after completing fifteen credit hours of course work in a specified field of engineering. Study programs are arranged on an individual basis by each student and his/her advisor. Detailed information on Certificate Programs can be requested from the Office of the Dean of Engineering.

The Internship Cooperative Program

The Cooperative Program takes its name from the close cooperation that exists between the College and participating employers. This arrangement attempts to insure that each student's academic and work experience will integrate and contribute significantly to his/her overall growth and professional development. Interviews and screening by both the employer and Cooperative Program personnel attempt to match the needs of the employer carefully with the interests and capability of the student.

Advantages to the Student

1. Offers on-the-job experience to supplement the academic degree program.
2. Offers potential long term career employment with the Cooperative Program employer.
3. The experience obtained makes the student, upon graduation, potentially much more valuable to any future employer. Upon completion of an appropriate amount and level of experience, graduation in the Cooperative Program may be recognized by a special seal on the student's diploma.
4. Helps the student to verify whether or not his/her career or specialty choice is correct.
5. Tends to increase motivation and to make academic studies more meaningful.
6. Earnings from Cooperative Program employment can cover a significant portion of the student's college expenses.
7. Certain work experience may shorten the experience requirements, after graduation, for eligibility for professional registration.
8. Helps to develop the students understanding of human relations and the lifelong need of learning to balance appropriately the demands on ones time of multiple duties such as studying, employment, daily necessities, family obligations, etc.

Advantages to the Employer

1. Offers an opportunity to recruit and screen potential employees in the fields of engineering.
2. The Cooperative Program maintains an up-to-date roster of available undergraduate and graduate students, many with previous experience. This roster offers employers means of obtaining employees to meet fluctuating work loads, on relatively short notice.
3. Students in the Cooperative Program can provide good company public relations with their classmates.
4. Participation in a Cooperative Program serves the profession by providing opportunities for many capable and well deserving young persons to attend a University, who otherwise might lack the financial ability or motivation to attend.

Types of Cooperative Program Arrangements

Continuous Work-Study

An arrangement involving a combination of part-time employment (15 or more hours per week) and a credit hour academic load which is appropriately reduced from the normal full-time load to balance the employment duties. Full-time employment may be undertaken during the summer period. Two students may be used during the year to share the hours of a full-time position (20 hours each student). In some instances, an individual student will hold a full-time position and carry a light academic load in evening and/or early morning classes.

Alternating Work-Study

An arrangement involving two students alternating full-time employment and full-time study. Students alternate positions of work and study at the end of each semester (including the summer), and thereby provide the equivalent employee time of a full-time position year-round.

Student Eligibility for the Program

University of Miami students enrolled in the College of Engineering are eligible to enter the Cooperative Program. Initial entry into the Program is limited to superior students. Normally, work assignments are not given until the equivalent of one or two semesters of full-time academic work is completed. Currently, most students in the Program are under continuous work-study arrangements.

Study Abroad Programs

The College of Engineering encourages its students to take advantage of one of the University of Miami's numerous study abroad options in Latin America, Europe, Asia, Australia and the Middle East. Of particular interest to Engineering students are the following: internships (unpaid and paid) in Spain, England, France, Argentina, Colombia, Chile, and Australia in which professional work experience is carried out abroad; course work at Engineering schools abroad for a semester or an academic year; summer programs in intensive Language instruction, Humanities and Social Sciences abroad. The cost of attending these programs is equivalent to University of Miami tuition and fees. Almost all University of Miami financial aid is granted. With prior approval and detailed curriculum advice, courses taken abroad will apply towards graduation.

The Management of Technology Supplemental Program

The objective of this program is to educate engineers in how to exploit their technological knowledge. This is a vital, but often neglected, link in achieving competitiveness in the global marketplace. The basic premise motivating this approach is the recognition that in today's world, technology is the backbone of the business enterprise system and that wealth can only be created through production of goods and services. This program will educate engineers in a multitude of subjects bridging the gap between product technology, production technology and the marketplace, which is the ultimate customer of engineering contributions.

The program consists of four courses:

1. Quality in Design of Products and Production Systems
2. Entrepreneurship for Engineers
3. Production Systems Design
4. Management of Technology.

A project is required at the end of the program, but is threaded throughout the program starting with the first course. Upon completion of the program, the student will receive a special certificate of completion. This program is available to all qualified students in all departments of the College of Engineering.

Admission to the Program

Admission to this supplemental program will be by application submitted by the candidate or by nomination by an advisor or department chair. All applications will be reviewed by a standing committee. Students must meet the prerequisite of each course before enrolling in it.

Requirements for the Certificate

The program is an add-on to existing curriculum. Students must complete all courses designated in order to qualify for the certificate. A notation will be made on the student's transcript recognizing their completion of the special program. No designation will be made on the diploma.

Course Sequence

Courses are recommended to be taken in the sequence indicated above.

Team Work

Students will be encouraged to work on projects in teams. Multidisciplinary teams will also be encouraged.

Foote Fellows

Foote Fellows in CoE

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Foote Fellows in the College of Engineering are exempt from the Cognates Program of General Education requirements within the curricular framework of their major. Within the curricular framework of their majors, Foote Fellows enjoy unmatched freedom and flexibility

to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated adviser helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Biomedical Engineering

<http://www.miami.edu/bme>

Dept. Code: BME

Introduction

Biomedical engineering is a multidisciplinary field at the interface of traditional engineering disciplines and biological sciences. Biomedical engineers apply engineering principles and techniques to solve problems in medicine and biology. Applications include the design of medical devices, implants and prostheses, the development of new biomaterials or drug delivery systems, cellular or tissue engineering, medical applications of optics and lasers, or the acquisition and interpretation of physiological signals and medical images for diagnostic and monitoring purposes. Biomedical engineering has an impact on virtually all fields of medicine.

The Department of Biomedical Engineering at the University of Miami was formally established in 1979 as a graduate program. The four-year undergraduate program leading to the B.S degree in BME was created approximately ten years later to address the growing importance of the field and the need for professional biomedical engineers. The undergraduate BME program at the University of Miami was the first of its kind in Florida, with the first class of B.S.B.E. students graduating in 1993. It has been Accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board of Engineering and Technology (ABET) since 1997. The Department of Biomedical Engineering also offers graduate courses leading to the Master of Science and Doctor of Philosophy degrees. In addition, qualified undergraduate students may apply for the combined BS/MS program (details are provided following the curricula for the BS degrees).

Graduates of the biomedical engineering undergraduate program find employment in industry or continue their studies either in graduate school or in a professional school in medicine and other health-related disciplines (such as dentistry, optometry, orthotics), law or business.

Some special features of the program include the small class size and open-door policy of the faculty, which facilitates student-faculty interaction. The Department has very strong ties with the University of Miami Miller School of Medicine. Undergraduate students have a wide range of research and internship opportunities in some of the leading research laboratories in their respective field. The Department strongly encourages undergraduate student participation in research and professional activities.

Mission Statement

The mission of the biomedical engineering program is to prepare students to become knowledgeable and skilled engineers with an understanding of the ethical and other professional aspects of biomedical engineering. Design skills and an ability to work both independently and as part of a team are emphasized.

Educational Objectives

The educational objectives of the program are to graduate engineers who will apply their knowledge, technical skills, and ability to solve problems at the interface of engineering and life sciences. Within a few years after graduation they will be:

1. Working as professionals in biomedical engineering or related fields.
2. Continuing their education to advance their careers through professional development activities or through the pursuit of advanced degrees.

Program Description

Curriculum

The two educational objectives of the Biomedical Engineering program are achieved via the implementation of a curriculum with four parallel concentrations which include a common core and concentration-specific courses. The core curriculum is designed to provide a broad foundation in the basic sciences and in engineering. Concentration-specific courses provide the depth required to be proficient engineers.

The four concentrations are:

- Electrical (E),
- Mechanical (M),
- Biomaterials and Tissue (B) and
- Premedical (P).

The Premed concentration provides training in biomedical engineering and allows for students to take courses that are commonly required for admission to medical school. The Biomaterials and Tissue concentration provides training in the fundamental aspects of cell and tissue biology, design of biomaterial scaffolds and implants, and the application of tissue engineered constructs toward repair, restoration, and regeneration of damaged cells, tissues and organs. The Electrical concentration provides training in the fundamental aspects of electronics and signal processing, design of instrumentation, sensors, imaging systems and neural interfaces, and the application of biomedical technology toward measurement, control and rehabilitation of tissue and organ function. The Mechanical concentration provides training in the fundamental aspects of solid, fluid, and computational mechanics, design and modeling of biomedical devices such as artificial implants, and prostheses and the application of biomechanical principles toward assessment and

restoration of tissue and organ function. The curriculum is designed to provide all graduates with the analytical and design skills required to formulate and solve problems at the interface of engineering and life sciences. Outstanding students are prepared for graduate studies or medical school.

Required courses in the humanities and social sciences provide students with an awareness of social, ethical and environmental issues related to their profession. The curriculum has been carefully designed with the prerequisite structure in mind so that students have to draw from previously acquired knowledge to complete the upper level course requirements successfully. The curriculum includes two or three technical electives selected by the student based on their individual professional interests.

The curriculum places a special emphasis on written and oral communication skills. Many of the Biomedical Engineering courses, as well as the capstone design project, include a requirement for a written term paper and oral presentation on a course-related topic related to the class.

Advanced Writing and Communication Skills

Biomedical Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. Biomedical Engineering students acquire Advanced Writing and Communication skills in the following core courses:

BME 111	Introduction to Engineering I	3
BME 112	Introduction to Engineering II	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 480	Biomedical Instrumentation	3

Design Experience

The biomedical engineering design experience is integrated in the curriculum throughout the four years of study, starting in the freshman year with the Introduction to Biomedical Engineering course. Each semester includes classroom or laboratory courses which place a heavy emphasis on theoretical and practical biomedical engineering design concepts. In the second semester of the junior year, students complete a 3 credit-hour course which covers the principles of biomedical engineering design, from problem identification and design conception to implementation and testing, including regulatory aspects. The design experience culminates in the senior year with a yearlong capstone Senior Design Project. The Senior Design Project is typically completed by teams of two to four students who build on their knowledge and previous design experience to solve one major design problem which integrates the various components of the curriculum.

Teaching and Design Laboratories

Biomedical Engineering students have open access to several teaching laboratories which are used for the laboratory courses and design

projects. The laboratory equipment and instructional modules are geared towards instruction in the areas of tissue mechanics, instrumentation, measurements, biomedical optics, physiological signals, tissue engineering, among others. In particular, the Department houses a scanning electron microscope and a state-of-the-art 3D printer that are used by students in their design projects.

Undergraduate Research and Internships

Biomedical Engineering students are strongly encouraged to gain research or professional experience through internships. Many undergraduate students conduct research in laboratories at the Department of Biomedical Engineering and at the School of Medicine, or are hired as interns by the local biomedical industry.

Degree Programs

The department offers one degree program with four concentrations: Electrical, Mechanical, Biomaterials and Tissue, and Premed. A list of the core science and engineering courses common to all four concentrations is provided below, followed by a tabular listing of the course requirements for the degree Bachelor of Science in Biomedical Engineering for each concentration.

Dual Major

The College of Engineering offers a dual major in Biomedical Engineering for students that are majoring in another engineering Department. In order to obtain the dual major in Biomedical Engineering, the student will have to obtain, in parallel, a major in one of the fundamental engineering programs, plus 24 credit hours of course work, including 19 credit hours of required course work and 5 credit hours of elective course work from the lists given below. Of this total of 24 credit hours, at least 12 have to be at the level of 400 and above.

The required courses for the dual major are:

BME 265	Medical Systems Physiology	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 440	Biomedical Measurements	4
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
Total Credit Hours		19

The electives are to be chosen from the BME course list.

Departmental Honors

Upon request departmental honor is noted in a student's diploma and transcript upon fulfillment of the requirements specified in the College Bulletin.

Majors

Majors in Biomedical Engineering

- B.S. in Biomedical Engineering - Electrical Concentration (p. 233)
- B.S. in Biomedical Engineering - Mechanical Concentration (p. 234)
- B.S. in Biomedical Engineering - Biomaterials and Tissue Concentration (p. 232)
- B.S. in Biomedical Engineering - Premed Concentration (p. 236)

Joint

Joint Degrees in Biomedical Engineering

- B.S./M.S. in Biomedical Engineering - Electrical Concentration (p. 239)
- B.S./M.S. in Biomedical Engineering - Mechanical Concentration (p. 240)
- B.S./M.S. in Biomedical Engineering - Biomaterials and Tissue Concentration (p. 237)
- B.S./M.S. in Biomedical Engineering - Premed Concentration (p. 241)

B.S. in Biomedical Engineering - Biomaterials and Tissue Concentration

Common Core - Mathematics and Science

MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BME 312	Biomedical Statistics and Data Analysis	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics Iii Lab	1
Total Credit Hours		39

Common Core - Engineering

BME 111	Introduction to Engineering I	3
BME 112	Introduction to Engineering II	3
BME 211	Introduction to programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3

BME 512	Regulatory Control of Biomedical Devices	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
Select one of the following biomedical engineering laboratory courses:		1
BME 395	Undergraduate Research in Biomedical Engineering	
BME 506	Computer Aided Design in Biomedical Engineering	
BME 507	LabView Applications for Biomedical Engineering	
BME 566	Cell and Tissue Engineering Laboratory	
Total Credit Hours		51

Biomaterials and Tissue Concentration

Freshman Year		Credit Hours
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 112	Introduction to Engineering II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		18
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Term Credit Hours:		18
Spring		
BME 302	Cellular Engineering	3
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to programming for Biomedical Engineers	3

ECE 204	Electrical Circuits Laboratory	1
PHY 209	University Physics Iii Lab	1
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Junior Year		
Fall		
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 312	Biomedical Statistics and Data Analysis	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		16
Spring		
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4
CHM 202	Organic Chemistry II (Lecture)	3
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		16
Senior Year		
Fall		
BME 402	Senior Design I	2
BME 450	Biomedical Transport Phenomena	3
BME 565	Principles of Cellular and Tissue Engineering	3
BME 566	Cell and Tissue Engineering Laboratory	1
Technical Elective ²		3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		15
Spring		
BME 403	Senior Design II	1
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
Technical Elective ²		3
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		16
Total Credit Hours:		133

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Electives are chosen from the BME course offerings (300 level and above) with the approval of the advisor. Any other courses selected need to be approved by the advisor and the chairperson.

B.S. in Biomedical Engineering - Electrical Concentration

Common Core - Mathematics and Science

MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BME 312	Biomedical Statistics and Data Analysis	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics Iii Lab	1
Total Credit Hours		39

Common Core - Engineering

BME 111	Introduction to Engineering I	3
BME 112	Introduction to Engineering II	3
BME 211	Introduction to programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
Select one of the following biomedical engineering laboratory courses:		1
BME 395	Undergraduate Research in Biomedical Engineering	
BME 506	Computer Aided Design in Biomedical Engineering	
BME 507	LabView Applications for Biomedical Engineering	

BME 566 Cell and Tissue Engineering Laboratory	
Total Credit Hours	51

Electrical Concentration

Freshman Year		
Fall		Credit Hours
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 112	Introduction to Engineering II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		18
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Term Credit Hours:		18
Spring		
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to programming for Biomedical Engineers	3
ECE 204	Electrical Circuits Laboratory	1
BME 312	Biomedical Statistics and Data Analysis	3
PHY 209	University Physics Iii Lab	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Junior Year		
Fall		
BME 375	Fundamentals of Biomechanics	3
BME 470	Biomedical Signal Analysis	3
ECE 304	Logic Design	3.00
ECE 305	Electronics I	3

People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		15
Spring		
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4
ECE 315	Digital Design Laboratory	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
BME 402	Senior Design I	2
BME 450	Biomedical Transport Phenomena	3
BME 480	Biomedical Instrumentation	3
BME 507	LabView Applications for Biomedical Engineering	1
Technical Elective ³		3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		15
Spring		
BME 403	Senior Design II	1
BME 540	Microcomputer-Based Medical Instrumentation	3
BME 541	Medical Electronic Systems Laboratory	2
BME 512	Regulatory Control of Biomedical Devices	3
Technical Elective Lab ²		1
Technical Elective ³		3
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		16
Total Credit Hours:		133

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Elective Labs are selected from BME 506, BME 566 or BME 395.

³ Technical Electives are chosen from the BME course offerings (300 level and above) with the approval of the advisor. Any other courses selected need to be approved by the advisor and the chairperson.

B.S. in Biomedical Engineering - Mechanical Concentration

Common Core - Mathematics and Science

MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BME 312	Biomedical Statistics and Data Analysis	3

BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics Iii Lab	1
Total Credit Hours		39

Common Core - Engineering

BME 111	Introduction to Engineering I	3
BME 112	Introduction to Engineering II	3
BME 211	Introduction to programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
Select one of the following biomedical engineering laboratory courses:		1
BME 395	Undergraduate Research in Biomedical Engineering	
BME 506	Computer Aided Design in Biomedical Engineering	
BME 507	LabView Applications for Biomedical Engineering	
BME 566	Cell and Tissue Engineering Laboratory	
Total Credit Hours		51

Mechanical Concentration

Freshman Year		Credit Hours
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5

PHY 205	University Physics I	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17

Spring		
BME 112	Introduction to Engineering II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		18

Sophomore Year

Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Term Credit Hours:		18

Spring		
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to programming for Biomedical Engineers	3
CAE 210	Mechanics of Solids I	3
ECE 204	Electrical Circuits Laboratory	1
PHY 209	University Physics Iii Lab	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17

Junior Year

Fall		
BME 330	Foundations of Medical Imaging	3
BME 375	Fundamentals of Biomechanics	3
BME 470	Biomedical Signal Analysis	3
MAE 202	Dynamics	3
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		15

Spring		
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4
BME 312	Biomedical Statistics and Data Analysis	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		16

Senior Year		
Fall		
BME 402	Senior Design I	2
BME 450	Biomedical Transport Phenomena	3
BME 480	Biomedical Instrumentation	3
BME 506	Computer Aided Design in Biomedical Engineering	1
Technical Elective ²		3
Technical Elective Lab ³		1
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		16
Spring		
BME 403	Senior Design II	1
BME 460	Introduction to Physiological Fluid Mechanics	3
BME 512	Regulatory Control of Biomedical Devices	3
BME 575	Biomechanics II	3
Technical Elective ²		3
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		16
Total Credit Hours:		133

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Electives are chosen from the BME course offerings (300 level and above) with the approval of the advisor. Any other courses selected need to be approved by the advisor and the chairperson.

³ Technical Elective Labs are selected from BME 507, BME 566, or BME 395.

B.S. in Biomedical Engineering - Premed Concentration

Common Core - Mathematics and Science

MTH 151	Calculus I for Engineers	5
MTH 162	Calculus II	4
MTH 311	Introduction to Ordinary Differential Equations	3
BME 312	Biomedical Statistics and Data Analysis	3
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1

PHY 209	University Physics Iii Lab	1
Total Credit Hours		39

Common Core - Engineering

BME 111	Introduction to Engineering I	3
BME 112	Introduction to Engineering II	3
BME 211	Introduction to programming for Biomedical Engineers	3
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 402	Senior Design I	2
BME 403	Senior Design II	1
BME 440	Biomedical Measurements	4
BME 450	Biomedical Transport Phenomena	3
BME 470	Biomedical Signal Analysis	3
BME 480	Biomedical Instrumentation	3
BME 512	Regulatory Control of Biomedical Devices	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
Select one of the following biomedical engineering laboratory courses:		1
BME 395	Undergraduate Research in Biomedical Engineering	
BME 506	Computer Aided Design in Biomedical Engineering	
BME 507	LabView Applications for Biomedical Engineering	
BME 566	Cell and Tissue Engineering Laboratory	
Total Credit Hours		51

Premed Concentration

Freshman Year		
		Credit Hours
Fall		
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 112	Introduction to Engineering II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4

PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		18
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Term Credit Hours:		18
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to programming for Biomedical Engineers	3
PHY 209	University Physics Iii Lab	1
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		18
Junior Year		
Fall		
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 312	Biomedical Statistics and Data Analysis	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
ECE 204	Electrical Circuits Laboratory	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4.00
Advanced Bioscience Elective ²		3
Technical or Science Lab Elective ³		1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
BME 402	Senior Design I	2
BME 470	Biomedical Signal Analysis	3
BME 512	Regulatory Control of Biomedical Devices	3

Advanced Bioscience Elective ²		3
Technical Elective Lab ³		1
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		15
Spring		
BME 403	Senior Design II	1
BME 450	Biomedical Transport Phenomena	3
BME 480	Biomedical Instrumentation	3
Technical Elective ⁴		3
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		13
Total Credit Hours:		133

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours). Students in the Premed Concentration are highly encouraged to choose cognates that include PSY 110 and SOC 101.

² Advanced Bioscience Elective is to be chosen from BMB 260, BIL 250, BIL 255, BIL 268, CHM 202, or BMB 402. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both.

³ Technical Lab Elective is selected from BME 506, BME 507, BME 566 or BME 395; Science Lab Elective is selected from a science lab complementing the Adv. Bioscience Elective (e.g., CHM or BIL lab).

⁴ Technical Electives are chosen from BME course offerings (300 level & above) with the approval of the advisor. Any other course selected need to be approved by the advisor and the department chairperson.

B.S./M.S. in Biomedical Engineering - Biomaterials and Tissue Concentration

- Juniors from any of the four BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.
- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credit hours to meet the requirements of the Graduate School.
- The participants are excused from BME 402/BME 403, but are required to complete BME 705/BME 706.
- Up to 12 credit hours of Technical electives earned during the fourth year can be counted toward the 30 credit hours required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credit hours per semester in their senior year.
- Students can register for a maximum of 6 graduate credit hours per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for the Biomaterials and Tissue Concentration.

- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.

B.S./M.S. in Biomedical Engineering - Biomaterials and Tissue Concentration

Freshman Year		
Fall		Credit Hours
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 112	Introduction to Engineering II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		18
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Term Credit Hours:		18
Spring		
BME 302	Cellular Engineering	3
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to programming for Biomedical Engineers	3
ECE 204	Electrical Circuits Laboratory	1
PHY 209	University Physics III Lab	1
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Junior Year		
Fall		
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3

BME 312	Biomedical Statistics and Data Analysis	3
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		16
Spring		
BME 375	Fundamentals of Biomechanics	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4
CHM 202	Organic Chemistry II (Lecture)	3
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		16
Senior Year		
Fall		
BME 450	Biomedical Transport Phenomena	3
BME 565	Principles of Cellular and Tissue Engineering	3
BME 566	Cell and Tissue Engineering Laboratory	1
People and Society Cognate (P&S Elective) ¹		3
Undergraduate Elective ²		2
Technical Elective (Graduate) ³		3
Technical Elective (Graduate) ³		3
Term Credit Hours:		18
Spring		
BME 480	Biomedical Instrumentation	3
BME 470	Biomedical Signal Analysis	3
BME 512	Regulatory Control of Biomedical Devices	3
Humanities and Arts Cognate (H&A Elective) ¹		3
BME 705	Master's Design Project I	3
Technical Elective (Graduate) ³		3
Term Credit Hours:		18
Fifth Year (Graduate)		
Fall		
BME 706	Master's Design Project II	3
Technical Elective ³		3
Technical Elective (700 level) ³		3
Term Credit Hours:		9
Spring		
Technical Elective ³		3
Technical Elective ³		3
Technical Elective (700 level) ³		3
Term Credit Hours:		9
Total Credit Hours:		156

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² The undergraduate elective is any undergraduate level course with a number of credit hours sufficient to ensure that the student is enrolled for a total of 12 undergraduate credit hours during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.

³ All Technical Electives are taken as graduate courses. They are graduate-level courses (600 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credit hours of technical electives must be taken at the 700 level. Non-BME courses need to be approved by the advisor and the chairperson.

B.S./M.S. in Biomedical Engineering - Electrical Concentration

- Juniors from any of the four BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.
- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credit hours to meet the requirements of the Graduate School.
- The participants are excused from BME 402/BME 403, but are required to complete BME 705/BME 706.
- Up to 12 credit hours of Technical electives earned during the fourth year can be counted toward the 30 credit hours required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credit hours per semester in their senior year.
- Students can register for a maximum of 6 graduate credit hours per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for the Electrical Concentration.
- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.

B.S./M.S. in Biomedical Engineering - Electrical Concentration

Freshman Year		
Fall		Credit Hours
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 112	Introduction to Engineering II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3

MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		18
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Term Credit Hours:		18
Spring		
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to programming for Biomedical Engineers	3
BME 312	Biomedical Statistics and Data Analysis	3
ECE 204	Electrical Circuits Laboratory	1
PHY 209	University Physics III Lab	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Junior Year		
Fall		
BME 375	Fundamentals of Biomechanics	3
BME 470	Biomedical Signal Analysis	3
People and Society Cognate (P&S Elective) ¹		3
ECE 304	Logic Design	3.00
ECE 305	Electronics I	3
Term Credit Hours:		15
Spring		
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4
ECE 315	Digital Design Laboratory	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
BME 450	Biomedical Transport Phenomena	3
BME 480	Biomedical Instrumentation	3
BME 507	LabView Applications for Biomedical Engineering	1
People and Society Cognate (P&S Elective) ¹		3
Undergraduate Elective ³		3

Technical Elective (Graduate) ⁴		3
Technical Elective (Graduate) ⁴		3
Term Credit Hours:		19
Spring		
BME 512	Regulatory Control of Biomedical Devices	3
BME 540	Microcomputer-Based Medical Instrumentation	3
BME 541	Medical Electronic Systems Laboratory	2
Humanities and Arts Cognate (H&A Elective) ¹		3
Technical Elective Lab ²		1
BME 705	Master's Design Project I	3
Technical Elective (Graduate) ⁴		3
Term Credit Hours:		18
Fifth Year (Graduate)		
Fall		
BME 706	Master's Design Project II	3
Technical Elective ⁴		3
Technical Elective (700 level) ⁴		3
Term Credit Hours:		9
Spring		
Technical Elective ⁴		3
Technical Elective ⁴		3
Technical Elective (700 level) ⁴		3
Term Credit Hours:		9
Total Credit Hours:		157

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Elective Labs are selected from BME 506, BME 566 or BME 395.

³ The undergraduate elective is any undergraduate level course with a number of credit hours sufficient to ensure that the student is enrolled for a total of 12 undergraduate credit hours during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.

⁴ All Technical Electives are taken as graduate courses. They are graduate-level courses (600 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credit hours of technical electives must be taken at the 700 level. Non-BME courses need to be approved by the advisor and the chairperson.

B.S./M.S. in Biomedical Engineering - Mechanical Concentration

- Juniors from any of the four BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.

- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credit hours to meet the requirements of the Graduate School.
- The participants are excused from BME 402/BME 403, but are required to complete BME 705/BME 706.
- Up to 12 credit hours of Technical electives earned during the fourth year can be counted toward the 30 credit hours required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credit hours per semester in their senior year.
- Students can register for a maximum of 6 graduate credit hours per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for the Mechanical Concentration.
- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.

B.S./M.S. in Biomedical Engineering - Mechanical Concentration

Freshman Year		
Fall		Credit Hours
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 112	Introduction to Engineering II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		18
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Term Credit Hours:		18
Spring		
BME 265	Medical Systems Physiology	3

BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to programming for Biomedical Engineers	3
CAE 210	Mechanics of Solids I	3
ECE 204	Electrical Circuits Laboratory	1
PHY 209	University Physics Iii Lab	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Junior Year		
Fall		
BME 330	Foundations of Medical Imaging	3
BME 375	Fundamentals of Biomechanics	3
BME 470	Biomedical Signal Analysis	3
MAE 202	Dynamics	3
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		15
Spring		
BME 312	Biomedical Statistics and Data Analysis	3
BME 335	Biomaterials	3
BME 401	Biomedical Design	3
BME 440	Biomedical Measurements	4
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		16
Senior Year		
Fall		
BME 450	Biomedical Transport Phenomena	3
BME 480	Biomedical Instrumentation	3
BME 506	Computer Aided Design in Biomedical Engineering	1
Technical Elective Lab ²		1
People and Society Cognate (P&S Elective) ¹		3
Undergraduate Elective ³		1
Technical Elective (Graduate) ⁴		3
Technical Elective (Graduate) ⁴		3
Term Credit Hours:		18
Spring		
BME 460	Introduction to Physiological Fluid Mechanics	3
BME 512	Regulatory Control of Biomedical Devices	3
BME 575	Biomechanics II	3
Humanities and Arts Cognate (H&A Elective) ¹		3
BME 705	Master's Design Project I	3
Technical Elective (Graduate) ⁴		3
Term Credit Hours:		18
Fifth Year (Graduate)		
Fall		
BME 706	Master's Design Project II	3
Technical Elective ⁴		3

Technical Elective (700 level) ⁴	3
Term Credit Hours:	
9	
Spring	
Technical Elective ⁴	3
Technical Elective ⁴	3
Technical Elective (700 level) ⁴	3
Term Credit Hours:	
9	
Total Credit Hours:	
155	

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours).

² Technical Elective Labs are selected from BME 506, BME 566 or BME 395.

³ The undergraduate elective is any undergraduate level course with a number of credit hours sufficient to ensure that the student is enrolled for a total of 12 undergraduate credit hours during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.

⁴ All Technical Electives are taken as graduate courses. They are graduate-level courses (600 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credit hours of technical electives must be taken at the 700 level. Non BME Courses need to be approved by the advisor and the chairperson.

B.S./M.S. in Biomedical Engineering - Premed Concentration

- Juniors from any of the four BME Concentrations who have maintained at least a 3.0 CGPA have the option to apply for admission to the combined BS-MS in Biomedical Engineering program.
- Those who are accepted into this accelerated program must maintain at least a 3.0 CGPA and a minimum of a 3.0 GPA for the final 30 credit hours to meet the requirements of the Graduate School.
- The participants are excused from BME 402/BME 403, but are required to complete BME 705/BME 706.
- Up to 12 credit hours of Technical electives earned during the fourth year can be counted toward the 30 credit hours required for the MS degree.
- Students must be registered for a minimum of 12 undergraduate credit hours per semester in their senior year.
- Students can register for a maximum of 6 graduate credit hours per semester in their senior year.
- A typical curriculum of the BS/MS is shown below for the Premed Concentration.
- If a student needs to withdraw from the BS/MS BME program then all the requirements for the specific BS BME Concentration must be completed for graduation with the BS BME degree.

B.S./M.S. in Biomedical Engineering - Premed Concentration

Freshman Year		
Fall		Credit Hours
BME 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 112	Introduction to Engineering II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		18
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
Term Credit Hours:		18
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BME 265	Medical Systems Physiology	3
BME 310	Mathematical Analysis in Biomedical Engineering	3
BME 211	Introduction to programming for Biomedical Engineers	3
PHY 209	University Physics III Lab	1
People and Society Cognate (P&S Elective) ¹		3
Term Credit Hours:		18
Junior Year		
Fall		
BME 312	Biomedical Statistics and Data Analysis	3
BME 330	Foundations of Medical Imaging	3
BME 335	Biomaterials	3
CHM 201	Organic Chemistry I (Lecture)	3

CHM 205	Organic Chemistry Laboratory I	1
ECE 204	Electrical Circuits Laboratory	1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Spring		
BME 375	Fundamentals of Biomechanics	3
BME 440	Biomedical Measurements	4.00
BME 401	Biomedical Design	3
Advanced Bioscience Elective ²		3
Technical or Science Lab Elective ³		1
Humanities and Arts Cognate (H&A Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
BME 470	Biomedical Signal Analysis	3
BME 512	Regulatory Control of Biomedical Devices	3
Advanced Bioscience Elective ²		3
Technical Elective Lab ⁴		1
People and Society Cognate (P&S Elective) ¹		3
Undergraduate Elective ⁶		1
Technical Elective (Graduate) ⁵		3
Term Credit Hours:		17
Spring		
BME 450	Biomedical Transport Phenomena	3
BME 480	Biomedical Instrumentation	3
Humanities and Arts Cognate (H&A Elective) ¹		3
Undergraduate Elective ⁶		3
BME 705	Master's Design Project I	3
Technical Elective (Graduate) ⁵		3
Term Credit Hours:		18
Fifth Year (Graduate)		
Fall		
BME 706	Master's Design Project II	3
Technical Elective ⁵		3
Technical Elective (600 level) ⁵		3
Term Credit Hours:		9
Spring		
Technical Elective ⁵		3
Technical Elective ⁵		3
Technical Elective (700 level) ⁵		3
Term Credit Hours:		9
Total Credit Hours:		158

¹ Students must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates (<http://www.miami.edu/index.php/registrar/cognates>). Each cognate should be a minimum of 3 courses (9 credit hours). Students in the Premed Concentration are highly encouraged to choose cognates that include PSY 110 and SOC 101.

- ² Advanced Bioscience Elective is to be chosen from BMB 260, BIL 250, BIL 255, BIL 268, CHM 202, or BMB 402. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both
- ³ Technical or Science Elective Lab is selected from BME 506, BME 507, BME 566 or BME 395 or from a science lab complementing the Adv Bioscience Elective (e.g., CHM or BIL lab).
- ⁴ Technical Elective Lab is selected from BME 506, BME 507, BME 566 or BME 395
- ⁵ All Technical Electives are taken as graduate courses. They are graduate-level courses (600 level and above) chosen from the BME course offerings with the approval of the advisor. A minimum of 6 credit hours of technical electives must be taken at the 700 level. Non-BME courses need to be approved by the advisor and the chairperson.
- ⁶ The undergraduate elective is any undergraduate level course with a number of credit hours sufficient to ensure that the student is enrolled for a total of 12 undergraduate credit hours during each semester of the senior year. The undergraduate elective can be any undergraduate class, but students are encouraged to select an engineering or science course.

Civil, Architectural and Environmental Engineering

<http://www.cae.miami.edu>

Dept. Code: CAE

Mission Statement

The mission of the Department of Civil, Architectural, and Environmental Engineering is to:

- Provide high-quality undergraduate and graduate education in civil, architectural, and environmental engineering that will prepare graduates for professional careers and a lifetime of learning
- Conduct high-quality research that will advance the body of knowledge and improve the quality of human life
- Serve the engineering profession and society through active involvement in professional organizations and contribution of professional expertise

The department offers three undergraduate degrees:

- Bachelor of Science in Civil Engineering,
- Bachelor of Science in Architectural Engineering and
- Bachelor of Science in Environmental Engineering.

Civil Engineering

Civil engineers are leaders in the planning, design, construction, and operation of systems that are essential to modern life. These systems include: buildings, highways, airports, pipelines, bridges, dams, irrigation systems, drainage systems, water-supply and distribution systems, and wastewater collection and treatment works. Civil engineers are employed by government agencies, public utility companies, private consulting firms, construction companies, architectural firms, and universities.

Architectural Engineering

Architectural engineers are leaders in the planning, design, construction, and operation of engineered systems for commercial, industrial, and institutional buildings and other facilities. These engineered systems include electrical, communications and control, lighting, heating, ventilating, air conditioning, fire protection, plumbing, acoustic, and structural components. Architectural engineers are employed by consulting firms, construction companies, facility management companies, HVAC equipment manufacturers, architectural firms, government agencies, and universities.

Environmental Engineering

Environmental engineers are leaders in the application of engineering principles to improve and maintain the environment for the protection of human health, for the protection of nature's beneficial ecosystems, and for environment-related enhancement of the quality of human life. Environmental engineers are employed by government agencies, consulting firms, and universities.

Educational Objectives

The objectives of the Civil Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to civil engineering or
2. Pursuing a graduate or professional degree.

The objectives of the Architectural Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to architectural engineering or
2. Pursuing a graduate or professional degree.

The objectives of the Environmental Engineering Program are to have graduates who within the first several years following graduation are either

1. Working as a professional in an area closely related to the water environment or
2. Pursuing a graduate or professional degree.

Advanced Writing and Communication Skills

Civil, Architectural, and Environmental Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. Civil, Architectural, and Environmental Engineering students acquire Advanced Writing and Communication skills in the following core courses:

- CAE 111 – Introduction to Engineering I
- CAE 212 – Structures Laboratory (Civil and Architectural Engineering)- 1 Credit
- CAE 345 – Environmental Laboratory (Environmental Engineering)- 3 Credits
- CAE 371 – Geotechnical Laboratory (Civil and Architectural Engineering) – 1 Credit

- CAE 402 – Professional Engineering Practice- 3 Credits

Majors

Majors in Civil, Architectural, and Environmental Engineering

- B.S. in Civil Engineering (p. 244)
- B.S. in Architectural Engineering (p. 245)
- B.S. in Environmental Engineering (p. 246)
- B.S./M.S. in Civil Engineering (p. 247)
- B.S./M.S. in Architectural Engineering (p. 247)
- B.S. in Environmental Engineering/M.S. in Civil Engineering (p. 248)
- B.S. in Architectural Engineering and Master of Architecture Dual Degree Program (p. 248)

Minors

Minor in Civil, Architectural, and Environmental Engineering

- Civil Engineering (p. 250)
- Architectural Engineering (p. 249)
- Environmental Engineering (p. 250)

B.S. in Civil Engineering

Civil Engineering Curriculum

The Civil Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and civil engineering design. The first two years of the Civil Engineering curriculum provide a strong foundation in mathematics, basic sciences, and engineering sciences. During the next two years of the four-year program, the Civil Engineering curriculum integrates engineering sciences with design applications in the areas of structural, environmental, geotechnical, and water resources engineering. The curriculum culminates with a major senior-level design project that includes design applications from the major specialty areas of civil engineering.

Graduate study is offered leading to the degrees of Master of Science and Doctor of Philosophy in Civil Engineering (p. 504). For detailed information on graduate studies, see the Graduate Studies Bulletin.

A tabular listing of the course requirements for the degree of Bachelor of Science in Civil Engineering is shown below.

Civil Engineering

Freshman Year		
Fall		Credit Hours
CAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
CAE 112	Introduction to Engineering II ¹	2

ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
CAE 210	Mechanics of Solids I	3
Term Credit Hours:		16
Sophomore Year		
Fall		
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
IEN 311	Applied Probability And Statistics	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
MTH 211	Calculus III	3
HA Cognate ²		3
Term Credit Hours:		17
Spring		
CAE 310	Structural Analysis ¹	3
MTH 311	Introduction to Ordinary Differential Equations	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
Basic Science Elective ²		3
HA Cognate ²		3
Term Credit Hours:		16
Junior Year		
Fall		
CAE 320	Concrete Structures ¹	3
CAE 330	Fluid Mechanics	3
CAE 340	Introduction to Environmental Engineering ¹	3
CAE 350	Transportation Engineering I ¹	3
MAE 303	Thermodynamics I	3
PS Cognate ²		3
Term Credit Hours:		18
Spring		
CAE 321	Steel Structures ¹	3
CAE 370	Geotechnical Engineering I ¹	3
CAE 371	Geotechnical Laboratory ¹	1
CAE 430	Water-Resources Engineering I ¹	3
CAE 440	Water Quality Control Systems ¹	3
CAE 450	Transportation Engineering II ¹	3
Term Credit Hours:		16
Senior Year		
Fall		
CAE 403	Senior Design Project I - Civil Architectural ¹	1
CAE 470	Foundations and Earth Retaining Systems ¹	3
CAE 530	Water Resources Engineering II ¹	3

HA Cognate ²	3
PS Cognate ²	3
Tech Elective ²	3
Term Credit Hours:	16
Spring	
CAE 402 Professional Engineering Practice	3
CAE 404 Senior Design Project II - Civil Architectural ¹	2
CEN Tech Elective Course	3
CEN Design elective ³	3
PS Cognate ²	3
Term Credit Hours:	14
Total Credit Hours:	127

¹ Only offered once a year

² To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) cognates, Technical, Design, and Basic Science electives. Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours)

³ CAE 520 or CAE 521

B.S. in Architectural Engineering

Architectural Engineering Curriculum

The Architectural Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and architectural engineering design. The Architectural Engineering program integrates design applications across the curriculum, beginning with building construction and architectural design in the sophomore year, and continuing with structural, building mechanical and electrical systems design, and construction management in the junior and senior years. The curriculum culminates with a major comprehensive design experience that includes applications from the major specialty areas of architectural engineering.

Graduate study is offered leading to the degree of Master of Science in Architectural Engineering (p. 504). For detailed information on graduate studies, see the Graduate Studies Bulletin.

A tabular listing of the course requirements for the degree of Bachelor of Science in Architectural Engineering is shown below.

Architectural Engineering

Freshman Year		
Fall		Credit Hours
CAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
CAE 112	Introduction to Engineering II ¹	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3

MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
CAE 211	Mechanics of Solids II	3
CAE 212	Structural Laboratory	1
HA Cognate ²		3
ARC 294	Introduction to the Development of Architecture ¹	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
IEN 311	Applied Probability And Statistics	3
Term Credit Hours:		17
Spring		
MTH 211	Calculus III	3
CAE 310	Structural Analysis ¹	3
ARC 292	Introduction to Architecture Design I ¹	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 311	Introduction to Ordinary Differential Equations	3
Term Credit Hours:		16
Junior Year		
Fall		
CAE 320	Concrete Structures ¹	3
CAE 330	Fluid Mechanics	3
MAE 303	Thermodynamics I	3
ARC 293	Introduction to Architecture Design II ¹	3
HA Cognate ²		3
PS Cognate ²		3
Term Credit Hours:		18
Spring		
CAE 321	Steel Structures ¹	3
CAE 370	Geotechnical Engineering I ¹	3
CAE 371	Geotechnical Laboratory ¹	1
CAE 380	Electrical and Illumination Systems for Buildings ¹	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals ¹	3
PS Cognate ²		3
Term Credit Hours:		16
Senior Year		
Fall		
CAE 403	Senior Design Project I - Civil Architectural ¹	1
CAE 470	Foundations and Earth Retaining Systems ¹	3

CAE 480	Plumbing and Life Safety For Buildings ¹	3
CAE 481	Building Mechanical Systems II: HVAC Systems ¹	3
Technical Elective ²		3
PS Cognate ²		3
Term Credit Hours:		16
Spring		
CAE 402	Professional Engineering Practice	3
CAE 460	Construction Management ¹	3
CAE 404	Senior Design Project II - Civil Architectural ¹	2
CAE 581	Energy-Efficient Building Design ¹	3
HA Cognate ²		3
Term Credit Hours:		14
Total Credit Hours:		127

¹ Only offered once a year

² To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) cognates and Technical electives. Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours). Students are advised to select the HA Cognate that includes the following courses: ARC 230; ARC 268 or ARC 476; and ARC 517 (Spring only) or ARC 594 (Fall only).

B.S. in Environmental Engineering

Environmental Engineering Curriculum

The Environmental Engineering curriculum provides an integrated educational experience in mathematics, basic sciences, humanities, social sciences, engineering sciences, and environmental engineering design. The first two years of the Environmental Engineering curriculum provide a strong foundation in mathematics, basic sciences, and engineering sciences. The next two years of the four-year program, integrate engineering sciences with design applications with particular emphasis in the areas of water and wastewater engineering .

Design courses emphasize an integrated approach that considers all environmental media in the prevention and control of environmental problems. The curriculum culminates with a major senior-level design project that includes design applications from the major specialty areas of environmental engineering. A tabular listing of the course requirements for the degree of Bachelor of Science in Environmental Engineering is shown below:

Freshman Year		
Fall		Credit Hours
CAE 111	Introduction to Engineering I ¹	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
CAE 112	Introduction to Engineering II ¹	2

ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
PS Cognate ²		3
Term Credit Hours:		16
Sophomore Year		
Fall		
CAE 210	Mechanics of Solids I	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
MTH 211	Calculus III	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
IEN 311	Applied Probability And Statistics	3
Term Credit Hours:		17
Spring		
CAE 211	Mechanics of Solids II ³	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
ECE 205	Principles of Electrical Engineering-- I	3
MTH 311	Introduction to Ordinary Differential Equations	3
Biology Elective ²		3
Term Credit Hours:		16
Junior Year		
Fall		
CAE 330	Fluid Mechanics	3
CAE 340	Introduction to Environmental Engineering ¹	3
MAE 303	Thermodynamics I	3
MSC 111	Introduction to Marine Science	3
PS Cognate ²		3
Term Credit Hours:		15
Spring		
CAE 430	Water-Resources Engineering I ¹	3
CAE 440	Water Quality Control Systems ¹	3
CAE 345	Environmental Laboratory And Analysis ¹	3
Environmental Eng. Course ⁴		3
MSC 301	Introduction to Physical Oceanography	3
HA Cognate ²		3
Term Credit Hours:		18
Senior Year		
Fall		
Environmental Eng. Course ⁴		3
CAE 403	Senior Design Project I - Civil Architectural ¹	1

CAE 530	Water Resources Engineering II ¹	3
RSMAS Course		3
HA Cognate ²		3
Tech Elective		3
Term Credit Hours:		16
Spring		
CAE 402	Professional Engineering Practice	3
Environmental Eng. Course ⁴		3
CAE 404	Senior Design Project II - Civil Architectural ¹	2
HA Cognate ²		3
PS Cognate ²		3
Term Credit Hours:		14
Total Credit Hours:		126

¹ Only offered once a year.

² To be selected from approved lists of People and Society (PS)/ Humanities and Arts (HA) cognates and Biology Electives. Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

³ Co-requisite CAE 212 not required for EnE majors.

⁴ CAE 540, CAE 533 and CAE 542 offered on a 3-semester rotation. Students **must** take these three courses.

Note: students must select the RSMAS course from the list of required (non-elective) courses in either the Ocean Engineering Track or the Marine Policy Track. A minor in Marine Science will be awarded for 15 credit hours of MSC, AMP or other RSMAS courses provided these include MSC 111, MSC 301 and at least 6 credit hours at the 300 level or higher. Required courses in the track count towards the 6 credit hours at the 300 level or higher.

RSMAS Track 1: Ocean Engineering

MSC 403	Marine Environmental Toxicology	3
AMP 509	Coastal Physics and Engineering	3
Select one elective from any MSC course or any RSMAS 500-level course		3
Total Credit Hours		9

RSMAS Track 2: Marine Policy ¹

MSC 340	Ocean Policy	3
MSC 313	Coastal Law	3
MSC 314	Ocean Law	3
Total Credit Hours		9

¹ These courses fulfill the requirements of People and Society electives for General Education.

B.S./M.S. in Civil Engineering

The Department also offers three 5-year programs leading to the B.S. and the M.S. degrees (BSCE-MSCE; BSAE-MSAE; and BSEnE-MSCE). These programs are open to students who are admitted to the graduate program at the end of their junior year. Students applying for this program must have a minimum grade point average of 3.0, and

score more than 310 on the Graduate Record Examination. The course requirements for any of the five-year BS/MS programs can be met as follows:

Senior Year	
First Semester	Credit Hours
Take PS or HA Cognate course in freshman semester	3
Graduate Level Course	3
CAE 703	Master's Design Project I
Do not Register for CAE 403, Register for CAE 703	
Term Credit Hours:	
9	
Second Semester	
Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	
6	
Graduate Year	
First Semester	
Graduate Level Course	3
Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	
9	
Second Semester	
Graduate Level Course	3
Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	
9	
Total Credit Hours:	
33	

B.S./M.S. in Architectural Engineering

The Department also offers three 5-year programs leading to the B.S. and the M.S. degrees (BSCE-MSCE; BSAE-MSAE; and BSEnE-MSCE). These programs are open to students who are admitted to the graduate program at the end of their junior year. Students applying for this program must have a minimum grade point average of 3.0, and score more than 310 on the Graduate Record Examination. The course requirements for any of the five-year BS/MS programs can be met as follows:

Senior Year	
First Semester	Credit Hours
Take PS or HA Cognate course in freshman semester	3
Graduate Level Course	3
CAE 703	Master's Design Project I
Do not Register for CAE 403, Register for CAE 703	
Term Credit Hours:	
9	
Second Semester	
Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	
6	
Graduate Year	
First Semester	
Graduate Level Course	3

Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	9
Second Semester	
Graduate Level Course	3
Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	9
Total Credit Hours:	33

B.S. in Environmental Engineering/M.S. in Civil Engineering

The Department also offers three 5-year programs leading to the B.S. and the M.S. degrees (BSCE-MSCE; BSAE-MSAE; and BSEnE-MSCE). These programs are open to students who are admitted to the graduate program at the end of their junior year. Students applying for this program must have a minimum grade point average of 3.0, and score more than 310 on the Graduate Record Examination. The course requirements for any of the five-year BS/MS programs can be met as follows:

Senior Year	
First Semester	Credit Hours
Take PS or HA Cognate course in freshman semester	3
Graduate Level Course	3
CAE 703 Master's Design Project I	3
Do not Register for CAE 403, Register for CAE 703	
Term Credit Hours:	9
Second Semester	
Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	6
Graduate Year	
First Semester	
Graduate Level Course	3
Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	9
Second Semester	
Graduate Level Course	3
Graduate Level Course	3
Graduate Level Course	3
Term Credit Hours:	9
Total Credit Hours:	33

B.S. in Architectural Engineering and Master of Architecture Dual Degree

A six-year dual degree program leading to a Bachelor of Science in Architectural Engineering and a Master of Science in Architecture is available. The program is open to exceptional students who are admitted to the graduate program at the end of their junior year. Upon completion

of this program, graduates are eligible for professional registration as both an engineer and an architect. The course requirements for the BSAE/MArch program are:

Bachelor of Science in Architectural Engineering and Master of Architecture

Year One		
First Semester		Credit Hours
CAE 111 Introduction to Engineering I		3
ENG 105 English Composition I		3
MTH 151 Calculus I for Engineers		5
PHY 205 University Physics I		3
ARC 121 Architecture and Culture		1
Term Credit Hours:		15
Second Semester		
CAE 112 Introduction to Engineering II		2
CAE 210 Mechanics of Solids I		3
ENG 107 English Composition II: Science and Technology		3
MTH 162 Calculus II		4
PHY 206 University Physics II		3
PHY 208 University Physics II Lab		1
Term Credit Hours:		16
Year Two		
First Semester		
CAE 211 Mechanics of Solids II		3
CAE 212 Structural Laboratory		1
HA Cognate ¹		3
ARC 294 Introduction to the Development of Architecture		3
PHY 207 University Physics III		3
PHY 209 University Physics Iii Lab		1
IEN 311 Applied Probability And Statistics		3
Term Credit Hours:		17
Second Semester		
CAE 310 Structural Analysis		3
CHM 151 Chemistry for Engineers		3
CHM 153 Chemistry Laboratory for Engineers		1
MTH 311 Introduction to Ordinary Differential Equations		3
MAE 303 Thermodynamics I		3
MTH 211 Calculus III		3
Term Credit Hours:		16
Year Three		
First Semester		
CAE 320 Concrete Structures (ARC 533)		3
CAE 330 Fluid Mechanics		3
PS Cognate ¹		3
ARC 511 Drawing		3

ARC 501	Architecture Design and Theory I (ARC 292)	6
Term Credit Hours:		18
Second Semester		
CAE 321	Steel Structures (ARC 532)	3
CAE 380	Electrical and Illumination Systems for Buildings (ARC 563)	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals (ARC 562)	3
ARC 513	Computing	3
ARC 502	Architecture Design and Theory II (ARC 293)	6
Term Credit Hours:		18
Summer (Required 10-week semester)		
ARC 503	Architectural Design and Theory III	6
Term Credit Hours:		6
Year Four		
First Semester		
CAE 480	Plumbing and Life Safety For Buildings	3
HA Cognate ¹		3
ARC 504	Architecture Design and Theory I (Comprehensive)	6
Technical Elective ¹		3
ARC 517	Construction Documents	3
Term Credit Hours:		18
Second Semester		
CAE 370	Geotechnical Engineering I	3
CAE 371	Geotechnical Laboratory	1
CAE 402	Professional Engineering Practice	3
CAE 460	Construction Management (Arch Elective)	3
ARC 531	Building Technology II: Structural Systems	3
ARC 568	History of Architecture II: Baroque through Contemporary	3
Term Credit Hours:		16
Year Five		
First Semester		
CAE 403	Senior Design Project I - Civil Architectural	1
CAE 470	Foundations and Earth Retaining Systems	3
CAE 480	Plumbing and Life Safety For Buildings	3
CAE 481	Building Mechanical Systems II: HVAC Systems	3
ARC 620	Architecture Theory	3
ARC 608	Architecture Design	6
Term Credit Hours:		19
Second Semester		

CAE 404	Senior Design Project II - Civil Architectural	2
HA Cognate ¹		3
Architecture Elective		3
ARC 609	Architecture Design	6
PS Cognate ¹		3
Term Credit Hours:		17
Year Six		
First Semester		
ARC 652	Management of Professional Practice, Environmental Building Systems I	3
ARC 699	Directed Research	6
Architecture Elective		3
PS Cognate ¹		3
Term Credit Hours:		15
Second Semester		
CAE 581	Energy-Efficient Building Design	3
Architecture Elective		3
ARC 610	Architecture Design Degree Project	6
Term Credit Hours:		12
Total Credit Hours:		203

¹ To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) cognates and Technical electives. Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours). Students are advised to select the HA Cognate that includes the following courses: ARC 230 or ARC 630; ARC 268 or ARC 476; and ARC 594.

Minor in Architectural Engineering

(For students in the College of Arts and Sciences and the School of Architecture)

A Minor in Civil, Architectural, or Environmental Engineering requires 15 credit hours passed with a grade of C or higher. Students are required to satisfy the prerequisites for all courses, and are required to complete the core course, CAE 210, plus an additional 12 or 13 credit hours within an area of specialization. The additional credits required for minors in civil, architectural, and environmental engineering are as follows:

Structural Track

CAE 210	Mechanics of Solids I	3
CAE 211	Mechanics of Solids II	3
CAE 310	Structural Analysis	3
CAE 320	Concrete Structures	3
CAE 321	Steel Structures	3
Total Credit Hours		15

Mechanical/Electrical Systems Track

CAE 210	Mechanics of Solids I	3
CAE 330	Fluid Mechanics	3

CAE 380	Electrical and Illumination Systems for Buildings	3
CAE 381	Building Mechanical Systems I: Hvac Fundamentals	3
CAE 480	Plumbing and Life Safety For Buildings	3
Total Credit Hours		15

Minor in Civil Engineering

(for students in the College of Arts and Sciences and the School of Architecture)

A Minor in Civil, Architectural, or Environmental Engineering requires 15 credit hours passed with a grade of C or higher. Students are required to satisfy the prerequisites for all courses, and are required to complete the core course, CAE 210, plus an additional 12 or 13 credit hours within an area of specialization. The additional credit hours required for minors in civil, architectural, and environmental engineering are as follows:

Geotechnical Track

CAE 210	Mechanics of Solids I	3
CAE 211	Mechanics of Solids II	3
CAE 330	Fluid Mechanics	3
CAE 370	Geotechnical Engineering I	3
CAE 470	Foundations and Earth Retaining Systems	3
Total Credit Hours		15

Structural Track

CAE 210	Mechanics of Solids I	3
CAE 211	Mechanics of Solids II	3
CAE 310	Structural Analysis	3
Select two of the following:		6
CAE 320	Concrete Structures	
CAE 321	Steel Structures	
CAE 520	Advanced Design of Concrete Structures	
CAE 521	Advanced Design of Steel Structures	
Total Credit Hours		15

Minor in Environmental Engineering

(For students in the College of Arts and Sciences and the School of Architecture)

A Minor in Civil, Architectural, or Environmental Engineering requires 15 credit hours passed with a grade of C or higher. Students are required to satisfy the prerequisites for all courses, and are required to complete the core course, CAE 210, plus an additional 12 or 13 credit hours within an area of specialization. The additional credit hours required for minors in civil, architectural, and environmental engineering are as follows:

CAE 210	Mechanics of Solids I	3
CAE 330	Fluid Mechanics	3
CAE 340	Introduction to Environmental Engineering	3
CAE 430	Water-Resources Engineering I	3

CAE 440	Water Quality Control Systems	3
Total Credit Hours		15

Electrical and Computer Engineering

<http://www.ece.miami.edu>

Dept. Code: ECE

Mission Statement

The mission of the Department of Electrical and Computer Engineering is to achieve and maintain, through a continuous improvement process, excellence in undergraduate and graduate education, research, and service to the community and the nation. We endeavor to accomplish this by providing high-quality education and research programs which will impart the requisite knowledge and skills to our students enabling them to assume leadership roles in contributing to the advancement of the underlying electrical and computer engineering technologies which sustain the current world economy, to promote a strong commitment to life-long learning, to prepare them for a variety of alternative career paths and to participate as responsible citizens in a rapidly changing and shrinking global community.

Introduction

Electrical and Computer Engineering are complementary disciplines that are at the forefront of the continuing development and evolution of our modern technological society. Electrical and computer engineers have initiated and contributed to the development of such important and diverse areas as integrated electronics and photonics, telecommunication systems and computer networks, computer hardware and software, image processing and computer vision, automation and robotics, electrical power generating and transmission systems, as well as participated in the development of significant applications to biotechnology. These technologies have significantly transformed how our evolving society will live, learn, work, communicate and do business in the 21st century and are critical to the development of a sustainable world economy. It is an exciting and challenging discipline offering a variety of rewarding career paths. The Department of Electrical and Computer Engineering offers a number of innovative academic and research programs to help prepare students to achieve a variety of career goals.

The Department offers two undergraduate degree programs:

1. Bachelor of Science in Electrical Engineering degree program (B.S.E.E.)
2. Bachelor of Science in Computer Engineering degree program (B.S.Cp.E.)

The Electrical Engineering and the Computer Engineering degree programs are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).

In addition, the Department offers graduate courses leading to the:

- Degree of Master of Science in Electrical and Computer Engineering (M.S.E.C.E.), and the
- Doctor of Philosophy degree (Ph.D.).

For further information see the Bulletin of the Graduate School (p. 360).

Bachelor of Science in Electrical Engineering (B.S.E.E.)

This degree program endeavors to achieve its objectives by imparting to its students the fundamental principles underlying modern electrical engineering, along with the necessary skills and experiences to apply standard practices, methodologies and available tools for solving electrical engineering problems. The major areas of Electrical Engineering include electronics, analog and digital circuits, microprocessors, communications and control systems. The design sequence is spread throughout the educational experience curricula, culminating in the two-semester senior design project. Graduates are expected to keep pace with this rapidly evolving discipline. To this end, the faculty stresses the importance of continued education and life-long professional development by trying to instill in their students a sense of excitement for the prospects of this evolving technology, tempered by a strong sense of responsibility and concern for its potential impacts on society.

Educational Objectives

We expect that our alumni will exhibit the following:

1. Successful careers in dynamic and multidisciplinary technical fields with the ability to apply engineering practices within societal, global, and environmental contexts in an ethical manner.
2. Continuous professional improvement through life-long learning including but not limited to the admission to and completion of professional or graduate studies of the highest standard.

Degree Program

The Electrical Engineering degree program has three options:

1. Electrical Engineering Option;
2. Audio Engineering Option;
3. Electrical Engineering Pre-Med Option

These options require specialized courses as well as the 49 Engineering Credit Hours required in the accredited Electrical Engineering degree program.

Electrical Engineering Major - Electrical Engineering Option

Electrical Engineering is concerned with the design, analysis and implementation of a variety of systems, components and devices, primarily of an electrical or electronic nature, which form the cornerstone of our complex and technologically oriented society. For example, this ranges from small-scale integrated electronics and photonics systems and devices, the technological drivers of the information technology revolution, to large-scale electrical power systems and power generators, which supply the nation's energy needs and form the basis for sustained economic growth. Furthermore, Electrical engineering also involves the design of micro and nano devices, integrated circuits, hardware, and large-scale systems for telecommunications and networking that engender our increasingly networked life. Therefore, electrical engineering is a vast and rich discipline involved in the design of systems, components, and devices for a variety of applications and areas such as portable electronics (e.g., cell phones), communications and networks, biomedical sensing and medical systems, energy harvesting,

next generation displays, lasers, optical and wireless transmission, audio/video compression and recognition, radar and tracking/guidance systems, and remote sensing systems. The University of Miami's electrical engineering curriculum is focused on the fundamentals of the discipline, in the first two years building a firm foundation in mathematics, basic science, and basic engineering principles such as basic circuits, electronics, software and programming, computer hardware, and signal and system analysis. The students build upon this foundation through more advanced courses and focused specialization, culminating in a capstone major design experience. We continually update our curriculum and laboratories to incorporate new scientific and technological developments, and industry practices. Our graduates have gone on to successful careers in industry, or to graduate school in science and engineering, as well as law school, business school, and medical school.

Electrical Engineering Major - Audio Engineering Option

Audio Engineering offers students, who have a deep interest in sound and music, the opportunity to combine a rigorous electrical engineering education with additional specialized courses offered both by the UM ECE department as well as the Frost School of Music. In particular, the Audio Engineering option combines traditional electrical engineering studies with audio studies in areas such as acoustics, speech and audio signal processing, digital audio, transducers, speech and audio coding and transmission systems, post-production, noise cancellation, architectural acoustics, and recording, thereby providing a multi-disciplinary education. Our Audio Engineering graduates are highly sought by industry and have been pursuing successful careers in music/entertainment, multimedia, telecommunications, analog and digital electronics, and in the hearing aid/medical instrumentation industries, or have chosen graduate study. Students enrolled in Audio Engineering have access to a variety of well-equipped laboratories, both in the UM ECE Department, as well as in the Frost School of Music. For example, students have access to the Gusman Concert Hall, which houses a professional recording studio with automated console and multi-track recording. There, students can record live concerts ranging from small jazz groups to a symphony orchestra. In addition, Audio Engineering students use the Weeks Center for Recording and Performance, which also features a fully professional recording studio, analog and digital signal processing equipment and audio test equipment.

Electrical Engineering Major - Pre-Med Option

Our Department offers a pre-medical option that allows motivated students to obtain the rigorous education of a bachelors degree in electrical engineering while simultaneously completing the basic science requirements necessary for applying to medical or dental school. Much of the excitement in engineering involves applications of electrical and computer engineering to problems in health, such as the development of nano-scale biosensors, or the signal processing analysis of DNA sequences. The pre-med option allows students to learn the fundamentals of Electrical and Computer Engineering while preparing them for entry into either medical school, advanced graduate study, or industry.

Double Degree Program - B.S.E.E. & B.S.B.E.

A BME student who satisfies the requirement of the B.S.B.E. degree with electrical orientation as described in this Bulletin may also qualify for the B.S.E.E. degree by taking the following additional courses:

ECE 218	Data Structures	3
ECE 301	Electromagnetic Field Theory	3
ECE 306	Electronics II	3
ECE 311	Electronics Laboratory	1
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals And Systems	3
Select one ECE Design Elective		3
Select two EE Core Electives		6
Select three ECE Electives		9
Senior Project (ECE Faculty as co-sponsor)		
Total Credit Hours		36

The Five-Year B.S.E.E. -M.S.E.C.E. Dual Degree Program

This is a structured and integrated program of 152/154 credit hours (depending on the undergraduate option). Students may pursue this program from either of the undergraduate option available for Electrical Engineering Majors. It includes two required courses, ECE 715 and ECE 716 as well as the selection of advanced technical electives.

Note that:

- At least 30 credit hours must be at the graduate (600 or 700) level. Of these, at least 12 credit hours must be in courses open to graduate students only (700 level).
- Interested ECE Juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.E.E. degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination (G.R.E.) before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable GRE score and a minimum of 3.0 GPA in the 30 credit hours applied towards the M.S.E.C.E. degree.
- The student is awarded both the B.S.E.E. and the M.S.E.C.E degrees after the requirements for both degrees are satisfied.

Bachelor of Science in Computer Engineering (B.S.Cp.E.)

Computer engineering is a rapidly changing and evolving discipline driven by new technology developments and marketplace conditions. To adequately train students to meet the challenges of the future and to assume leadership roles in the practice of computer engineering, the department offers an up-to-date curriculum that reflects new technology developments that have the potential for significantly impacting professional practice in the industry. The curriculum is constantly updated to incorporate new technological, scientific and economic developments.

Alternatively, students can earn a Bachelor of Science in Computer Engineering under the Software Engineering option, which is primarily focused on the systematic and disciplined development of software systems. This option focuses on the application of computer engineering and computer science principles and practices to the creation, operation, and maintenance of software applications and systems.

Educational Objectives

We expect that our alumni will exhibit the following:

1. Successful careers in dynamic and multidisciplinary technical fields with the ability to apply engineering practices within societal, global, and environmental contexts in an ethical manner.
2. Continuous professional improvement through life-long learning including but not limited to the admission to and completion of professional or graduate studies of the highest standard.

Degree Program

This degree program endeavors to achieve its objectives by imparting to its students the fundamental principles underlying modern computer engineering, along with the necessary skills and experiences to apply standard practices, methodologies and modern tools for solving computer engineering problems.

The computer engineering design sequence is spread throughout the curriculum, culminating in a two semester senior design project.

Graduates are expected to keep pace with this rapidly-evolving discipline. To this end, the faculty stress the importance of continued education and life-long professional development, by trying to instill in the students a sense of excitement for the prospects of this evolving technology, tempered by a strong sense of responsibility and concern for its potential impacts on society.

The Computer Engineering degree program has two options:

1. Computer Engineering Option
2. Software Engineering Option

These options require a common engineering core, which is followed by specialized courses in each area along with elective courses.

Computer Engineering Major - Computer Engineering Option

Computer engineering is concerned with the characterization, design, analysis and implementation of hardware, software and the overall architecture of computers and computer systems, and with the development of applications enabled by such configurations. This ranges from embedded microprocessors and associated software supporting a variety of familiar devices, to large-scale distributed computer systems interconnected by high-speed telecommunication networks controlled by sophisticated communication protocols. Since modern electronic computing systems are digital in nature, the program provides in-depth coverage of a range of topics dealing with digital information processing systems. Among the topics covered are digital system design, computer organization and architecture, operating systems, software engineering, programming, data structures, algorithms, database systems,, microprocessor-based systems, and embedded systems.

The department also offers electives in digital communications, computer networks, wireless and mobile networks, very large scale integration (VLSI), microelectronics, nanotechnology, application specific integrated circuits (ASIC), microelectromechanical systems (MEMS), image processing and computer vision, artificial intelligence, machine learning, data mining, and agent technology.

Computer Engineering Major - Software Engineering Option

Software Engineering is concerned primarily with the systematic and disciplined approach to developing software systems. It requires the application of both computer engineering and computer science principles and practices to the creation, operation, and maintenance of software systems and applications. The Software Engineering Option of the Bachelor of Science in Computer Engineering degree at the University of Miami is a unique interdisciplinary program developed and administered collaboratively by the Department of Electrical and Computer Engineering and the Department of Computer Science. This Option prepares students for successful careers in software engineering. Software systems are becoming increasingly complex, and emerging technologies are pushing the boundaries of reusable components and software quality assurance. To prepare students to meet these challenges, this Option establishes a solid foundation of software system fundamentals, coupled with strong hands-on experience and an understanding of professional practice and conduct. In addition to the core curriculum in software engineering, students are introduced to the paradigms of real-time, adaptive, and collaborative software systems, through a wide range of technical elective courses in the departments of Electrical and Computer Engineering, Computer Science, and other departments in the University of Miami. The technical electives allow students to apply the knowledge they have gained to different application areas. This provides valuable hands-on experience in contemporary application areas, which enhances the students' potential career development opportunities.

Students pursuing the Software Engineering Option of the Bachelor of Science in Computer Engineering degree must earn at least 15 credit hours in Computer Science as part of their degree requirements.

The Five-Year B.S.Cp.E.-M.S.E.C.E. Dual Degree Program

This is a structured and integrated program of 154/156 credit hours (depending on the undergraduate option). Students may pursue this program from either of the undergraduate option available for Computer Engineering Majors. It includes two required courses, ECE 715 and ECE 716 as well as the selection of advanced technical electives.

- At least 30 credit hours must be at the graduate (600 or 700) level. Of these, at least 12 credit hours must be in courses open to graduate students only (700 level).
- Interested Computer Engineering juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.Cp.E. degree after completing all its requirements, including the senior design project.

- All students must take the Graduate Record Examination (G.R.E.) before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable GRE score and a minimum of 3.0 GPA in the 30 credit hours applied towards the M.S.E.C.E. degree.
- The student is awarded both the B.S.Cp.E. and the M.S.E.C.E. degrees after the requirements for both degrees are satisfied.

Dual Majors

Computer Engineering or Electrical Engineering students who want to do additional majors or minors must meet with their academic advisor to plan out their course work.

Computer Engineering students wanting to do Computer Science as a second major must

1. have an additional 6 advisor-approved technical credit hours beyond that required for the CE major, and
2. take PHI 115.

Departmental Laboratories

The Department maintains a variety of well-equipped laboratories and computers adequate for undergraduate instruction and graduate research. The laboratories and computer facilities include:

- Computer Vision and Image Processing Laboratory
- Digital Audio and Speech Processing Laboratory
- Digital Signal Processing Laboratory
- Digital Systems Design Laboratory
- Electronics Laboratory
- Electro-Optics and Micro-Devices Laboratory
- Embedded Systems Laboratory
- Fortinet Cyber Security Laboratory
- Information Technology Laboratory
- Microprocessor Laboratory
- Multimedia Laboratory (Arnold Center for Confluent Media Studies)
- Networks Laboratory
- Optics and Fiber Communications Laboratory
- Underwater Imaging Laboratory

Departmental Electives

Humanities and Arts/People and Society Cognates		
Humanities and Arts (HA) Cognates, and People and Society (PS) Cognates can be selected from the appropriate University list, the link of which can be found in the Engineering section		
EE Core Electives		
ECE 308	Linear Control Systems	3
ECE 404	Communication Systems	3
ECE 405	Solid-State Electronics	3
ECE 436	Digital Signal Processing	3
ECE Electives		
Select from all ECE elective classes at the 300 level or above		

Technical Electives

Select from all ECE or any 200 level or above CoE courses, as well as courses from Math, Physics, Chemistry, Biology, Computer Science, selected in consultation with, and with the approval of, the academic advisor

EE Design Elective

Select one of the following:

ECE 417	Embedded Microprocessor System Design	3
ECE 454	Digital System Design and Testing	2
ECE 505	Semiconductor Photonic Devices	3
ECE 532	VLSI Systems	3

or any ECE course approved by the Academic Advisor

Basic Science (/Lab) Electives

Basic Science (/Lab) Electives are selected in consultation with the Academic Advisor from courses in Biology, Chemistry, Environmental Science, Geological Science, Marine Science, or Physics.

Computer Engineering (CE) Technical Electives

Select from all ECE at any 300 level or above in consultation with, and with the approval of, the academic advisor.

Additionally, one elective course may be selected from the following computer science courses:

CSC 317	Data Structures And Algorithm Analysis	3
CSC 427	Theory Of Computing	3
CSC 518	Interpreters and Compiler Theory	3
CSC 529	Introduction to Computer Graphics	3
CSC 540	Algorithm Design and Analysis	3
CSC 555	Multimedia Systems	3

Software Engineering (SE) Technical Electives

Select from all ECE at any 300 level or above in consultation with, and with the approval of, the academic advisor.

Additionally, one elective course may be selected from the following computer science courses:

CSC 329	Introduction to Game Programming	3
CSC 424	Computer Networks	3
CSC 427	Theory Of Computing	3
CSC 507	Data Security and Cryptography	3
CSC 529	Introduction to Computer Graphics	3
CSC 540	Algorithm Design and Analysis	3
CSC 545	Introduction to Artificial Intelligence	3
CSC 547	Computational Geometry	3
CSC 555	Multimedia Systems	3

Advanced Writing and Communication Skills

Electrical and Computer Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom, laboratory, and design procedures where they learn effective oral, graphical and technical writing skills. Electrical and Computer Engineering students acquire Advanced Writing and Communication skills in the following core courses: ECE 312, ECE 415, and ECE 418.

Internship Program

The Department of Electrical and Computer Engineering encourages its students to take advantage of the College of Engineering Internship Cooperative Program with Industry.

Students could do that either on a part-time or a full-time arrangement. Students who wish to intern full-time for one semester or for twelve weeks in the summer may apply to earn as much as 3 credit hours that could be applied to their degree requirement as a Technical Elective. Students interested in such a possibility need to submit a proposal to the ECE Department describing the type of work they expect to accomplish approved by the industrial supervisor. If the proposal is approved the student will be assigned a Faculty Supervisor and will be able to register under ECE 499. At the end of the Internship Program, the student is expected to submit to the ECE Department a technical report with comments from the student industrial supervisor. The Faculty advisor will review the report and submit the appropriate grade for ECE 499.

NOTE 1: An ECE course for which another ECE course is a prerequisite may not be taken unless the student has completed the ECE prerequisite course with a grade of C- or better.

NOTE 2: All ECE courses at the 300 level or above must be taken at UM.

Departmental Honors

See College of Engineering (p. 225) section.

Majors**Majors in Electrical and Computer Engineering**

- B.S.C.p.E. in Computer Engineering - Computer Engineering Option (p. 255)
- B.S.C.p.E. in Computer Engineering - Software Engineering Option (p. 256)
- B.S.E.E. in Electrical Engineering - Audio Engineering Option (p. 257)
- B.S.E.E. in Electrical Engineering - Electrical Engineering Option (p. 258)
- B.S.E.E. in Electrical Engineering - Electrical Engineering Pre-Med Option (p. 259)

Minors**Minors in Electrical and Computer Engineering**

- Electrical Engineering (p. 265)
- Computer Engineering (p. 265)

Joint**Joint Degrees in Electrical and Computer Engineering**

- Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree Program - Audio Engineering Option (p. 263)
- Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree Program - Electrical Engineering Option (p. 264)
- Five-Year B.S.C.p.E.-M.S.E.C.E. Dual Degree Program - Computer Engineering Option (p. 261)

- Five-Year B.S.C.p.E.-M.S.E.C.E. Dual Degree Program - Software Engineering Option (p. 262)

B.S.C.p.E. in Computer Engineering - Computer Engineering Option

Common Engineering Requirements		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
ECE 218	Data Structures	3
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 318	Algorithms	3
ECE 322	Systems Programming	3
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 418	Senior Project Planning	1
ECE 419	Senior Project	2
ECE 521	Computer Operating Systems	3
ECE 567	Database Design and Management	3
Engineering and Technical Electives		
ECE 306	Electronics II	3
ECE 307	Circuits, Signals And Systems	3
ECE 311	Electronics Laboratory	1
ECE 454	Digital System Design and Testing	2
ECE 455	Design-for-Testability Laboratory	1
CE Technical Electives		12
Other Courses		
Math & Basic Science Credit Hours		35
General Education Credit Hours		24
Total Credit Hours		129

Curriculum

Freshman Year		
		Credit Hours
Fall		
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
	Term Credit Hours:	14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3

ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
	Term Credit Hours:	15
Sophomore Year		
Fall		
ECE 304	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics Iii Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
	Term Credit Hours:	16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MTH 309	Discrete Mathematics I	3
PS Cognate (People and Society Elective) ¹		3
	Term Credit Hours:	17
Junior Year		
Fall		
ECE 204	Electrical Circuits Laboratory	1
ECE 305	Electronics I	3
ECE 316	Structured Digital Design	1
MTH 311	Introduction to Ordinary Differential Equations	3
Basic Science Elective ¹		3
Basic Science Lab Elective ¹		1
HA Cognate (Humanities and Arts Elective) ¹		3
	Term Credit Hours:	15
Spring		
ECE 306	Electronics II	3
ECE 307	Circuits, Signals And Systems	3
ECE 454	Digital System Design and Testing	2
ECE 455	Design-for-Testability Laboratory	1
ECE 567	Database Design and Management	3
Basic Science Elective ¹		3
PS Cognate (People and Society Elective) ¹		3
	Term Credit Hours:	18
Senior Year		
Fall		
ECE 311	Electronics Laboratory	1

ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 418	Senior Project Planning ²	1
ECE 322	Systems Programming	3
CE Technical Elective ¹		3
HA Cognate (Adv. HA. Elective) ¹		3
Term Credit Hours:		17
Spring		
ECE 419	Senior Project	2
ECE 521	Computer Operating Systems	3
CE Technical Elective ¹		3
CE Technical Elective ¹		3
CE Technical Elective ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		17
Total Credit Hours:		129

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

B.S.C.p.E. in Computer Engineering - Software Engineering Option

Common Engineering Requirements		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
ECE 218	Data Structures	3
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 318	Algorithms	3
ECE 322	Systems Programming	3
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 418	Senior Project Planning	1
ECE 419	Senior Project	2
ECE 521	Computer Operating Systems	3
ECE 567	Database Design and Management	3
Engineering and Technical Electives		
ECE 512	Software Engineering and Architecture	3
ECE 513	Software Design and Verification	3
ECE 570	Network Client-Server Programming	3
SE Technical Electives		9

Other Courses	
Computer Science Credit Hours	6
Math & Basic Science Credit Hours	32
General Education Credit Hours	24
Total Credit Hours	128

Freshman Year		
Fall		Credit Hours
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
Term Credit Hours:		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
Term Credit Hours:		15

Sophomore Year		
Fall		Credit Hours
ECE 304	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics Iii Lab	1
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
MTH 309	Discrete Mathematics I	3
HA Cognate(Humanities and Arts Elective) ¹		3
Term Credit Hours:		17

Junior Year		
Fall		Credit Hours
ECE 204	Electrical Circuits Laboratory	1
ECE 305	Electronics I	3
ECE 322	Systems Programming	3
ECE 512	Software Engineering and Architecture	3

Basic Science Elective ¹	3
Basic Science Lab Elective ¹	1
PS Cognate (People and Society Elective) ¹	3
Term Credit Hours:	17
Spring	
ECE 316 Structured Digital Design	1
ECE 513 Software Design and Verification	3
ECE 521 or CSC 421 Computer Operating Systems or Principles Of Computer Operating Systems	3
ECE 567 or CSC 423 Database Design and Management or Database Systems	3
Basic Science Elective ¹	3
HA Cognate (Humanities and Arts Elective) ¹	3
Term Credit Hours:	16
Senior Year	
Fall	
ECE 414 Computer Organization and Design	3
ECE 417 Embedded Microprocessor System Design	3
ECE 418 Senior Project Planning ³	1
CSC 317 Data Structures And Algorithm Analysis	3
SE Technical Elective ¹	3
PS Cognate (Adv. PS Elective) ¹	3
Term Credit Hours:	16
Spring	
ECE 419 Senior Project	2
ECE 570 Network Client-Server Programming	3
CSC 419 Programming Languages	3
SE Technical Elective ¹	3
SE Technical Elective ¹	3
HA Cognate (Adv. HA Elective) ¹	3
Term Credit Hours:	17
Total Credit Hours:	128

¹ See description of electives under the Departmental Electives Section.

² With advisor approval.

³ Offered only in the Fall semester.

Students must earn at least 15 credit hours in Computer Science (CSC)

Students must have at least 32 credit hours of Math and Science

B.S.E.E. in Electrical Engineering - Audio Engineering Option

Common Engineering Requirements	
ECE 111 Introduction to Engineering I	3
ECE 112 Introduction to Engineering II	2
ECE 118 Introduction to Programming	3
ECE 201 Electrical Circuit Theory	3

ECE 204 Electrical Circuits Laboratory	1
ECE 218 Data Structures	3
ECE 304 Logic Design	3
ECE 305 Electronics I	3
ECE 306 Electronics II	3
ECE 307 Circuits, Signals And Systems	3
ECE 311 Electronics Laboratory	1
ECE 312 Processors: Hardware, Software, And Interfacing	4
ECE 315 Digital Design Laboratory	1
ECE 316 Structured Digital Design	1
ECE 336 Discrete-Time Signals And Systems	3
ECE 415 Senior Project I	1
ECE 416 Senior Project II	2
EE Core Electives	6
ECE Design Elective	3
Engineering and Technical Electives	
ECE 437 Real-Time Digital Signal Processing Laboratory	1
ECE 502 Engineering Acoustics	3
ECE 540 Digital Speech and Audio Processing	3
Technical Electives	2-3
Other Courses	
MMI (Music Media) Credit Hours	16
MTC (Music Theory) Credit Hours	3
Math & Basic Science Credit Hours	33
General Education Credit Hours	24
Total Credit Hours	134-135

Freshman Year		Credit Hours
Fall		
ECE 111 Introduction to Engineering I		3
ENG 105 English Composition I		3
MTH 151 Calculus I for Engineers		5
PHY 205 University Physics I		3
MTC 109 Music Theory Skills I		3
Term Credit Hours:		17
Spring		
ECE 112 Introduction to Engineering II		2
ECE 118 Introduction to Programming		3
ENG 107 English Composition II: Science and Technology		3
MTH 162 Calculus II		4
PHY 206 University Physics II		3
PHY 208 University Physics II Lab		1
Term Credit Hours:		16

Sophomore Year	
Fall	
ECE 201 Electrical Circuit Theory	3
ECE 218 Data Structures	3
MTH 311 Introduction to Ordinary Differential Equations	3

PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
MMI 201	Introduction to Music Recording	3
Term Credit Hours:		16
Spring		
ECE 204	Electrical Circuits Laboratory	1
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 307	Circuits, Signals And Systems	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 210	Introduction to Linear Algebra	3
Term Credit Hours:		17
Junior Year		
Fall		
ECE 306	Electronics II	3
ECE 311	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals And Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MMI 502	Audio Signal Processing I	3
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		17
Spring		
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 316	Structured Digital Design	1
ECE 436	Digital Signal Processing	3
EE Core Elective ¹		3
MMI 172	Audio Design Workshop III	1
MMI 503	Audio Signal Processing II	3
HA Cognate ²		3
Term Credit Hours:		18
Senior Year		
Fall		
ECE 415	Senior Project I ³	1
ECE 437	Real-Time Digital Signal Processing Laboratory	1
ECE 502	Engineering Acoustics	3
ECE Design Elective ¹		3
Audio Engineering or Tech. Elective		2-3
PS Cognate (People and Society Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		16-17
Spring		
ECE 416	Senior Project II	2
ECE 540	Digital Speech and Audio Processing	3

MMI 436	Audio Postproduction ⁴	3
MMI 501	Transducer Theory	3
PS Cognate (People and Society Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		17
Total Credit Hours:		134-135

¹ See description of electives under the Electrical and Computer Engineering Section.

² Recommended a cognate that includes a Musicology Elective.

³ Offered only in the Fall semester.

⁴ Note that MMI 504 could be substituted for MMI 436.

B.S.E.E. in Electrical Engineering - Electrical Engineering Option

Common Engineering Requirements

ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
ECE 218	Data Structures	3
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 306	Electronics II	3
ECE 307	Circuits, Signals And Systems	3
ECE 311	Electronics Laboratory	1
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals And Systems	3
ECE 415	Senior Project I	1
ECE 416	Senior Project II	2
EE Core Electives		6
ECE Design Elective		3
Engineering and Technical Electives		
ECE 301	Electromagnetic Field Theory	3
ECE Electives		9
Technical Electives		9
Other Courses		
Math & Basic Science Credit Hours		33
General Education Credit Hours		24
Total Credit Hours		127

Freshman Year

		Credit Hours
Fall		
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5

PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		16
Spring		
ECE 204	Electrical Circuits Laboratory	1
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 307	Circuits, Signals And Systems	3
MTH 210	Introduction to Linear Algebra	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
Term Credit Hours:		17
Junior Year		
Fall		
ECE 301	Electromagnetic Field Theory	3
ECE 306	Electronics II	3
ECE 311	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals And Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		17
Spring		
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 316	Structured Digital Design	1
EE Core Elective ¹		3
EE Core Elective ¹		3
ECE Elective ¹		3

PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
ECE 415	Senior Project I ²	1
ECE Elective ¹		3
ECE Elective ¹		3
ECE Design Elective ¹		3
Technical Elective ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		16
Spring		
ECE 416	Senior Project II	2
Technical Elective ¹		3
Technical Elective ¹		3
HA Cognate (Humanities and Arts Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		14
Total Credit Hours:		127

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

B.S.E.E. in Electrical Engineering - Electrical Engineering Pre-Med Option

Common Engineering Requirements		
ECE 111	Introduction to Engineering I	3
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
ECE 218	Data Structures	3
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 306	Electronics II	3
ECE 307	Circuits, Signals And Systems	3
ECE 311	Electronics Laboratory	1
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
ECE 316	Structured Digital Design	1
ECE 336	Discrete-Time Signals And Systems	3
ECE 415	Senior Project I	1
ECE 416	Senior Project II	2
EE Core Electives		6
ECE Design Elective		3
Engineering and Technical Electives		
ECE Elective		3
Technical Elective		3

Other Courses	
Math & Basic Science Credit Hours	33
Biology and Chemistry Credit Hours	25
General Education Credit Hours	24
Total Credit Hours	137

Freshman Year		
Fall	Credit Hours	
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
HA Cognate (Humanities and Arts Elective) ⁴		3
Term Credit Hours:		17

Spring		
ECE 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
Term Credit Hours:		17

Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
Term Credit Hours:		18

Spring		
ECE 118	Introduction to Programming	3
ECE 204	Electrical Circuits Laboratory	1
ECE 305	Electronics I	3
PHY 209	University Physics Iii Lab	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
Term Credit Hours:		17

Junior Year		
Fall		
ECE 218	Data Structures	3
ECE 304	Logic Design	3
ECE 306	Electronics II	3

ECE 307	Circuits, Signals And Systems	3
ECE 311	Electronics Laboratory	1
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
Term Credit Hours:		17

Spring		
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals And Systems	3
Advanced Bioscience Elective ²		3
MTH 210	Introduction to Linear Algebra	3
PS Cognate (People and Society Elective) ⁴		3
Term Credit Hours:		17

Senior Year		
Fall		
ECE 310	Introduction to Engineering Probability	3
ECE 316	Structured Digital Design	1
ECE 415	Senior Project I ³	1
EE Core Elective ¹		3
EE Core Elective ¹		3
PS Cognate (People and Society Elective) ⁴		3
HA/PS Cognate (Adv. HA/PS Elective) ⁴		3
Term Credit Hours:		17

Spring		
ECE 416	Senior Project II	2
EE Design Elective ¹		3
ECE Elective		3
Technical Elective ¹		3
HA Cognate (Humanities and Arts Elective) ⁴		3
HA/PS Cognate (Adv. HA/PS Elective) ⁴		3
Term Credit Hours:		17
Total Credit Hours:		137

¹ See description of electives under the Departmental Electives Section.

² Advanced Bioscience Elective is to be chosen from BMB 260 BIL 250, BIL 255, BIL 268, or BMB 401, in consultation with their academic advisor. Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements.

³ Offered only in the Fall semester.

⁴ Students in the Premed Concentration are highly encouraged to choose cognates that include PSY 110 and SOC 101.

Five-Year B.S.C.p.E.-M.S.E.C.E. Dual Degree Program - Computer Engineering Option

Freshman Year		
Fall		Credit Hours
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
Term Credit Hours:		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		18
Sophomore Year		
Fall		
ECE 304	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics Iii Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MTH 309	Discrete Mathematics I	3
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		17
Junior Year		
Fall		
ECE 204	Electrical Circuits Laboratory	1
ECE 305	Electronics I	3
ECE 316	Structured Digital Design	1
MTH 311	Introduction to Ordinary Differential Equations	3
Basic Science Elective ¹		3

Basic Science Lab Elective ¹		1
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		15
Spring		
ECE 306	Electronics II	3
ECE 307	Circuits, Signals And Systems	3
ECE 454	Digital System Design and Testing	2
ECE 455	Design-for-Testability Laboratory	1
ECE 567	Database Design and Management	3
Basic Science Elective ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		18
Senior Year		
Fall		
ECE 311	Electronics Laboratory	1
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 418	Senior Project Planning	1
ECE 322	Systems Programming	3
SE 600 Level Elective ^{1,3}		3
SE 600 Level Elective ^{1,3}		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		20
Spring		
ECE 521	Computer Operating Systems	3
CE Technical Elective ¹		3
CE Technical Elective ¹		3
CE 600 Level Elective ^{1,3}		3
CE 600 Level Elective ^{1,3}		3
ECE Technical Elective ¹		3
Term Credit Hours:		18
Fifth Year		
Fall		
ECE 715	M. S. Design Project I	3
CE 600 Level Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
Term Credit Hours:		9
Spring		
ECE 716	M.S. Design Project II	3
CE 600 Level Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
Term Credit Hours:		9
Total Credit Hours:		154

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

³ Should be taken as Graduate (G) courses.

Five-Year B.S.C.p.E.-M.S.E.C.E. Dual Degree Program - Software Engineering Option

Freshman Year		
Fall		Credit Hours
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
Term Credit Hours:		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
Term Credit Hours:		15
Sophomore Year		
Fall		Credit Hours
ECE 304	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics Iii Lab	1
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
MTH 309	Discrete Mathematics I	3
HS Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		17
Junior Year		
Fall		Credit Hours
ECE 204	Electrical Circuits Laboratory	1
ECE 305	Electronics I	3
ECE 322	Systems Programming	3
ECE 512	Software Engineering and Architecture	3
Basic Science Elective ¹		3
Basic Science Lab Elective ¹		1

PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		17
Spring		
ECE 316	Structured Digital Design	1
ECE 513	Software Design and Verification	3
ECE 521 or CSC 421	Computer Operating Systems or Principles Of Computer Operating Systems	3
ECE 567 or CSC 423	Database Design and Management or Database Systems	3
SE Technical Elective ¹		3
Basic Science Elective ¹		3
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		19
Senior Year		
Fall		Credit Hours
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 418	Senior Project Planning ²	1
CSC 317	Data Structures And Algorithm Analysis	3
SE 600 Level Elective ^{1,3}		3
SE 600 Level Elective ^{1,3}		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		19
Spring		
ECE 570	Network Client-Server Programming	3
CSC 419	Programming Languages	3
SE Technical Elective ¹		3
SE Technical Elective ¹		3
CE 600 Level Elective ^{1,3}		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		18
Fifth Year		
Fall		Credit Hours
ECE 715	M. S. Design Project I	3
CE 600 Level Elective ^{1,3}		3
CE 600 Level Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
Term Credit Hours:		12
Spring		
ECE 716	M.S. Design Project II	3
CE 600 Level Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
Term Credit Hours:		9
Total Credit Hours:		156

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

³ Should be taken as Graduate (G) courses.

Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree Program - Audio Engineering Option

Freshman Year		
Fall		Credit Hours
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
MTC 109	Music Theory Skills I	3
Term Credit Hours:		17
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
MMI 201	Introduction to Music Recording	3
Term Credit Hours:		16
Spring		
ECE 204	Electrical Circuits Laboratory	1
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 307	Circuits, Signals And Systems	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 210	Introduction to Linear Algebra	3
Term Credit Hours:		17
Junior Year		
Fall		
ECE 306	Electronics II	3
ECE 311	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals And Systems	3
Term Credit Hours:		17
Spring		
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MMI 502	Audio Signal Processing I	3
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 316	Structured Digital Design	1
ECE 436	Digital Signal Processing	3
EE Core Elective ¹		3
MMI 172	Audio Design Workshop III	1
MMI 503	Audio Signal Processing II	3
HA Cognate ²		3
Term Credit Hours:		18
Fall		
ECE 415	Senior Project I ³	1
ECE 437	Real-Time Digital Signal Processing Laboratory	1
ECE Design Elective ¹		3
ECE 602	Engineering Acoustics	3
Technical Elective ^{1,4}		3
PS Cognate (People and Society Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		17
Spring		
MMI 436	Audio Postproduction ⁵	3
MMI 501	Transducer Theory	3
ECE 640	Digital Speech and Audio Processing	3
ECE 600 Level Elective ^{1,4}		3
PS Cognate (People and Society Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		18
Fifth Year		
Fall		
ECE 715	M. S. Design Project I	3
ECE Elective ^{1,4}		3
700 Level Technical Elective ^{1,4}		3
Term Credit Hours:		9
Spring		
ECE 716	M.S. Design Project II	3
ECE Elective ^{1,4}		3
700 Level Technical Elective ^{1,4}		3
Term Credit Hours:		9
Total Credit Hours:		154

- ¹ See description of electives under the Departmental Electives Section.
- ² Recommended a cognate that includes a Musicology Elective.
- ³ Offered only in the Fall semester.
- ⁴ Should be taken as Graduate (G) courses.
- ⁵ Note that MMI 504 could be substituted for MMI 436.

Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree Program - Electrical Engineering Option

The first three years are the same as in the undergraduate B.S.E.E. program with 97 credit hours. The remaining 55 credit hours shown below should include at least ten graduate courses of which, at least four are at the 700 level. Also see description of electives under the Electrical and Computer Engineering Section.

Freshman Year		
Fall		Credit Hours
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		Credit Hours
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		16
Spring		
ECE 204	Electrical Circuits Laboratory	1
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 307	Circuits, Signals And Systems	3
MTH 210	Introduction to Linear Algebra	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
Term Credit Hours:		17

Junior Year		
Fall		
ECE 301	Electromagnetic Field Theory	3
ECE 306	Electronics II	3
ECE 311	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals And Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		17
Spring		
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 316	Structured Digital Design	1
EE Core Elective ¹		3
EE Core Elective ¹		3
ECE Elective ¹		3
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
ECE 415	Senior Project I ²	1
ECE Elective ¹		3
ECE 600 Level Elective ^{1,3}		3
ECE Elective ^{1,3}		3
EE Design Elective ¹		3
Technical Elective ¹		3
PS Cognate (Adv. PS Elective)		3
Term Credit Hours:		19
Spring		
Technical Elective ¹		3
Technical Elective ¹		3
ECE 600 Level Elective ^{1,3}		3
ECE Elective ^{1,3}		3
PS Cognate (People and Society Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		18
Fifth Year		
Fall		
ECE 715	M. S. Design Project I	3
ECE Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
Term Credit Hours:		9
Spring		
ECE 716	M.S. Design Project II	3
ECE Elective ^{1,3}		3

700 Level Technical Elective ^{1,3}	3
Term Credit Hours:	9
Total Credit Hours:	152

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester.

³ Should be taken as Graduate (G) courses.

Minor in Computer Engineering

Students wishing to minor in Computer Engineering must satisfy the following requirements:

Core Courses		
ECE 118	Introduction to Programming	3
ECE 218	Data Structures	3
ECE 304	Logic Design	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
Select a minimum of 5 credit hours of computer engineering electives of the following:		5
ECE 315	Digital Design Laboratory	
ECE 316	Structured Digital Design	
ECE 318	Algorithms	
ECE 322	Systems Programming	
ECE 414	Computer Organization and Design	
ECE 454 & ECE 455	Digital System Design and Testing and Design-for-Testability Laboratory	
ECE 511	Computability, Complexity, And Algorithms	
ECE 512	Software Engineering and Architecture	
ECE 513	Software Design and Verification	
ECE 519	Design of Computing Languages	
ECE 521	Computer Operating Systems	
ECE 534	Communication Networks	
ECE 537	Principles of Artificial Intelligence	
ECE 548	Machine Learning	
ECE 567	Database Design and Management	
Total Credit Hours		18

1. Students with a major in Electrical Engineering wishing to add a minor in Computer Engineering must take 6 Computer Engineering course credit hours in addition to those needed to satisfy their degree requirements.

2. A minimum grade point average of 2.0 in all ECE courses taken.

Minor in Electrical Engineering

Students wishing to minor in Electrical Engineering should satisfy a 15 credit hour requirement specified as follows:

1. A core of 7 credit hours consisting of ECE 201, ECE 204, and ECE 305.
2. At least 8 credit hours of Electrical Engineering Electives at the 300 level or above and subject to approval of an academic advisor.

3. Students with a major in Computer Engineering wishing to add a minor in Electrical Engineering must take 6 Electrical Engineering course credit hours in addition to those needed to satisfy their degree requirements.

4. A 2.0 grade point average in all ECE courses taken.

Engineering Science

Introduction

The curricula in the engineering sciences have been designed to prepare a student to fill the gap between the pure and applied sciences. The programs have been planned to enable the graduate to meet, work, and communicate with scientists and engineers at all levels of research and development, design and production, sales and distribution and to participate in the rapid and efficient translation of the latest scientific discoveries into technological achievements.

The general curriculum outlined below has been developed to give the student a firm foundation in the engineering sciences supported by a thorough grounding and facility in mathematics, physics and chemistry. In addition, each student will choose an area of specialization in at least one of the Engineering fields of architectural, civil, biomedical, electrical, industrial, or mechanical, and mathematics, chemistry or physics. By being well grounded in both the basic and applied sciences, the student, upon graduation, will be well prepared to assume responsibilities in his/her field of specialization or continue his/her professional development through graduate studies.

The engineering science program is intended primarily for students who expect to pursue graduate studies, and it will not satisfy the licensure requirements for professional engineering registration.

Premedical Studies: When BIL 150 and BIL 160 are added to the course sequence for engineering science, basic premedical requirements are satisfied. Additional specific courses, such as genetics or biochemistry, may be required for admission to certain medical schools. For optimum timing and course selection students who combine premedical studies and engineering science should consult the faculty advisor for engineering science and the Coordinator, Committee on Premedical Studies.

Because of the nature of the curriculum and its goals, the student must maintain a B average. The degree of Bachelor of Science Engineering Science is awarded upon successful completion of the program.

The required curriculum for the degree of Bachelor of Science in Engineering Science (General Concentration) is shown below as is a typical premed curriculum. A Professional Chemistry Concentration in the Engineering Science Program is available (the Professional Chemistry Program, approved by the American Chemical Society, is also available in the College of Arts and Sciences).

Mission Statement

The mission of the Engineering Science program is to provide excellent undergraduate and graduate education in engineering that will prepare graduates to meet Societies changing needs and aspirations.

Educational Objectives

The objectives of the Engineering Science program are to educate engineers who:

- have a sound background in the fundamentals of engineering science grounded in mathematics, physics and chemistry
- have abilities and knowledge expected by graduate programs
- are prepared to enter graduate programs with a strong background in pure science

Majors

Degree Programs in Engineering Science

- Engineering Science Curriculum - General Concentration (p. 266)
- Engineering Science Curriculum - Premed Concentration (p. 267)

Engineering Science Curriculum - General Concentration

Freshman Year		
Fall		Credit Hours
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		17
Spring		
MAE 202	Dynamics	3
ECE 201	Electrical Circuit Theory	3
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
MTH 310	Multivariable Calculus	3

PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Junior Year		
Fall		
IEN 311	Applied Probability And Statistics	3
MAE 303	Thermodynamics I	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 350	Intermediate Electricity and Magnetism	3
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		15
Spring		
MAE 241	Measurements Laboratory	3
ECE 204	Electrical Circuits Laboratory	1
MAE 309	Fluid Mechanics	3
CHM 201	Organic Chemistry I (Lecture)	3
MAE 301	Engineering Materials Science	3
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Senior Year		
Fall		
MAE 302	Mechanical Behavior Of Materials	3
MAE 412	System Dynamics	3
CHM 360	Physical Chemistry I (Lecture)	3
PHY 360	Introduction to Modern Physics	3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		15
Spring		
PHY 351 or CHM 202	Intermediate Electricity and Magnetism II or Organic Chemistry II (Lecture)	3
ECE 305	Electronics I	3
CHM 205	Organic Chemistry Laboratory I	1
Applied Elective ²		3
Technical Elective ³		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		16
Total Credit Hours:		125

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Applied electives are advanced courses selected in coordination with the Faculty Advisor and require his/her approval.

³ Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

Engineering Science Curriculum - Premed Concentration

Freshman Year		
Fall		Credit Hours
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
MAE 112	Introduction to Engineering II	2
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
PHY 207	University Physics III	3
PHY 209	University Physics III Lab	1
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		16
Spring		
CAE 210	Mechanics of Solids I	3
ECE 201	Electrical Circuit Theory	3
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
MTH 211	Calculus III	3
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		17
Junior Year		
Fall		
MAE 202	Dynamics	3
MAE 207	Mechanics of Solids II	3
CHM 201	Organic Chemistry I (Lecture)	3
MTH 311	Introduction to Ordinary Differential Equations	3
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		15
Spring		
MAE 303	Thermodynamics I	3

ECE 204	Electrical Circuits Laboratory	1
MAE 309	Fluid Mechanics	3
CHM 202	Organic Chemistry II (Lecture)	3
CHM 205	Organic Chemistry Laboratory I	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		14
Senior Year		
Fall		
IEN 311	Applied Probability And Statistics	3
MAE 302	Mechanical Behavior Of Materials	3
MAE 412	System Dynamics	3
PHY 360	Introduction to Modern Physics	3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		15
Spring		
MAE 301	Engineering Materials Science	3
ECE 305	Electronics I	3
BIL 250	Genetics (or MTH Elective) ²	3
BMB 401 or CHM 360	Biochemistry For The Biomedical Sciences or Physical Chemistry I (Lecture)	3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		15
Total Credit Hours:		123

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Electives are advanced courses selected in coordination with the Faculty Advisor and require his/her approval.

Industrial Engineering

<http://www.ie.miami.edu>

Dept. Code: IEN

Mission Statement

The Department of Industrial Engineering's mission is to provide contemporary and relevant industrial and systems engineering education and research; impart knowledge and skills necessary to design and to improve a variety of manufacturing and service processes; promote life-long learning; and contribute to emerging societal needs.

Overview

Industrial Engineering combines science and technical knowledge with human sciences to design, plan, and analyze systems that involve people, materials, money, energy, equipment, and other resources. Industrial engineers work with personnel in research and development, accounting, engineers in other disciplines, maintenance, human resources, and production to increase organizational productivity, improve quality, reduce health care costs, conserve energy, develop public transportation systems, and improve industrial safety conditions. Industrial engineering distinguishes itself from other engineering professions because it has applications in manufacturing, service, commercial, and governmental

activities. It is the major branch of engineering concerned not only with technology, but with people, making industrial engineers a prime source of management talent.

Through consultation with his/her academic advisor, a student is assisted in choosing electives which will prepare him/her for a degree of specialization compatible with his/her future goals. The available concentrations are Engineering Management and Manufacturing. Specific courses required in each concentration are described in Degree Programs Section.

The Department of Industrial Engineering offers graduate programs leading to the:

- Master of Science in Industrial Engineering
- Master of Science in Environmental Health and Safety
- MSIE/MBA Weekend Executive Program (in conjunction with the School of Business)
- Master of Science in Management of Technology (in conjunction with the School of Business)

The Department also offers:

- a Ph.D. program in Ergonomics and Human Factors
- a Ph.D. in Industrial Engineering.

For further information, see the Bulletin of the Graduate School (p. 510).

Bachelor of Science in Industrial Engineering Industrial Engineering Program Educational Objectives

The major goal of the Industrial Engineering program at the University of Miami is to prepare graduates to contribute to the economy by virtue of employment in a variety of industries: manufacturing (heavy and light, traditional and high technology) and service (health care, retail, transportation, logistics, government, consulting, banking, and insurance). In striving to achieve this goal, the objective of the faculty is to provide all graduates with the mathematical, scientific, and design tools required to formulate problems accurately, generate alternative solutions, evaluate those alternatives, and present the best solutions to clients or decision makers in a fashion that facilitates decision-making processes. In addition, superior students are prepared for graduate studies and research. Within the first several years following graduation from the Industrial Engineering program, graduates are expected to be:

1. Working as professionals by adding value in any one of the following sectors:
 - Service
 - Government
 - Consulting
 - Retail
 - Manufacturing
2. Pursuing or holding a graduate degree and/or developing professionally through continuing education, licensure, certification and seminars in a new area or their chosen areas of expertise.

The curriculum includes required courses in mathematics and the physical sciences that ensure a firm scientific background while advanced departmental courses provide specialization. Required courses

in the people and society - humanities and arts give students the social, ethical and ecological awareness needed in their profession. The courses are designed with the prerequisite structure in mind so that students have to draw from previously acquired knowledge to successfully complete upper level course requirements.

The engineering design experience is interwoven in the curriculum throughout the students' four years of study.

- Starting with IEN 111 **Introduction to Engineering I** and IEN 112 **Introduction to Engineering II**, an introduction to Engineering graphics, Auto CAD, MATLAB, C++, advanced Excel and Access are given.
- The students then move on to take IEN 201 **Methods Analysis and Work Measurement** where they perform work measurement projects in industry, write reports, and make oral presentations to management. In the Spring of their Junior year, the students take IEN 363 **Project Management for Engineers** and they are exposed to techniques and tools in project management such as use of network flow and MS Project.
- Students take IEN 361 **Industrial Cost Analysis** and IEN 380 **Engineering Economy** where they become aware of the impact of productivity on the economic and social well-being of industry and countries. The students are also introduced to basic models of decision making such as the formulation and evaluation of an economic strategy.
- IEN 406 **Computer-Aided Manufacturing** introduces the students to product design in manufacturing and modern concepts of CAD/CAM/Automation.
- IEN 441 **Deterministic Models in Operations Research** focuses on the formulation of linear programming problems and solutions by the simplex method. Related topics include sensitivity analysis, duality theory and network programming. Engineering applications are emphasized.
- IEN 442 **Stochastic Models in Operations Research** focuses on basic concepts and techniques of random processes that are used to develop models for a variety of engineering and managerial problems. Topics include the Poisson Process, Markov chains, renewal theory, queuing models, and reliability.
- IEN 465 **Production and Inventory Control** provides a thorough treatment of modern production and inventory management policies, and their ramifications on supply chain management.
- Theory and applications of decision support systems in industrial engineering are covered in IEN 524 **Decision Support Systems in IE**. The topics include the study of model-based data-based, knowledge-based, and communication-based decision support systems.
- In IEN 557 **Ergonomics and Human Factors Engineering** both laboratory projects and real-world projects are designed, discussed, and conducted.
- Industry based projects are embedded into several other courses such as IEN 512 **Statistical Quality Control and Quality Management**, IEN 547 **Computer Simulation Systems**, and IEN 568 **Materials Handling and Facilities Planning**.
- IEN 494 **Senior Project** is a capstone project course where the students pool all of their knowledge and previous design experience into one major project integrating all components of the curriculum together. These projects are usually industry-based. Students prepare written and oral presentations. These presentations are made before

top management or engineers of the organization where the projects were conducted in the presence of the faculty representatives from the department.

Real world projects are an integral part of most junior and senior level courses. In these courses, communication is emphasized through requirements for oral presentation and written technical reports. This experience provides the graduates with valuable industrial experience and communications skills while studying at the University of Miami.

The teaching laboratories meet current program needs and are constantly being improved. Equipment and experiments are geared to provide instruction in the areas of production system design, work methods and measurement, human factors engineering, manufacturing processes, computer applications in industrial engineering and operations research.

Advanced Writing and Communication Skills: Industrial Engineering students satisfy the University’s Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. Industrial Engineering students acquire Advanced Writing and Communication skills in the following core courses:

- IEN 111 Introduction to Engineering I
- IEN 201 Methods Analysis and Work Measurement
- IEN 351 Industrial Safety Engineering
- IEN 363 Project Management for Engineers
- IEN 380 Engineering Economy
- IEN 494 Senior Project
- IEN 512 Statistical Quality Control and Quality Management
- IEN 547 Computer Simulation Systems
- IEN 557 Ergonomics And Human Factors Engineering
- IEN 568 Materials Handling and Facilities Planning

Industrial Engineering Concentrations

- Engineering Management Concentration
- Manufacturing Engineering Concentration
- Pre-Medical Concentration

Five-Year Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering (Five-Year BSIE/MSIE Program)

This program is specifically designed for those students who want to pursue their graduate study as soon as they complete their undergraduate study in Industrial Engineering. The special conditions for this Five-Year BSIE/MSIE Program are as follows:

1. The student must declare his/her intent to participate before the end of the Junior year by submitting an official application to the department graduate committee for admission into the MSIE portion of the program. Exceptions to this rule must be approved by the department faculty.
2. A student wishing to withdraw from the Five-Year Program without the MSIE degree must complete all the requirements for the BSIE program, including the IEN 494 Senior Project in order to get his/her BSIE degree.

3. To qualify for the MSIE degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA.
4. The student is awarded both the BSIE and MSIE degrees at the end of the fifth year when all undergraduate and graduate requirements are satisfied.

Majors

Majors in Industrial Engineering

- B.S.I.E. in Industrial Engineering (p. 269)
- B.S.I.E. in Industrial Engineering - Engineering Management Concentration (p. 270)
- B.S.I.E. in Industrial Engineering - Manufacturing Concentration (p. 272)
- B.S.I.E. in Industrial Engineering - Pre-Med Concentration (p. 273)
- Five-Year Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering B.S.I.E./M.S.I.E. (p. 275)
- Five-Year Bachelor of Science in Industrial Engineering (Engineering Management Concentration) and Master of Science in Industrial Engineering B.S.I.E./M.S.I.E. (p. 274)

Minors

Minor in Industrial Engineering

- Industrial Engineering (p. 276)

B.S.I.E. in Industrial Engineering

Core Requirement Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 494	Senior Project	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN Elective Courses		
Select 9 credit hours of IEN Electives		9
Engineering and Technical Elective Courses		
Additional Engineering Credit Hours		3

Additional Technical Elective Credit Hours	3
Other Courses	
Total Math & Basic Sciences Credit Hours	33
Total General Education Credit Hours	24
Other Credit Hours	3
Total Credit Hours	128

Freshman Year		
Fall		Credit Hours
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211	Economic Principles and Problems	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Spring		
HA Cognate (HA Elective) ¹		3
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 311	Introduction to Ordinary Differential Equations	3
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3

IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
Term Credit Hours:		18
Spring		
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
Technical Elective ²		3
Term Credit Hours:		18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
IEN Elective ³		3
Term Credit Hours:		15
Spring		
IEN 494	Senior Project	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN Elective ³		3
IEN Elective ³		3
Term Credit Hours:		15
Total Credit Hours:		128

¹ To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

² The Technical Elective is selected from courses at the 300 level or above, offered by one of the following departments: MTH, BME (except BME 320), CAE, ECO, EEN, IEN, MEN, ACC, FIN, MGT (Except MGT 303), MAS, MKT.

³ IEN Electives are selected from courses at the 300 level or above, offered by the Department of Industrial Engineering.

B.S.I.E. in Industrial Engineering - Engineering Management Concentration

Core Requirement Courses

IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3

IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 494	Senior Project	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
Other IEN Courses		
IEN 570	Engineering Management	3
IEN 571	Engineering Entrepreneurship	3
IEN 572	Management of Technological Innovation	3
Other Courses		
Additional Engineering Credit Hours		3
Total Math & Basic Sciences Credit Hours		33
Total General Education Credit Hours		24
Other Credit Hours		6
Total Credit Hours		128

Freshman Year		Credit Hours
Fall		
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211	Economic Principles and Problems	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
BSL 212 or BUS 202	Introduction to Business Law or Introduction To The Legal Environment Of Business	3
HA Cognate (HA Elective) ¹		3

IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
Term Credit Hours:		16
Spring		
HA Cognate (HA Elective) ¹		3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
PS Cognate (PS Elective) ¹		3
MTH 311	Introduction to Ordinary Differential Equations	3
Term Credit Hours:		16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		18
Spring		
PS Cognate (Advanced PS Elective) ¹		3
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
Term Credit Hours:		18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
IEN 571	Engineering Entrepreneurship	3
Term Credit Hours:		15
Spring		
IEN 494	Senior Project	3
IEN 524	Decision Support Systems in Industrial Engineering	3

IEN 568	Materials Handling and Facilities Planning	3
IEN 570	Engineering Management	3
IEN 572	Management of Technological Innovation	3
Term Credit Hours:		15
Total Credit Hours:		128

¹ To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

B.S.I.E. in Industrial Engineering - Manufacturing Concentration

Core Requirement Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 494	Senior Project	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
Other IEN Courses		
IEN 407	Product Design for Manufacturing	3
IEN 505	Robotics	3
IEN 507	Design of Manufacturing Systems	3
IEN 509	Automated Assembly	3
Other Courses		
Additional Engineering Credit Hours		3
Total Math & Basic Sciences Credit Hours		33
Total General Education Credit Hours		24
Other Credit Hours		3
Total Credit Hours		128

Freshman Year		
Fall		Credit Hours
IEN 111	Introduction to Engineering I	3

ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211	Economic Principles and Problems	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Spring		
HA Cognate (HA Elective) ¹		3
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PS Cognate (PS Elective) ¹		3
MTH 311	Introduction to Ordinary Differential Equations	3
Term Credit Hours:		16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
Term Credit Hours:		18
Spring		
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3

IEN 407	Product Design for Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
Term Credit Hours:		18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 505	Robotics	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
Term Credit Hours:		15
Spring		
IEN 494	Senior Project	3
IEN 507	Design of Manufacturing Systems	3
IEN 509	Automated Assembly	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
Term Credit Hours:		15
Total Credit Hours:		128

¹ To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

B.S.I.E. in Industrial Engineering - Pre-Med Concentration

Core Requirement Courses		
IEN 111	Introduction to Engineering I	3
IEN 112	Introduction to Engineering II	2
IEN 201	Methods Analysis and Work Measurement	3
IEN 312	Applied Statistical Methods	3
IEN 351	Industrial Safety Engineering	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 380	Engineering Economy	3
IEN 406	Computer-Aided Manufacturing	3
IEN 441	Deterministic Models in Operations Research	3
IEN 442	Stochastic Models in Operations Research	3
IEN 465	Production and Inventory Control	3
IEN 494	Senior Project	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 547	Computer Simulation Systems	3

IEN 557	Ergonomics And Human Factors Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
Other Courses		
Total Math & Basic Sciences Credit Hours		58
Total General Education Credit Hours		24
Other Credit Hours		3
Total Credit Hours		138

Freshman Year		
Fall		
		Credit Hours
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
ECO 211	Economic Principles and Problems	3
Term Credit Hours:		17
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		17
Sophomore Year		
Fall		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
Term Credit Hours:		18
Spring		
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
HA Cognate (HA Elective) ¹		3
HA Cognate (HA Elective) ¹		3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 209	University Physics Iii Lab	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		18
Junior Year		
Fall		
CHM 201	Organic Chemistry I (Lecture)	3

CHM 205	Organic Chemistry Laboratory I	1
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
Term Credit Hours:		16
Spring		
Advanced Bioscience Elective ²		3
Advanced Bioscience Elective ²		3
Technical or Science Lab Elective ³		1
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 442	Stochastic Models in Operations Research	3
Term Credit Hours:		19
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
HA Cognate (Advanced HA Elective) ¹		3
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		18
Spring		
IEN 406	Computer-Aided Manufacturing	3
IEN 494	Senior Project	3
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
PS Cognate (Advanced PS Elective) ¹		3
Term Credit Hours:		15
Total Credit Hours:		138

¹ To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

² Advanced Bioscience Elective is to be chosen from BIL 250, BIL 255, BIL 268, MIC 301, CHM 202, or BMB 402. **Students should verify admission requirements of their medical school of interest to verify Adv. Bioscience requirements, e.g. organic chemistry II, biochemistry, or both.**

³ Technical or Science Elective Lab is selected from a science lab complementing the Adv Bioscience Elective (e.g., CHM or BIL lab).

Five-Year Bachelor of Science in Industrial Engineering (Engineering Management Concentration) and Master of Science in Industrial Engineering B.S.I.E./M.S.I.E.

Freshman Year		
Fall		Credit Hours
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211	Economic Principles and Problems	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
BSL 212 or BUS 202	Introduction to Business Law or Introduction To The Legal Environment Of Business	3
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
Term Credit Hours:		16
Spring		
HA Cognate (HA Elective) ¹		3
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 311	Introduction to Ordinary Differential Equations	3
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		3

IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
Term Credit Hours:		18
Spring		
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		3
Term Credit Hours:		18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
IEN 571	Engineering Entrepreneurship	3
IEN Elective ²		3
Term Credit Hours:		18
Spring		
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN 570	Engineering Management	3
IEN 572	Management of Technological Innovation	3
IEN Elective ²		3
IEN Elective ²		3
Term Credit Hours:		18
Fifth Year		
Fall		
IEN 694	Master's Capstone Design Project	3.00
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN Elective ²		3
Term Credit Hours:		12
Spring		
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 764	Supply Chain Management	3

IEN 765	Advanced Production Systems	3
Term Credit Hours:		9
Total Credit Hours:		155

¹ To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

² IEN Electives are selected from courses at the 600- or 700-level, offered by the Department of Industrial Engineering.

Five-Year Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering B.S.I.E./ M.S.I.E.

Freshman Year		
Fall		Credit Hours
IEN 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
IEN 112	Introduction to Engineering II	2
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
ECO 211	Economic Principles and Problems	3
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
HA Cognate (HA Elective) ¹		3
IEN 201	Methods Analysis and Work Measurement	3
MTH 210	Introduction to Linear Algebra	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Spring		
HA Cognate (HA Elective) ¹		3
CAE 210, ECE 205, or MAE 303	Mechanics of Solids I or Principles of Electrical Engineering-I or Thermodynamics I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
PS Cognate (PS Elective) ¹		3

MTH 311	Introduction to Ordinary Differential Equations	3
Term Credit Hours:		16
Junior Year		
Fall		
HA Cognate (Advanced HA Elective) ¹		
IEN 310	Introduction to Engineering Probability	3
IEN 351	Industrial Safety Engineering	3
IEN 380	Engineering Economy	3
IEN 441	Deterministic Models in Operations Research	3
PS Cognate (Advanced PS Elective) ¹		
Term Credit Hours:		18
Spring		
IEN 312	Applied Statistical Methods	3
IEN 361	Industrial Cost Analysis	3
IEN 363	Project Management for Engineers	3
IEN 406	Computer-Aided Manufacturing	3
IEN 442	Stochastic Models in Operations Research	3
Technical Elective ²		
Term Credit Hours:		18
Senior Year		
Fall		
IEN 465	Production and Inventory Control	3
IEN 512	Statistical Quality Control and Quality Management	3
IEN 547	Computer Simulation Systems	3
IEN 557	Ergonomics And Human Factors Engineering	3
IEN Elective ³		
IEN Elective ⁴		
Term Credit Hours:		18
Spring		
IEN 524	Decision Support Systems in Industrial Engineering	3
IEN 568	Materials Handling and Facilities Planning	3
IEN Elective ³		
IEN Elective ³		
IEN Elective ⁴		
IEN Elective ⁴		
Term Credit Hours:		18
Fifth Year		
Fall		
IEN 694	Master's Capstone Design Project	3.00
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3

IEN Elective ⁴		3
Term Credit Hours:		12
Spring		
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 764	Supply Chain Management	3
IEN 765	Advanced Production Systems	3
Term Credit Hours:		9
Total Credit Hours:		155

¹ To be selected from lists of approved People and Society (PS)/ Humanities and Arts (HA) (or applicable cognates). Students take a minimum of 3 courses (9 credit hours) in HA cognate and 3 courses in PS Cognate (9 credit hours).

² The Technical Elective is selected from courses at the 300 level or above, offered by one of the following departments: MTH, BME (except BME 320), CAE, ECO, EEN, IEN, MEN, ACC, FIN, MGT(Except MGT 303), MAS, MKT.

³ IEN Electives are selected from courses at the 300 level or above, offered by the Department of Industrial Engineering.

⁴ IEN Electives are selected from courses at the 600 or 700 level, offered by the Department of Industrial Engineering.

Minor in Industrial Engineering

A student majoring in another discipline who chooses to take a minor in Industrial Engineering must complete 15 credit hours of coursework consisting of:

IEN 201	Methods Analysis and Work Measurement	3
IEN 310	Introduction to Engineering Probability	3
or IEN 311	Applied Probability And Statistics	
Select three from the following courses:		9
IEN 351	Industrial Safety Engineering	
IEN 361	Industrial Cost Analysis	
IEN 363	Project Management for Engineers	
IEN 380	Engineering Economy	
IEN 557	Ergonomics And Human Factors Engineering	
IEN 570	Engineering Management	
IEN 571	Engineering Entrepreneurship	
IEN 572	Management of Technological Innovation	
Total Credit Hours		15

Substitutions may be accepted with the permission of the Department Chairman.

Mechanical and Aerospace Engineering

<http://www.mae.miami.edu>

Dept. Code: MAE

Introduction

Engineering is the art of applying the knowledge of science for the benefit of humanity. Mechanical Engineering is the most broadly based area of engineering. It is concerned with the analysis, design,

development and application of equipment for such diverse fields as energy conversion, transportation, production machinery, consumer goods, and environmental control. Today's advanced technology is largely a result of the skill of mechanical engineers who are heavily represented in most fields of modern industry.

Because of the varied careers and opportunities which are available to the Mechanical Engineering graduates, the curriculum emphasizes education in the fundamentals of the physical, mathematical, and engineering sciences, including materials science, solid mechanics, fluid mechanics and thermodynamics. These basic subjects are followed by courses in their application to the design and analysis of engineering devices and systems. Computers are utilized for analysis and design throughout the curriculum.

Aerospace Engineering is concerned with the analysis, design and development of a wide variety of aircraft and space vehicles and systems. The undergraduate aerospace engineering program is designed to provide a broad based foundation in aeronautics and astronautics, including topics such as aerodynamics, propulsion, aerospace structures and materials, flight dynamics, control and performance.

In the junior and senior years, the student is assisted in choosing technical electives in preparation for a degree of professional specialization or for further study in engineering, law, business or medicine. With the aid of an advisor and the concurrence of the department chairman, the student may select courses compatible with a variety of career goals.

The department offers two undergraduate degrees:

- Bachelor of Science in Mechanical Engineering and
- Bachelor of Science in Aerospace Engineering.

Within the Bachelor of Science in Mechanical Engineering program, sequences of courses are available to provide advanced knowledge in such traditional areas as electromechanical design, heat transfer, solid mechanics, fluid mechanics, and materials science. There are concentrations in:

- Aerospace Engineering and
- Internal Combustion Engines.

Mission Statements

Mission of Mechanical and Aerospace Engineering Department

The mission of the Department of Mechanical and Aerospace Engineering is to provide excellent undergraduate education in aerospace engineering and undergraduate and graduate education in mechanical engineering that will prepare graduates to meet Society's changing needs and aspirations.

Mission of the Mechanical Engineering Program

The mission of the Mechanical Engineering program is to provide excellent undergraduate education in Mechanical Engineering that will prepare graduates to meet society's changing needs and aspirations.

Mission of the Aerospace Engineering Program

The mission of the Aerospace Engineering program is to provide excellent undergraduate education in Aerospace Engineering that will prepare graduates to meet society's changing needs and aspirations.

Educational Objectives

The educational objectives of the undergraduate Aerospace Engineering (B.S.A.S.E.) Program are to prepare graduates, within the first four to six years after graduation, to be:

- working as a professional or as an entrepreneur in an area closely related to aerospace engineering, and/or
- exhibiting lifelong learning by pursuing or having completed a graduate or professional degree and/or demonstrated professional development.

The educational objectives of the undergraduate Mechanical Engineering (B.S.M.E.) Program are to prepare graduates, within the first four to six years after graduation, to be:

- working as a professional or as an entrepreneur in an area closely related to mechanical engineering, and/or
- exhibiting lifelong learning by pursuing or having completed a graduate or professional degree and/or demonstrated professional development.

Advanced Writing and Communication Skills

Mechanical & Aerospace Engineering students satisfy the University's Advanced Writing and Communication Skills requirement by completing a set of classroom courses, laboratory courses and design courses where they learn effective oral, graphical and technical writing skills. Mechanical & Aerospace Engineering students acquire Advanced Writing and Communication skills in the following core courses:

MAE 111	Introduction to Engineering I	3
MAE 112	Introduction to Engineering II	2
MAE 241	Measurements Laboratory	3
MAE 351	Mechanics Laboratory	2
MAE 404	Experimental Engineering Laboratory	2
MAE 442	Capstone Design Project-I	1
or MAE 444	Capstone Aerospace Design Project-I	
MAE 443	Capstone Design Project-II	2
or MAE 445	Capstone Aerospace Design Project-II	

Graduate Studies

Graduate programs leading to the degrees of Master of Science and Doctor of Philosophy are offered by the Department with options in various engineering and interdisciplinary fields. Detailed information is available in the Bulletin of the Graduate School (p. 514).

Majors

Majors in Mechanical and Aerospace Engineering

- B.S. in Mechanical Engineering (p. 280)
- B.S. in Mechanical Engineering - Aerospace Engineering Concentration (p. 281)

- B.S. in Mechanical Engineering - Internal Combustion Engines Concentration (p. 282)
- B.S. in Aerospace Engineering (p. 279)
- B.S. in Aerospace Engineering and B.S. in Mechanical Engineering Dual Degree (p. 279)
- B.S. and M.S. in Mechanical Engineering (p. 278)

Minors

Minor in Mechanical and Aerospace Engineering

- Mechanical Engineering (p. 282)

B.S. and M.S. in Mechanical Engineering

The five-year BS/MS program leads to both the B.S. degree and the M.S. degree in Mechanical Engineering in five years. The program is intended for exceptional students who are admitted to the graduate program in their junior year. Students applying for this program must have a grade point average of at least 3.0 and must attain a score of more than 1000 on the Graduate Record Examination (taken before the fifth year). The curriculum requirements for this program are as follows:

Freshman Year		
Fall		Credit Hours
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		Credit Hours
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability And Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering--I	3

HA Cognate (HA Elective) ¹		3
Term Credit Hours:		16
Junior Year		
Fall		Credit Hours
MAE 302	Mechanical Behavior Of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
Term Credit Hours:		15
Spring		
MAE 301	Engineering Materials Science	3
MAE 310	Heat Transfer	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE Technical Elective ²		3
Term Credit Hours:		17
Senior Year		
Fall		Credit Hours
MAE 404	Experimental Engineering Laboratory	2
MAE 412	System Dynamics	3
MAE 441	Design of Fluid and Thermal Systems	3
Technical Elective ²		3
PS Cognate (PS Elective) ¹		3
Graduate Level Course ³		3
Term Credit Hours:		17
Spring		
MAE 415	Automatic Control	3
HA Cognate (HA Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Graduate Level Course ³		3
Term Credit Hours:		15
Fifth Year (Graduate)		
Fall		Credit Hours
MAE 501	Methods of Engineering Analysis	3
Graduate Level Course ³		3
Graduate Level Course ³		3
Graduate Level Course ³		3
Term Credit Hours:		12
Spring		
MAE 752	Master's Capstone Project	4
Graduate Level Course ³		3
Graduate Level Course ³		3

Graduate Level Course ³	3
Term Credit Hours:	13
Total Credit Hours:	151

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

³ **At least two must be at 700 Level** courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

B.S. in Aerospace Engineering

Freshman Year		Credit Hours
Fall		
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability And Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering--I	3
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Junior Year		
Fall		

MAE 302	Mechanical Behavior Of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		18
Spring		
MAE 310	Heat Transfer	3
MAE 351	Mechanics Laboratory	2
MAE 470	Introduction to Aerospace Structures	3
MAE 371	Aerodynamics	3
MAE Technical Elective ²		3
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
MAE 570	Aero Propulsion	3
MAE 404	Experimental Engineering Laboratory	2
MAE 471	Flight Dynamics	3
MAE 472	Design of Aerospace Structures	3
MAE 444	Capstone Aerospace Design Project-I	1
MAE 446	Aircraft Design	3
Term Credit Hours:		15
Spring		
MAE 415	Automatic Control	3
MAE 445	Capstone Aerospace Design Project-II	2
MAE Technical Electives ²		3
HA Cognate (Adv. HA Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		14
Total Credit Hours:		126

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

B.S. in Aerospace Engineering and B.S. in Mechanical Engineering Dual Degree

A dual-degree program leading to the two degrees, Bachelor of Science in Aerospace Engineering and Bachelor of Science in Mechanical Engineering, is available as per the following curriculum.

Freshman Year		
Fall		Credit Hours
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability And Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering--I	3
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		16
Junior Year		
Fall		
MAE 302	Mechanical Behavior Of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
PS Cognate (HA Elective) ¹		3
Term Credit Hours:		18
Spring		
MAE 310	Heat Transfer	3
MAE 301	Engineering Materials Science	3
MAE 470	Introduction to Aerospace Structures	3
MAE 371	Aerodynamics	3

MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE 351	Mechanics Laboratory	2
Term Credit Hours:		17
Senior Year		
Fall		
MAE 570	Aero Propulsion	3
MAE 404	Experimental Engineering Laboratory	2
MAE 471	Flight Dynamics	3
MAE 472	Design of Aerospace Structures	3
MAE 444	Capstone Aerospace Design Project-I	1
MAE 446	Aircraft Design	3
Term Credit Hours:		15
Spring		
MAE 415	Automatic Control	3
MAE 445	Capstone Aerospace Design Project-II	2
MAE Technical Elective ²		3
MAE 342	Mechanical Design II	3
MAE Technical Elective ²		3
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		17
Fifth Year		
Fall		
MAE 441	Design of Fluid and Thermal Systems	3
MAE 412	System Dynamics	3
MAE Technical Elective ²		3
Technical Elective ²		3
PS Cognate (Adv. PS Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		18
Total Credit Hours:		147

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

² Technical Electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

B.S. in Mechanical Engineering

Freshman Year		
Fall		Credit Hours
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5

PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability And Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
ECE 205	Principles of Electrical Engineering--I	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		16
Junior Year		
Fall		
MAE 302	Mechanical Behavior Of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
Term Credit Hours:		15
Spring		
MAE 301	Engineering Materials Science	3
MAE 310	Heat Transfer	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2.00
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
MAE Technical Elective ²		3
Term Credit Hours:		17
Senior Year		
Fall		

MAE 404	Experimental Engineering Laboratory	2.00
MAE 412	System Dynamics	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 442	Capstone Design Project-I	1
Technical Elective ²		3
PS Cognate ¹		3
HA Cognate ¹		3
Term Credit Hours:		18
Spring		
MAE 443	Capstone Design Project-II	2
MAE 415	Automatic Control	3
MAE Technical Elective ²		3
HA Cognate (Adv. HA Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		14
Total Credit Hours:		126

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of 3 courses (9 credits).

² Technical electives are advanced courses in mathematics, science or engineering, approved by the Faculty Advisor, as appropriate for individual objectives.

B.S. in Mechanical Engineering - Aerospace Engineering Concentration

The mission of the aerospace engineer is to design and manufacture payload carrying vehicles to travel distances at the lowest cost in the shortest period of time. The training of the aerospace engineer is by demand multidisciplinary and by spirit pioneering. It includes aerodynamics, propulsion, advanced materials, structures, controls, robotics, electronics and computer usage.

An option has been developed to allow students at the University of Miami to have a concentration of courses in Aerospace Engineering. This concentration in aerospace is built on the existing accredited degree program in Mechanical Engineering.

See Aerospace Engineering Concentration Curriculum (p. 279).

Freshman Year		
Fall		Credit Hours
MAE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
MAE 112	Introduction to Engineering II	2
CAE 210	Mechanics of Solids I	3
ENG 107	English Composition II: Science and Technology	3

MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
MAE 207	Mechanics of Solids II	3
IEN 311	Applied Probability And Statistics	3
MTH 211	Calculus III	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
PS Cognate (PS Elective) ¹		3
Term Credit Hours:		16
Spring		
MAE 202	Dynamics	3
MAE 241	Measurements Laboratory	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
ECE 205	Principles of Electrical Engineering--I	3
HA Cognate (HA Elective) ¹		3
Term Credit Hours:		16
Junior Year		
Fall		
MAE 302	Mechanical Behavior Of Materials	3
MAE 303	Thermodynamics I	3
MAE 309	Fluid Mechanics	3
MAE 341	Mechanical Design I	3
MTH 311	Introduction to Ordinary Differential Equations	3
Term Credit Hours:		15
Spring		
MAE 301	Engineering Materials Science	3
MAE 310	Heat Transfer	3
MAE 342	Mechanical Design II	3
MAE 351	Mechanics Laboratory	2
MAE 371	Aerodynamics	3
MAE 362	Computer Analysis of Mechanical and Aerospace Engineering Problems	3
Term Credit Hours:		17
Senior Year		
Fall		
MAE 404	Experimental Engineering Laboratory	2
MAE 412	System Dynamics	3
MAE 441	Design of Fluid and Thermal Systems	3
MAE 471	Flight Dynamics	3
MAE 570	Aero Propulsion	3
PS Cognate (PS Elective) ¹		3

MAE 442	Capstone Design Project-I	1
Term Credit Hours:		18
Spring		
MAE 443	Capstone Design Project-II	2
MAE 415	Automatic Control	3
MAE 470	Introduction to Aerospace Structures	3
HA Cognate (HA Elective) ¹		3
PS Cognate (Adv. PS- Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		17
Total Credit Hours:		129

¹ You must complete a minimum of 1 PS cognate and 1 HA cognate to be selected from the list of available cognates. Each cognate should be a minimum of three courses (9 credit hours).

B.S. in Mechanical Engineering - Internal Combustion Engines Concentration

This program is designed to acquaint the mechanical engineering student with the fundamental science and engineering underlying the design of both conventional and high performance internal combustion engines and the fundamentals of emission formation in combustion systems, automobile mechanisms and structures including vibrations and noise. Included are studies of conventional fuels and synthetic fuels of the future such as hydrogen and methanol.

Technical Electives are:

MAE 503	Internal Combustion Engines	3
MAE 514	Advanced Internal Combustion Engines Experimental Studies	3
MAE 521	Exhaust Emission Control	3

Minor in Mechanical Engineering

A student in the College of Arts and Sciences choosing the general field of mechanical engineering as a minor must complete 15 credit hours consisting of the following:

Core Courses		
CAE 210	Mechanics of Solids I	3
MAE 111	Introduction to Engineering I	3
Elective Courses		
Select 9 credit hours from one of the following areas of specialization:		9
Energy Engineering:		
MAE 303	Thermodynamics I	
MAE 420	Applied Thermodynamics	
MAE 503	Internal Combustion Engines	
MAE 506	Nuclear Engineering	
MAE 510	Fundamentals of Solar Energy Utilization	
Environmental Engineering:		
MAE 303	Thermodynamics I	

MAE 309	Fluid Mechanics
MAE 408	Heating, Ventilating, and Air Conditioning
MAE 510	Fundamentals of Solar Energy Utilization
MAE 521	Exhaust Emission Control
Materials Engineering:	
MAE 207	Mechanics of Solids II
MAE 301	Engineering Materials Science
MAE 302	Mechanical Behavior Of Materials
MAE 507	Advanced Mechanics of Solids
Thermal Engineering:	
MAE 303	Thermodynamics I
MAE 310	Heat Transfer
MAE 408	Heating, Ventilating, and Air Conditioning
MAE 420	Applied Thermodynamics
MAE 441	Design of Fluid and Thermal Systems
MAE 503	Internal Combustion Engines
MAE 508	Intermediate Heat Transfer
MAE 510	Fundamentals of Solar Energy Utilization
Total Credit Hours	15

Marine and Atmospheric Science

<http://www.rsmas.miami.edu/academics/undergraduate>

Introduction

The Rosenstiel School of Marine and Atmospheric Science was established in 1943 as the Marine Laboratory of the University of Miami. It has grown from its modest beginnings in a boathouse to be one of the nation's leading institutions for oceanographic and atmospheric research and education.

Originally a tropical marine biological facility, the Marine Laboratory initiated a program of studies leading to the Master of Science degree in 1949. In 1953, laboratory and classroom buildings were constructed on the School's present campus on Virginia Key, and in the late fifties, the Marine Laboratory expanded its staff and developed its oceanographic capabilities in response to the increased interest in scientific research in the United States. It became the Institute of Marine Science in 1961. Ocean-going research vessels were acquired and additional buildings were constructed to accommodate new wide-ranging projects. In 1969, the Institute, now a School, was named for Dorothy H. and Lewis Rosenstiel in recognition of a major contribution, made through the Rosenstiel Foundation, to encourage progress in the marine and atmospheric sciences at the University of Miami. In 1977, the Rosenstiel School and College of Arts and Sciences joined together to establish an undergraduate Marine and Atmospheric Science program based on the Coral Gables campus. The degree granting authority for this program was formally transferred to the Rosenstiel School in 2008.

Today the Rosenstiel School has a faculty of over 80 who conduct sponsored research while offering studies leading to the Bachelor of Science, Bachelor of Arts, Master of Arts, Master of Science, Master of Professional Science and Doctor of Philosophy degrees.

Government agencies and private organizations support basic and applied research at the Rosenstiel School. Graduate and undergraduate students are an integral part of the research effort, and research programs, many multidisciplinary in nature, provide the environment within which professors and students interact.

The Rosenstiel School has modern laboratory facilities and a state-of-the-art catamaran, named the F. G. WALTON SMITH, in honor of the founder of the Rosenstiel School.

Mission

The Rosenstiel School strives to be in the forefront of basic and applied research as it applies to the ocean, atmosphere and global environment, with particular emphasis on subjects of societal significance. Our goal is to provide excellence in graduate and undergraduate education and research training, and to be a strong force towards improved environmental understanding and management.

Academic Policies

Admission

Applications for incoming freshmen are processed and reviewed by the Office of Admission. Enrollment in the Undergraduate Marine Science and Atmospheric Science Programs is selective and highly competitive.

Admission decisions are based on the secondary school record, SAT/ACT score, counselor's evaluation and the applicant's essay.

Student Responsibilities

Students of the Rosenstiel School are responsible for planning their own programs and for meeting degree requirements. It is the student's responsibility to understand and fully comply with all the provisions set forth in this Bulletin and written changes to their program of study.

Academic Progress

The Rosenstiel School will review each student's record at the end of each semester. All students in the Undergraduate Marine Science and Atmospheric Science Programs must maintain a cumulative grade point average of 2.5 or better in order to remain in the program. Only those courses passed with a grade of C- or better may be applied to the major or minor.

Honors

Honors in the Marine and Atmospheric Science Program may be earned by students who have a 3.5 GPA and have completed 4 credit hours of independent research and a senior thesis.

Degree Programs

The Rosenstiel School of Marine and Atmospheric Science offers degree programs on both the undergraduate and graduate levels for students interested in marine science and/or atmospheric science as a career.

Undergraduate Degree Programs

The Atmospheric Science program offers a Bachelor of Science in Marine and Atmospheric Science degree in Meteorology, with a curriculum conforming to the recommendations of the American Meteorological Society. The BS in Meteorology is a single major program, with a minor in Mathematics. Students may combine Meteorology with a second major in Mathematics, Marine Science, Physics, or Broadcast Journalism.

A five-year course of study culminating in the Master of Professional Science is also available.

The Rosenstiel School Marine Science program offers two undergraduate degree options, a Bachelor of Science in Marine and Atmospheric Science and a Bachelor of Arts in Marine Affairs. The Bachelor of Science degree program is meant for students planning to continue with graduate studies in marine science, or for those who will pursue a technical career in this area in government or private industry.

The Bachelor of Arts degree is designed for students planning either non-technical careers with government agencies or private industries directly or indirectly concerned with the ocean, or graduate studies in such areas as business, law, economics, political science, education, or communication.

In cooperation with the graduate program in Marine Affairs and Policy, a five-year BA/MPS program in Marine Affairs is available. This program enables qualified students to earn a Bachelor of Arts in Marine Affairs in four years with the opportunity to earn a Master of Professional Science in Marine Affairs with only one additional year.

Graduate Degree Programs

Graduate courses in the marine and atmospheric sciences are offered through the Graduate School and the Rosenstiel School of Marine and

Atmospheric Science and are listed under the Rosenstiel School graduate program entries in the Bulletin.

Courses at the 500-level may be taken for undergraduate credit hour with junior standing and departmental consent. These courses are listed in the course section of the undergraduate bulletin.

Requirements for Graduation

In addition to satisfying the course requirements for graduation with majors in Marine Science, Meteorology and Marine Affairs (specified above under "Undergraduate Majors (p. 284)"), students are expected to satisfy the School's General Education Requirements. General Education Requirements stress breadth of knowledge and the cultivation of intellectual abilities essential for the acquisition of knowledge. Courses taken for the major, the minor, and the writing requirement may also be used to satisfy the General Education Requirements.

Areas of Proficiency

A) English Composition: Students must complete ENG 105 and either ENG 106 or ENG 107, or their approved equivalents, typically in the first year of residence. Students with an appropriate score on the Advanced Placement [AP] language or literature examinations, or with an appropriate score on the International Baccalaureate [IB] higher level English examination, may earn 6 credits in English 105 and English 106. Those with an appropriate score on the SAT/V or ACT/E exams may be exempted from English 105.

B) Communication across the Curriculum: Students in the Rosenstiel School will, as part of their major curriculum, take courses designed to provide students with the skills required for effective communication, both written and oral, within the discipline.

C) Mathematics

Bachelor of Arts in Marine Affairs:

Select one of the following:	3-4
MTH 108 Precalculus Mathematics II	
MTH 113 Finite Mathematics	
MTH 130 Introductory Calculus	
MTH 140 Calculus Concepts with Foundations A	
MTH 141 Calculus Concepts with Foundations B	
MTH 161 Calculus I	
Select an approved course in statistics or computer science of the following or an approved alternative:	3-4
MSC 204 Environmental Statistics	
BIL 311 Biostatistics	
IEN 311 Applied Probability And Statistics	
MTH 224 Introduction to Probability and Statistics	
PSY 291 Introduction To Biobehavioral Statistics	
CSC 120 Computer Programming I	
CSC 210 Computing for Scientists	

Bachelor of Science in Marine and Atmospheric Science:

Complete two semesters of Calculus:	8
MTH 161 Calculus I	

MTH 162 Calculus II	
Select an approved course in statistics or computer science of the following or an approved alternative:	3-4
MSC 204 Environmental Statistics	
BIL 311 Biostatistics	
IEN 311 Applied Probability And Statistics	
MTH 224 Introduction to Probability and Statistics	
PSY 291 Introduction To Biobehavioral Statistics	
CSC 120 Computer Programming I	
CSC 210 Computing for Scientists	

Areas of Knowledge

As described under the section General Education Requirements (p. 19) under *General University Information*, students must complete one cognate in each of three the Areas of Knowledge:

1. Arts and Humanities,
2. People and Society (Social Sciences) and
3. Science, Technology, Engineering and Mathematics (STEM).

All undergraduate students in the Rosenstiel School will fulfill their STEM cognate requirement through their major requirements. Students in Marine Affairs will fulfill their People and Society cognate requirement through their minor. Students in Marine Science may elect to fulfill the People and Society cognate requirement with a Marine Policy cognate. Students in Meteorology may elect to fulfill the People and Society cognate requirement with a Broadcast Meteorology cognate. Cognates integrating Study Abroad courses are also available. See program advisors for details.

Atmospheric Science - Meteorology

Dept. Code: ATM

Meteorology

Meteorology is the study of the atmosphere, including climate and climate variability, weather forecasting, cloud and precipitation physics, tropical dynamics, severe weather and hurricanes. Atmospheric scientists use computer models and sophisticated observing systems to describe and understand the atmosphere. The curriculum emphasizes math and physics basics, providing a strong foundation for an intensive study of meteorology. The curriculum, conforming to the recommendations of the American Meteorological Society, prepares students for graduate school and for jobs in industry and government.

The Rosenstiel School offers a Bachelor of Science in Marine and Atmospheric Science with a major in Meteorology.

Although Meteorology is a single major program, students often combine Meteorology with a second major in such diverse fields as mathematics, marine science or broadcast journalism.

Majors

Majors in Atmospheric Science - Meteorology

- B.S. in Meteorology (p. 287)
- B.S. Double Major in Meteorology and Mathematics (p. 286)

- B.S. Double Major in Meteorology and Marine Science (p. 286)

Minors

Minors in Atmospheric Science - Meteorology

- Meteorology (p. 288)
- Climate Science and Policy (p. 287)

B.S. Double Major in Meteorology and Marine Science

A double major in Meteorology and Marine Science is well suited for students with interests in the physical aspects of climate, as well as the interaction of the ocean and the atmosphere. It provides an excellent foundation for students who want to pursue graduate degrees in these fields. In addition to those courses that satisfy General Education Requirements, the double major curriculum is as follows:

Atmospheric Science		
ATM 103	Survey of Modern Meteorology	3
ATM 118	Current Weather Topics	2
ATM 243	Weather Forecasting	3
ATM 303	Atmospheric Observation	3
ATM 305	Atmospheric Thermodynamics	3
ATM 405	Atmospheric Dynamics I	3
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
ATM 409	Cloud Physics And Radiation	3
ATM 220	Climate And Global Change	3
or ATM 307	Introduction To The Physics Of Climate	
Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction To Physical Oceanography Lab	1
MSC 216	Chemical Oceanography Laboratory	1
or MSC 232	Introduction to Marine Biology Laboratory	
Select 9 credit hours of MSC electives, of which at least 6 must be at the 300-level or higher		9
Biology		
Select one of the following:		5
BIL 150	General Biology	
& BIL 151	and General Biology Laboratory	
BIL 160	Evolution and Biodiversity	
& BIL 161	and Evolution and Biodiversity Laboratory	
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
Computer Science		
CSC 120	Computer Programming I	4

Geological Sciences

GSC 111	Earth System History	4-5
or GSC 110	The Earth System	
& GSC 114	and Earth Processes Lab	

Mathematics

MTH 161	Calculus I	4
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 310	Multivariable Calculus	3
or MTH 211	Calculus III	
MTH 311	Introduction to Ordinary Differential Equations	3

Physics

PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1

Statistics

MSC 204	Environmental Statistics	3
or MTH 224	Introduction to Probability and Statistics	

Total Credit Hours **104-105**

B.S. Double Major in Meteorology and Mathematics

A double major in Meteorology and Mathematics provides an excellent foundation for students who want to pursue graduate degrees in meteorology and related fields. Tracks in Applied Analysis and Probability and Statistics are available. In addition to those courses that satisfy General Education Requirements, the double major curriculum is as follows:

Atmospheric Science		
ATM 103	Survey of Modern Meteorology	3
ATM 118	Current Weather Topics	2
ATM 243	Weather Forecasting	3
ATM 303	Atmospheric Observation	3
ATM 305	Atmospheric Thermodynamics	3
ATM 405	Atmospheric Dynamics I	3
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
ATM 409	Cloud Physics And Radiation	3
ATM 220	Climate And Global Change	3
or ATM 307	Introduction To The Physics Of Climate	
Mathematics Core		
Select one of the following:		4
MTH 161	Calculus I	
& MTH 162	and Calculus II	
MTH 171	Calculus I	
& MTH 172	and Calculus II	
MTH 210	Introduction to Linear Algebra	3
MTH 224	Introduction to Probability and Statistics	3
MTH 230	Introduction to Abstract Mathematics	3

MTH 310	Multivariable Calculus	3
MTH 311	Introduction to Ordinary Differential Equations	3
MTH 433	Advanced Calculus	3
or MTH 533	Introduction to Real Analysis I	
Physics		
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
Chemistry		
ATM 265	Atmospheric Chemistry	3-4
or CHM 111	Principles of Chemistry I	
& CHM 113	and Chemistry Laboratory I	
Computer Science		
CSC 120	Computer Programming I	4
Elective		
Select 6 credit hours of upper level elective, to be approved by advisor		6
Tracks		
Select one of the following Tracks:		12
Applied Analysis:		
MTH 512	Elementary Complex Analysis	
MTH 542	Statistical Analysis	
Select one of the following Sequences:		
MTH 513	Partial Differential Equations I & MTH 514 and Partial Differential Equations II	
MTH 515	Ordinary Differential Equations & MTH 516 and Dynamics and Bifurcations	
Probability and Statistics:		
MTH 513	Partial Differential Equations I	
MTH 524	Introduction to Probability Theory	
MTH 525	Introduction to Mathematical Statistics	
MTH 542	Statistical Analysis	
Total Credit Hours		87-88

B.S. in Meteorology

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Meteorology are:

Atmospheric Science		
ATM 103	Survey of Modern Meteorology	3
MSC 111	Introduction to Marine Science	3
ATM 118	Current Weather Topics	2
ATM 243	Weather Forecasting	3
ATM 303	Atmospheric Observation	3
ATM 305	Atmospheric Thermodynamics	3
ATM 405	Atmospheric Dynamics I	3
ATM 406	Atmospheric Dynamics II	3
ATM 407	Weather Analysis	4
ATM 409	Cloud Physics And Radiation	3

ATM 220	Climate And Global Change	3
or ATM 307	Introduction To The Physics Of Climate	
Mathematics ¹		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 224	Introduction to Probability and Statistics	3
MTH 211	Calculus III	3
or MTH 310	Multivariable Calculus	
MTH 311	Introduction to Ordinary Differential Equations	3
or MTH 320	Introduction to Numerical Analysis	
Physics		
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
Chemistry		
ATM 265	Atmospheric Chemistry	3-4
or CHM 111	Principles of Chemistry I	
& CHM 113	and Chemistry Laboratory I	
Computer Science		
CSC 120	Computer Programming I	4
Electives		
Select one free elective in Atmospheric Science, Mathematics or Science		3
Select 6 credit hours of upper level elective, to be approved by advisor ²		6
Recommended courses include:		
ATM 306	Advanced Principles In Broadcasting Meteorology	
ATM 307	Introduction To The Physics Of Climate	
ATM 321	Scientific Programming In The Atmospheric Sciences	
MSC 301	Introduction to Physical Oceanography	
Total Credit Hours		79-80

¹ Broadcast meteorology majors must take either MTH 224 or MTH 311/MTH 320, but are not required to take both.

² Both ATM 220 and ATM 307 may be taken for full credit.

500-level courses are open to undergraduates but typically offered on the RSMAS campus. For Broadcast Meteorology double-majors and minors, the electives may be taken from the School of Communications.

Minor in Climate Science and Policy

A minor in Climate Science and Policy requires 15 credits which must include:

MSC 346	Climate Science and Policy	3
Select three of the following (List A):		
ATM 102	Introduction To Weather And Climate	3
or ATM 103	Survey of Modern Meteorology	
ATM 220	Climate And Global Change	3

or MSC 220 Climate and Global Change	
MSC 222 Earth'S Climate: Past And Future	
ATM 307 Introduction To The Physics Of Climate	
GSC 462 Earth's Ancient Atmospheres, Climates, And Sea Levels	
Select one of the following (List B):	3
MSC 313 Coastal Law	
MSC 314 Ocean Law	
MSC 340 Ocean Policy	
MSC 342 Decision Making And The Environment	
RSM 520 Climate and Society	
Total Credit Hours	15

Students with a Meteorology major should replace ATM 102/ATM 103 from List A with an additional course from list B. Students from a program without a statistics requirement must also take an approved course in statistics increasing this to an 18 credit hour minor. Approved statistics courses include the statistics courses offered throughout all of UM programs, including:

MTH 224 Introduction to Probability and Statistics	3
MSC 204 Environmental Statistics	3
BIL 311 Biostatistics	3
ECS 204 Environmental Statistics	3
EPS 351 Introduction to Statistics and Research Design	3
GSC 204 Environmental Statistics	3
IEN 311 Applied Probability And Statistics	3
MAS 201 Introduction to Business Statistics	3
MAS 311 Applied Probability and Statistics	3
NUR 202 Introductory Statistics in Health Care	3
PSY 291 Introduction To Biobehavioral Statistics	3
PSY 292 Introduction To Biobehavioral Statistics For Non-Majors	3

The minor satisfies either the STEM Area of Knowledge cognate requirement, or the People and Society Area of Knowledge cognate requirement. Only those courses passed with a grade of "C-" or higher may be applied to the minor.

Minor in Meteorology

A minor in Meteorology requires 15 credit hours which must include:

ATM 103 Survey of Modern Meteorology	3
Select 12 credit hours of the following:	12
ATM 118 Current Weather Topics	
ATM 220 Climate And Global Change	
ATM 243 Weather Forecasting	
ATM 265 Atmospheric Chemistry	
ATM 303 Atmospheric Observation	
ATM 306 Advanced Principles In Broadcasting Meteorology	
Total Credit Hours	15

Only those courses passed with a grade of "C-" or higher may be applied to the minor.

Marine Affairs

The ocean is acquiring an ever-increasing significance as an avenue of worldwide commerce and communication and as a source of food, energy, minerals and fuels. As nations and private concerns become more involved in the ocean, the need increases for qualified professionals to deal with the commercial and legal complexities of marine affairs. In order to meet this need, the Rosenstiel School offers a Bachelor of Arts degree with a major in Marine Affairs combined with a required minor or additional major in Anthropology, Economics, Ecosystem Science and Policy, Geography, International Studies, Latin American Studies, Political Science, or an approved field within the School of Business Administration. Students in the School of Communication may include Marine Affairs as a second major. This program is designed for students who wish to prepare themselves for graduate studies and careers in ocean related areas of business, policy, management, law, and communication.

5 Year BA/MPS Program in Marine Affairs

The Rosenstiel School offers a 5 year BA/Master of Professional Science (MPS) Program in Marine Affairs. This program enables qualified Marine Affairs students to earn a Bachelor of Arts in Marine Affairs in four years with the opportunity to earn a Master of Professional Science in Marine Affairs in one additional year. Conditional acceptance to the graduate Marine Affairs and Policy program is based on the student's GPA at the end of the sophomore year. Students must then apply for acceptance to the graduate program at the Rosenstiel School during their junior year.

Majors

Majors in Marine Affairs

- B.A. in Marine Affairs (p. 288)

Minors

Minor in Marine Affairs

- Marine Policy (p. 289)
- Climate Science and Policy (p. 289)

B.A. in Marine Affairs

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Marine Affairs are:

Marine Affairs		
MSC 111 Introduction to Marine Science		3
MSC 215 Chemical Oceanography		3
MSC 230 Introduction to Marine Biology		3
MSC 313 Coastal Law		3
or MSC 314 Ocean Law		
MSC 310 Living Resources of the Ocean		3
or MSC 340 Ocean Policy		
MSC 345 Economics of Natural Resources and the Environment		3

MSC 460	Spatial Applications in Marine Science	3
Select 9 credit hours of approved electives in Marine Affairs		9
Other Required Courses		
GSC 110	The Earth System	3-4
or GSC 111	Earth System History	
ECO 211	Economic Principles and Problems	3
Select 6 credit hours of upper level elective, to be approved by advisor.		6
Biology		
BIL 150	General Biology	4
BIL 160	Evolution and Biodiversity	4
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
Mathematics		
Completion of 3 credit hours of Mathematics above MTH107		3-4
Select one approved course in Computer Programming or Statistics		3
Total Credit Hours		62-64

500-level courses offered through the graduate Marine Affairs and Policy or Marine Ecosystems and Society programs at the Rosenstiel School may be taken by Junior or Senior students with permission.

Minor in Climate Science and Policy

See under **Atmospheric Science** (p. 285)

Minor in Marine Policy

A minor in Marine Policy requires 15 credits which must include:

Required Courses		
MSC 111	Introduction to Marine Science	3
Electives		
Select 12 credit hours of the following:		12
MSC 310	Living Resources of the Ocean	
MSC 313	Coastal Law	
MSC 314	Ocean Law	
MSC 340	Ocean Policy	
MSC 342	Decision Making And The Environment	
MSC 345	Economics of Natural Resources and the Environment	
MSC 346	Climate Science and Policy	
MSC 410	Marine Conservation Science	
MSC 415	Coral Reef Science and Management	
MSC 420	Political Ecology of the Galapagos	
MAF 501	Political Ecology of Marine Management	
MAF 504	Fieldwork in Coastal Management	
MAF 510	Environmental Planning and the Environmental Impact Statement	
MAF 512	Aquaculture Management	
MAF 518	Coastal Zone Management	

MAF 530	Port Operations and Policy	
Total Credit Hours		15

Students majoring in the School of Marine and Atmospheric Science should replace MSC 111 with an additional elective, and all electives must be above and beyond those used for the major. The Marine Policy minor fulfills the requirements of a People and Society cognate.

Marine Science

Dept. Code: MSC

Marine Science is an interdisciplinary program dealing with the study of the world's oceans, their physical and biological constituents, the influence of oceanic resources on human society, and the conservation and future development of these resources.

The Bachelor of Science double major in Marine Science prepares students for admission to graduate programs and for careers in teaching and research as well as for technical careers in government and private industries concerned with the oceans. The Bachelor of Science in Marine Science is a full double major program that requires a major in Marine Science through the Rosenstiel School and a second major in one of the sciences through the College of Arts and Sciences, RSMAS or the College of Engineering. Common second majors are biology, chemistry, geological sciences, physics, biochemistry, computer science, meteorology and microbiology & immunology. Required courses for these combinations are listed below. Second majors in Applied Physics, Engineering (all disciplines), and Mathematics may be taken. Each of the areas of concentration constitutes a rigorous program requiring 120-130 credit hours for graduation.

Majors

Majors in Marine Science

- B.S. in Marine Science/Biology (p. 290)
- B.S. in Marine Science/Chemistry (p. 291)
- B.S. in Marine Science/Geological Sciences (p. 292)
- B.S. in Marine Science/Physics (p. 294)
- B.S. in Marine Science/Computer Science (p. 292)
- B.S. in Marine Science/Meteorology (p. 293)
- B.S. in Marine Science/Microbiology and Immunology (p. 293)
- B.S. in Marine Science with a Second Major in One of: Applied Physics, Biochemistry, Engineering (All Disciplines), and Mathematics (p. 289)

Minors

Minors in Marine Science

- Marine Science (p. 294)

B.S. in Marine Science with a Second Major in One of: Applied Physics, Biochemistry, Engineering (All Disciplines), and Mathematics

Marine Science

MSC 111	Introduction to Marine Science	3
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
Select two of the following:		2
MSC 216	Chemical Oceanography Laboratory	
MSC 232	Introduction to Marine Biology Laboratory ¹	
MSC 302	Introduction To Physical Oceanography Lab ²	
Select 12 credit hours of electives in Marine Science ³		12
Biology		
Select one of the following:		5
BIL 150	General Biology	
& BIL 151	and General Biology Laboratory	
BIL 160	Evolution and Biodiversity	
& BIL 161	and Evolution and Biodiversity Laboratory	
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
Geological Science		
Select one of the following:		4-5
GSC 110	The Earth System	
& GSC 114	and Earth Processes Lab	
GSC 111	Earth System History	
Mathematics		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
Select one semester of an approved computer or statistics course		3-4
Physics		
Select one of the following Options: ⁴		10
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
or PHY 209	University Physics Iii Lab	
Option 2:		
PHY 101	College Physics I	
PHY 102	College Physics II	
PHY 106	College Physics Laboratory I	
PHY 108	College Physics Laboratory II	
Electives		
Select 6 credit hours of upper level electives to be approved by advisor		6
Second Major		
Complete all requirements of the second major		
Total Credit Hours		70-72

¹ Required for Biochemistry double majors.

² Required for Engineering, Mathematics and Applied Physics double major.

³ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

⁴ University Physics is recommended.

B.S. in Marine Science/Biology

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Marine Science/Biology are:

Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
MSC 301	Introduction to Physical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
or MSC 302	Introduction To Physical Oceanography Lab	
Select 12 credit hours of electives in Marine Science ¹		12
Biology		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
BIL 330	Ecology	3
BIL 360	Comparative Physiology	3
Select 12 credit hours of electives as described for Biology majors ²		12
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture) ³	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II ³	1
Geological Sciences		
Select one of the following:		4-5
GSC 110	The Earth System	
& GSC 114	and Earth Processes Lab	
GSC 111	Earth System History	
Mathematics		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
Select one semester of a computer or statistics course of the following approved classes:		3-4
MSC 204	Environmental Statistics	

BIL 311	Biostatistics	
CSC 120	Computer Programming I	
MTH 224	Introduction to Probability and Statistics	
PSY 291	Introduction To Biobehavioral Statistics	
Physics		
Select one of the following Options: ⁴		10
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
or PHY 209 University Physics Iii Lab		
Option 2:		
PHY 101	College Physics I	
PHY 102	College Physics II	
PHY 106	College Physics Laboratory I	
PHY 108	College Physics Laboratory II	
Electives		
Select 6 credit hours of electives ⁵		6
Total Credit Hours		107-109

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² The electives must include at least one lab or field based course. MSC 230 and one advanced biology course may fulfill requirements in both Biology and Marine Science.

³ CHM 202 and CHM 206 may be substituted by courses leading to a major or minor in an approved science or math discipline (BCH, CHM, CSC, GSC, MIC, MTH, PHY).

⁴ University Physics is recommended.

⁵ Including 3 at the upper level, to be approved by advisor.

B.S. in Marine Science/Chemistry

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Marine Science/Chemistry are:

Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 215	Chemical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 232	Introduction to Marine Biology Laboratory	1
or MSC 302 Introduction To Physical Oceanography Lab		
Select 12 credit hours of electives in Marine Science ¹		12
Biochemistry and Molecular Biology		
BMB 401	Biochemistry For The Biomedical Sciences	3
Biology		
Select one of the following:		5

BIL 150	General Biology	
& BIL 151	and General Biology Laboratory	
BIL 160	Evolution and Biodiversity	
& BIL 161	and Evolution and Biodiversity Laboratory	
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3
CHM 202	Organic Chemistry II (Lecture) ³	3
CHM 205	Organic Chemistry Laboratory I	1
CHM 206	Organic Chemistry Laboratory II ³	1
CHM 304	Structural Identification of Organic Compounds	3
CHM 316	Instrumental Analytical Chemistry	3
CHM 320	Instrumental Methods in Chemistry and Biochemistry	2
CHM 360	Physical Chemistry I (Lecture)	3
CHM 364	Physical Chemistry (Laboratory I)	1
CHM 365	Physical Chemistry II (Lecture)	3
CHM 441	Inorganic Chemistry (Lecture)	3
Select one of the following:		3
CHM 317	The Chemistry of Food and Taste.	
CHM 401	Environmental Chemistry ²	
Any 500-level Chemistry course as described for Chemistry BS majors		
Geological Sciences		
Select one of the following:		4-5
GSC 110	The Earth System	
& GSC 114	and Earth Processes Lab	
GSC 111	Earth System History	
Mathematics		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
Select one semester of a computer or statistics course of the following approved classes:		3-4
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
CSC 120	Computer Programming I	
CSC 210	Computing for Scientists	
Physics		
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
or PHY 209 University Physics Iii Lab		
Electives		
Select 3 credit hours of electives ³		3
Total Credit Hours		99-101

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² CHM 401 also fills an MSC elective requirement.

³ to be approved by advisor.

B.S. in Marine Science/Computer Science

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Marine Science/Computer Science are:

Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction To Physical Oceanography Lab	1
MSC 321	Scientific Programming in the Atmospheric Sciences	3
MSC 216	Chemical Oceanography Laboratory	1
or MSC 232	Introduction to Marine Biology Laboratory	
Select 9 credit hours of electives in Marine Science ¹		9
Biology		
Select one of the following:		5
BIL 150	General Biology	
& BIL 151	and General Biology Laboratory	
BIL 160	Evolution and Biodiversity	
& BIL 161	and Evolution and Biodiversity Laboratory	
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
Computer Science		
CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 322	System Programming	3
CSC 431	Introduction To Software Engineering	3
Select 6 credit hours of approved electives, as described for Computer Science majors		6
Geological Sciences		
Select one of the following:		4-5
GSC 110	The Earth System	
& GSC 114	and Earth Processes Lab	
GSC 111	Earth System History	
Mathematics		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 309	Discrete Mathematics I	3
MTH 311	Introduction to Ordinary Differential Equations	3

Select one approved statistics course		3
Physics		
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
or PHY 209	University Physics Iii Lab	
Electives		
Select 6 credit hours of electives ²		6
Total Credit Hours		102-103

¹ At least 6 of which must be at the 300-level or higher.

² Including 3 at the upper level, to be approved by advisor.

B.S. in Marine Science/Geological Sciences

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Marine Science/Geological Sciences are:

Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
Select two of the following:		2
MSC 216	Chemical Oceanography Laboratory	
MSC 232	Introduction to Marine Biology Laboratory	
MSC 302	Introduction To Physical Oceanography Lab	
Select 12 credit hours of electives in Marine Science ¹		12
Biology		
Select one of the following:		5
BIL 150	General Biology	
& BIL 151	and General Biology Laboratory	
BIL 160	Evolution and Biodiversity	
& BIL 161	and Evolution and Biodiversity Laboratory	
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
Geological Sciences ²		
GSC 110	The Earth System	3
GSC 111	Earth System History	4
GSC 114	Earth Processes Lab	2
GSC 260	Earth Materials	4
GSC 360	Depositional and Diagenetic Systems	4
GSC 380	Paleontology and Stratigraphy	4
GSC 410	Environmental Geochemistry	3
or GSC 420	Geophysics	
GSC 440	Igneous and Metamorphic Petrology	4

GSC 480	Structural Geology	4
GSC 482	Field Methods	2
GSC 561	Colloquium - Current Topics in the Geosciences	1
GSC 580	Summer Field Geology	4
Mathematics		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
Select one semester of a computer or statistics course of the following approved classes:		3-4
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
GSC 204	Environmental Statistics	
CSC 120	Computer Programming I	
CSC 210	Computing for Scientists	
Physics		
Select one of the following Options: ³		10
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II	
PHY 207	University Physics III	
PHY 208	University Physics II Lab	
or PHY 209 University Physics Iii Lab		
Option 2:		
PHY 101	College Physics I	
PHY 102	College Physics II	
PHY 106	College Physics Laboratory I	
PHY 108	College Physics Laboratory II	
Electives		
Select 6 credit hours of electives ⁴		6
Total Credit Hours		105-106

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² One course in Geological Sciences may fulfill requirements in both Marine Science and Geology.

³ University Physics is recommended.

⁴ Including 3 at the upper level, to be approved by advisor.

B.S. in Marine Science/Meteorology

See under **Meteorology/Marine Science** (p. 285)

B.S. in Marine Science/Microbiology and Immunology

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Marine Science/Microbiology and Immunology are:

Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 215	Chemical Oceanography	3

MSC 230	Introduction to Marine Biology	3
MSC 232	Introduction to Marine Biology Laboratory	1
MSC 301	Introduction to Physical Oceanography	3
MSC 216	Chemical Oceanography Laboratory	1
or MSC 302	Introduction To Physical Oceanography Lab	
Select 12 credit hours of electives in Marine Science ¹		12
Microbiology and Immunology		
Select one of the following:		5
MIC 301	Introduction to Microbiology and Immunology	
MIC 303	Part 1 of 2: Introductory Microbiology and & MIC 304 Immunology (Lecture)	
	and Part 2 of 2: Introductory Microbiology and Immunology (Lab)	
Other Required Courses		
MIC 319	Innate Immunity	3
MIC 321	Immunobiology	3
Select 13 credit hours in Microbiology and Immunology electives from the approved classes		13
MIC 201	Modern Plagues and Society	
MIC 322	Medical Parasitology	
MIC 323	Principles of Microbial Pathogenesis	
MIC 436	Fundamental and Medical Virology	
MIC 441	Microbiology and Immunology Colloquium	
MIC 451	Special Projects in Immunobiology	
Only 6 credit hours of Research in MIC may be applied toward the 13 MIC elective hours		
MIC 452	Special Projects in Parasitology	
MIC 453	Special Projects in Pathogenic Bacteriology	
MIC 454	Special Projects in Microbial Genetics	
MIC 455	Special Projects in Immunogenetics	
MIC 456	Special Projects in Virology	
Maximum of 3 courses from outside electives can count towards the 13 MIC elective hours		
BIL 255	Cellular and Molecular Biology	
BIL 352	Techniques in Scanning Electron Microscopy	
or BIL 554	Electron Microscopy	
GSC 310	Microbes and the Environment	
or MSC 465	Marine Comparative Immunology	
Biology		
BIL 150	General Biology	4
BIL 151	General Biology Laboratory	1
BIL 160	Evolution and Biodiversity	4
BIL 161	Evolution and Biodiversity Laboratory	1
Biochemistry and Molecular Biology		
BMB 401	Biochemistry For The Biomedical Sciences	3
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 113	Chemistry Laboratory I	1
CHM 112	Principles of Chemistry II	3
CHM 114	Chemistry Laboratory II	1
CHM 201	Organic Chemistry I (Lecture)	3

CHM 205	Organic Chemistry Laboratory I	1
CHM 202	Organic Chemistry II (Lecture)	3
CHM 206	Organic Chemistry Laboratory II	1
Geological Science		
Select one of the following:		4-5
GSC 110	The Earth System & GSC 114 and Earth Processes Lab	
GSC 111	Earth System History	
Mathematics		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
Select one semester of a computer or statistics course of the following approved classes		3-4
MSC 204	Environmental Statistics	
MTH 224	Introduction to Probability and Statistics	
CSC 120	Computer Programming I	
CSC 210	Computing for Scientists	
Physics		
Select one of the following Options:		10-11
Option 1:		
PHY 205	University Physics I	
PHY 206	University Physics II & PHY 208 and University Physics II Lab	
PHY 207	University Physics III & PHY 209 and University Physics Iii Lab	
Option 2:		
PHY 101	College Physics I & PHY 106 and College Physics Laboratory I	
PHY 102	College Physics II & PHY 108 and College Physics Laboratory II	
Electives		
Select 3 credit hours of electives to be approved by advisor		3
Total Credit Hours		107-110

¹ At least 6 of which must be at the 300-level or higher.

² MSC 465 may count as both MSC and MIC upper electives.

B.S. in Marine Science/Physics

In addition to those courses that satisfy General Education Requirements, the required courses for the undergraduate major in Marine Science/Physics are:

Marine Science		
MSC 111	Introduction to Marine Science	3
MSC 215	Chemical Oceanography	3
MSC 230	Introduction to Marine Biology	3
MSC 301	Introduction to Physical Oceanography	3
MSC 302	Introduction To Physical Oceanography Lab	1
MSC 216	Chemical Oceanography Laboratory	1
or MSC 232	Introduction to Marine Biology Laboratory	
Select 12 credit hours of electives in Marine Science ¹		12
Biology		

Select one of the following:		5
BIL 150	General Biology & BIL 151 and General Biology Laboratory	
BIL 160	Evolution and Biodiversity & BIL 161 and Evolution and Biodiversity Laboratory	
Chemistry		
CHM 111	Principles of Chemistry I	3
CHM 112	Principles of Chemistry II	3
CHM 113	Chemistry Laboratory I	1
CHM 114	Chemistry Laboratory II	1
Geological Sciences		
Select one of the following:		4-5
GSC 110	The Earth System & GSC 114 and Earth Processes Lab	
GSC 111	Earth System History	
Mathematics		
MTH 161	Calculus I	4
MTH 162	Calculus II	4
MTH 210	Introduction to Linear Algebra	3
MTH 211	Calculus III	3
or MTH 310	Multivariable Calculus	
MTH 311	Introduction to Ordinary Differential Equations	3
Select one semester of an approved computer or statistics course		3-4
Physics		
PHY 205	University Physics I	3
PHY 206	University Physics II	3
PHY 207	University Physics III	3
PHY 208	University Physics II Lab	1
PHY 209	University Physics Iii Lab	1
PHY 321	Thermodynamics and Kinetic Theory	3
PHY 340	Classical Mechanics I	3
PHY 350	Intermediate Electricity and Magnetism	3
PHY 351	Intermediate Electricity and Magnetism II	3
PHY 360	Introduction to Modern Physics	3
PHY 362	Modern Physics Honors Seminar	1
PHY 540	Classical Mechanics II	3
PHY 560	Quantum Mechanics and Modern Physics I	3
Electives		
Select 6 credit hours of electives ²		6
Total Credit Hours		102-104

¹ At least 6 of which must be at the 300-level or higher. MSC 204 does not satisfy the MSC elective requirement but does satisfy the Statistics requirement.

² Including 3 at the upper level, to be approved by advisor.

Minor in Marine Science

A minor in Marine Science requires 15 credits which must include:

MSC 111	Introduction to Marine Science	3
Select 12 credit hours of electives in Marine Science: ¹		12

MSC 210	The Dynamic Oceans
MSC 215	Chemical Oceanography
MSC 216	Chemical Oceanography Laboratory
MSC 220	Climate and Global Change
MSC 230	Introduction to Marine Biology
MSC 232	Introduction to Marine Biology Laboratory
MSC 240	Introduction To Marine Geology
MSC 264	Tropical Coastal Ecosystems
MSC 301	Introduction to Physical Oceanography
MSC 302	Introduction To Physical Oceanography Lab
MSC 307	Introduction to the physics of climate
MSC 310	Living Resources of the Ocean
MSC 316	Global Primary Production
MSC 321	Scientific Programming in the Atmospheric Sciences
MSC 323	Invertebrate Zoology
MSC 324	The Biology of Fishes
MSC 326	Marine Genomics
MSC 327	Marine Animal Neurophysiology and Behavior
MSC 333	Ocean Human Health
MSC 346	Climate Science and Policy
MSC 350	Survey of Marine Mammals
MSC 351	Physical-Biological Interaction In Ocean Ecosystems I
MSC 352	Physical-Biological Interaction In Ocean Ecosystems li
MSC 364	Life in Moving Fluids
MSC 371	Readings in Marine Science
MSC 403	Marine Environmental Toxicology
MSC 410	Marine Conservation Science
MSC 462	Marine Biomedicine
MSC 464	Marine Comparative Immunology Lab
MSC 465	Marine Comparative Immunology
MSC 466	Environmental Physiology: Oxygen, Water And Ionoregulatory Stress
Approved 500-level classes offered by the Rosenstiel School	

¹ At least 6 of which must be at the 300-level or higher.

Students majoring in the School of Marine and Atmospheric Science should replace MSC 111 with an additional elective, and all electives must be above and beyond those used for the major. The Marine Science minor fulfills the requirements of a STEM cognate. Only those courses passed with a grade of "C-" or higher may be applied to the major or minor.

Music

<http://www.music.miami.edu>

Phillip and Patricia Frost School of Music Introduction

The University of Miami Frost School of Music awards three undergraduate degrees with major programs in twelve areas.

- Bachelor of Music
 - Instrumental Performance
 - Keyboard Performance
 - Vocal Performance
 - Studio Jazz Instrumental
 - Studio Jazz Vocal
 - Music Education with a minor in Education
 - Music Therapy with a minor in Psychology
 - Theory and Composition
 - Media Writing and Production
 - Music Business and Entertainment Industries with a minor in Business or Communication
- Bachelor of Science
 - Music Engineering
- Bachelor of Arts
 - Music

Mission

The Frost School of Music seeks to transform lives through the study and performance of music, and to enhance music's future as the result of the most innovative and relevant curricula in higher education. The Frost School of Music is devoted to excellence and a culture of collegiality, in which a diversity of people, musical styles, and careers are valued. The Frost School of Music is a community of musicians committed to advanced musicianship for all Frost students across a broad array of majors and programs. The Frost School of Music seeks to elevate the community through intensive, sustained outreach to underserved populations. The Frost School of music strives to enhance the cultural richness of the University of Miami, South Florida and throughout the world as the result of world class performance, scholarship and research.

Accreditation

The Frost School of Music has been a member of the National Association of Schools of Music since 1939. The requirements for entrance and for graduation as set forth in this bulletin are in accordance with the principles of this association.

Goals

The primary goals are:

1. to provide music majors with a high quality education,
2. to provide opportunities for other university students to increase their musical skill, understanding, and appreciation,
3. to provide the music faculty with opportunities for creative activity and scholarly inquiry, and

4. to serve as an educational and cultural resource for the university, South Florida, and global communities.

Performing Ensembles

Ensembles provide music learning and performing experience for all students on the University of Miami campus through rehearsals and public concerts. Membership in each of these performing ensembles is based on auditions. Not all ensembles meet degree requirements. Follow ensemble policies as indicated in the Frost School of Music student handbook. Please refer to the course catalog for a complete list of all ensembles.

Instrumental Ensembles

- Accompanying
- American Music Ensemble (Songwriters)
- Avant Garde Ensemble
- "Band of the Hour" Marching Band
- Bluegrass Ensemble
- Blues Ensemble
- Brass Chamber Music
- Brass Choir
- Clarinet Choir
- Classical Guitar Ensemble
- Concert Jazz Band
- Contemporary Music Ensemble
- E.C.M. Ensemble
- Electronic Music Ensemble
- Flute Choir
- Funk/Fusion Ensemble
- Horace Silver Ensemble
- Jazz Band III
- Jazz Bass Ensemble
- Jazz Guitar Ensemble
- Jazz Keyboard Ensemble
- Jazz Saxophone Ensemble
- Laptop Ensemble
- Mallet Ensemble
- Monk/Mingus Ensemble
- Percussion Chamber Music
- Rock Ensemble
- Salsa Ensemble
- Saxophone Ensemble
- Small Jazz Ensembles
- String-Keyboard Chamber Music
- Studio Jazz Band
- Studio Rhythm Section
- Symphonic Winds
- Symphony Orchestra
- Synthesizer Ensemble
- The Other Music Ensemble
- Trombone Choir
- Tuba Ensemble

- University Band
- Wind Ensemble
- Woodwind Chamber Music

Vocal Ensembles

- Chamber Singers
- Jazz Vocal I-III
- Men's Chorale - Maelstrom
- Musical Theatre Workshop
- Opera Theater
- Symphonic Choir
- University Chorale
- Women's Chorale - Cantilena

Music for Non-Music Degree Students

Select music courses are available to students not enrolled in a music degree program. Pre-college students, matriculating University of Miami students, and interested community adults may enroll in these courses. Students who are not currently enrolled at the University of Miami but who wish to pursue courses will need to apply as a special student through the Frost School of Music Office of Admission. A list of courses is available at <http://www.miami.edu/frost/index.php/frost/students/>.

Non-music majors who wish to enroll in lessons are required to audition and may, with the permission of the appropriate faculty member and the undergraduate or graduate dean, register for one or two credit hours a semester upon payment of tuition and an applied music fee of \$300.00 per credit hour. Lessons by non-music majors are subject to teacher availability.

Academic Policies

Requirements for Admission to the Frost School of Music

Students admitted to the Frost School of Music must successfully complete a dual admission process. In addition to the general requirements for admission to the University, the undergraduate student must meet the following requirements of the Frost School of Music:

1. Submit a Frost School of Music Application to the Frost School of Music Admission Office.
2. Submit an Application for Undergraduate Study to the University Office of Undergraduate Admission.
3. Demonstrate performance proficiency by auditioning on campus, at designated regional audition centers, or by recording. Appropriate faculty committees will evaluate the audition.
4. After being admitted to the university each student will be required to participate in placement auditions and exams in theory and music performance. These examinations will be given immediately prior to the fall semester.
5. Transfer students who are admitted to the university will receive a tentative evaluation of their previous work from the office of Admission. Validation of credit hours in music will be based on the results of auditions and placement examinations discussed above. The Associate Dean for Undergraduate Studies of the Frost School

of Music determines which transferred courses will meet specific requirements for graduation.

6. Admission is granted in Fall semesters only.

Students who are admitted to the Frost School of Music must begin a program of specialized requirements in music during their first semester.

Admission to the University (Undergraduate Students)

Application forms and bulletins for undergraduate students may be secured from the University of Miami web site at www.miami.edu. The University Office of Admission receives and processes all undergraduate applications, evaluates credentials, and mails letters of acceptance to applicants who qualify for entrance. Because of the university's selective admissions policy and limited enrollment only those applicants are accepted who present evidence of intellectual promise, unusual talent and potential, and strong personal qualifications. Admission as a transfer student requires a 3.0 grade point average from the previous institution. The University Office of Admission and the Frost School of Music determine admission to the university. Prospective students should make formal application for admission in the fall of the senior year in high school. The Frost School of Music participates in the Early Action and Regular Decision programs.

Placement Tests

Upon entering the Frost School of Music, students must demonstrate, through placement auditions, college-level performance on their instrument and in music theory. Results of placement tests will enable music advisors to assist students in selecting the appropriate program and level of study.

Audit

Students are not permitted to audit music courses.

Lessons

The study of a musical instrument or voice, in private lessons or group lessons, requires an audition. Frost School of Music students are classified as "majors" or "principals." A performance "major" aspires to a professional career in music performance. A "principal" aspires to develop their music performance skills to the fullest extent possible in a music degree other than performance.

There are five levels of undergraduate and graduate lessons.

- Level 1 - undergraduate freshman and sophomore, typically four semesters
- Level 3 - undergraduate junior and senior, typically four semesters
- Level 5 - graduate artist's diploma
- Level 6 - graduate masters
- Level 7 - graduate doctoral

Transfer students enroll in Level 1 for the first semester and are placed at an appropriate classification level of study based on the results of the jury at the end of each semester.

Credit for Lessons

The number of credit hours awarded for lessons is determined by the student's curriculum. Students enrolled for 2 credit hours of lessons are required to perform a jury at the end of each semester.

Jury

The purpose of the jury is to evaluate student musicianship and technical progress. Students enrolled for 2 credit hours of lessons are required to play a jury before a panel of performance faculty at the end of each semester. Juries are held during Reading Days. Students perform technical requirements and repertoire as assigned by their lesson teacher.

The lesson teacher prepares a jury sheet that lists the repertoire covered during the semester and the studio grade for each student. The grade is recorded on the jury sheet and placed in the student's file. The final grade may be determined in part by studio class participation, recital attendance, or other requirements specific to the student's program of study.

Lessons: Warning, Probation and Dismissal

The following applies to all majors and programs in the Frost School of Music:

Students earning a grade of "C+" or lower in lessons will be placed on probation for one semester. Following probation, an additional grade of C+ or lower in lessons will result in dismissal from the Frost School of Music. Courses may not be dropped during the second enrollment.

Students Who Fail to Successfully Complete a Music Course

Students who fail to successfully complete any music course, including zero credit forums, after the second enrollment will be dismissed from the Frost School. Courses may not be dropped during the second enrollment.

Forums

Students must successfully complete a program forum each semester in residence. Program forums (which are zero credit) are degree requirements. Students must successfully complete the required number of program forums to graduate.

Summer Lessons

During each of the five-week summer sessions, students may register for one credit hour and receive a one-hour lesson per week. Summer lessons do not fulfill degree requirements.

Special Fees

Students studying a secondary instrument beyond the required four semesters of secondary piano will be assessed a per-credit hour fee and must have the approval of the undergraduate dean and program director or department chair. Students who require an accompanist may be assessed an accompanying fee.

Non Music or Free Electives

Non-music or free electives may be chosen from any courses offered by the university except ESS courses numbered below 140.

Dual Degrees

Dual degrees have more stringent requirements than "double majors." The only courses that may count for both degrees are the general education requirements (ENG 105 and ENG 106, Math, People and Society cognate, and STEM cognate). For each degree a student must have a different major and minor, if a minor is required. The major for one degree may not be a minor for the other degree.

Graduation Requirements

The general requirements for graduation from the University of Miami are described in the General Information (p. 13) section of the Academic Bulletin. These general requirements are included in the list of requirements for majors in the Frost School of Music. The student should consult regularly with his/her advisor and review the Degree Progress Report available in CaneLink under Academic Requirements. The Degree Progress Report is a tool to help evaluate if academic requirements are being met. The Dean must approve changes or deviations from the printed requirements in writing. Students must satisfy all degree requirements in order to graduate. Degree requirements may be satisfied by successfully completing a course, an approved substitution for the course, an approved transfer course, or waiver from the course as a result of demonstrating the required competency through testing.

Degree Programs

- Bachelor of Music
 - Instrumental Performance (MIP) (p. 301)
 - Keyboard Performance (MKP) (p. 304)
 - Vocal Performance (MVP) (p. 336)
 - Studio Jazz Instrumental (MSJI) (p. 325)
 - Studio Jazz Vocal (MSJV) (p. 325)
 - Music Education with a minor in Education (MED) (p. 310)
 - Music Therapy with a minor in Psychology (MTY) (p. 310)
 - Theory and Composition (MTC) (p. 320)
 - Media Writing and Production (MWP) (p. 320)
 - Music Business and Entertainment Industries (MBEI) (p. 306)
- Bachelor of Science
 - Music Engineering (MUE) (p. 317)
- Bachelor of Arts
 - Music (MUS) (p. 298)

Bachelor of Arts in Music (MUS)

Dept. Code: MCY

Undergraduate students who are interested in musicology, music history or ethnomusicology are encouraged to enroll in the Bachelor of Arts in Music degree, through which they can pursue these and related subjects within a liberal arts music curriculum. There is no undergraduate degree in musicology.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in

evaluated and revised writing, speaking, stage presence, and audience engagement.

All BA in Music students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MCY or MTC 300+ Elective, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MCY or MTC 300+ Elective, required by your major which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors

Major in Musicology

- B.A.M. Bachelor of Arts in Music (p. 300)

Plan of Study

If a discrepancy exists between the Academic Bulletin and the Plan of Study, the Academic Bulletin course list takes precedence.

Bachelor of Arts in Music (MUS) -Plan of Study

Year One		
Fall		Credit Hours
MCY 7	B.A. in Music Forum	0
MXX XX1 (Level 1) Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 140 Experiential Musicianship I		3
MTC/MSJ/MMI 107 Skills Lab I		1
MKP 140	Keyboard Studies I	1
MCY 140	Experiencing Music	3
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
Ensemble		1
Term Credit Hours:		14
Total Credit Hours:		14

Year One		
Spring		Credit Hours
MCY 7	B.A. in Music Forum	0
MXX XX1 (Level 1) Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 141 Experiential Musicianship		3
MTC/MSJ/MMI 108 Skills Lab I		1
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3

Ensemble	1
Term Credit Hours:	14
Total Credit Hours:	14

Year Two		
Fall		Credit Hours
MCY 7	B.A. in Music Forum	0
MXX XX1 (Level 1) Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 240 Experiential Musicianship		3
MTC/MSJ/MMI 207 Skills Lab III		1
MMI 250	Essential Technologies For Musicians	3
Minor-Non Music		3
People & Society Cognate		3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Spring		Credit Hours
MCY 7	B.A. in Music Forum	0
MXX XX1 (Level 1) Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 241 Experiential Musicianship IV		3
MTC/MSJ/MMI 208 Skills Lab IV		1
Minor-Non Music		3
Arts Elective Non-Music		3
STEM Cognate		3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Fall		Credit Hours
MCY 7	B.A. in Music Forum	0
MXX XX3 (Level 3) Principal Instrument/Voice Lesson & Studio Class		2
Minor-Non Music		3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
Foreign Language		3
People & Society Cognate		3
Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Three		
Spring		Credit Hours
MCY 7	B.A. in Music Forum	0

MXX XX3 (Level 3) Principal Instrument/Voice Lesson & Studio Class	2
MCY 342 Music of the Classical, Romantic, and Modern Periods	3
Minor-Non Music	3
Foreign Language	3
STEM Cognate	3
Ensemble	1
Term Credit Hours:	15
Total Credit Hours:	15

Year Four		Credit Hours
Fall		
MCY 7 B.A. in Music Forum	0	
MXX XX3 (Level 3) Principal Instrument/Voice Lesson & Studio Class	2	
MMI 310 Music Business and Entrepreneurship	3	
Minor-Non Music	3	
Humanities	3	
People & Society Cognate	3	
Ensemble	1	
Term Credit Hours:	15	
Total Credit Hours:	15	

Year Four		Credit Hours
Spring		
MCY 7 B.A. in Music Forum	0	
MXX XX3 (Level 3) Principal Instrument/Voice Lesson & Studio Class	2	
MCY/MTC 300+ Elective (AWC)	3	
Arts Elective Non-Music	3	
Humanities	3	
STEM Cognate	3	
Ensemble	1	
Term Credit Hours:	15	
Total Credit Hours:	15	

B.A.M. Bachelor of Arts in Music

Introduction

The Bachelor of Arts in Music degree is a non-professional degree designed for talented musicians who wish to pursue a broad liberal arts education. Curriculum flexibility affords students the opportunity for a variety of pre-professional studies, including premedical and pre-legal. A minor outside the Frost School of Music is required. Students in the BA in Music program must earn a minimum 2.5 GPA each semester to remain in the program.

The mission of the Bachelor of Arts in Music is to provide students with the highest quality education possible in music, a broad education in the liberal arts, and in-depth study in an academic area outside of the Frost School of Music.

Please see below for additional goals and degree requirements.

Degree Requirements

General Education Courses MUS		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate (a STEM minor will satisfy this cognate)	9
PS_XXXX	People & Society Cognate (a P&S minor will satisfy this cognate)	9
UMX 100	The University Of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) See details below.	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MUS ¹		
MCY 7	B.A. in Music Forum (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC/MSJ/ MMI 140	Experiential Musicianship I	3
MTC/MSJ/ MMI 141	Experiential Musicianship II	3
MTC/MSJ/ MMI 240	Experiential Musicianship III	3
MTC/MSJ/ MMI 241	Experiential Musicianship IV	3
MTC/MSJ/ MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/ MMI 140)	1
MTC/MSJ/ MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/ MMI 141)	1
MTC/MSJ/ MMI 207	Skills Lab III (co-requisite MTC 240/MSJ 240/ MMI 240)	1
MTC/MSJ/ MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/ MMI 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MUS Major with Required Minor		
	Ensembles (semesters 7-8, 1 credit hour)	2
MXX XX3	(Level 3) Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
MCY 342	Music of the Classical, Romantic, and Modern Periods	3

MCY/MTC 300+	Elective (AWC)	3
	Arts Elective non-music	3
	Arts Elective non-music	3
	Humanities Elective non-music	3
	Humanities Elective non-music	3
	Foreign Language	3
	Foreign Language	3
	Minor non-music	3
	Minor non-music	3
	Minor non-music	3
	Minor non-music	3
	Minor non-music	3
	Minor non-music	3
Total credits for courses in the major = 45		
Total Credit Hours		120

¹ EMC core courses require a grade of "C" or higher.

Educational Objectives

- Students will acquire a thorough knowledge of music theory and music history, and develop advanced competence in musical performance.
- They will develop the ability to think, speak, and write clearly with the capacity to explain and defend their views effectively and rationally based on substantive knowledge of the liberal arts.
- The student will acquire competency in a selected non-music academic area that includes a broad understanding of the area and contemporary thought within the area.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All BA in Music students will successfully complete:

1. MCY 341, which will include substantial evaluated and revised writing components.
2. MCY or MTC 300+, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MCY or MTC 300+, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Instrumental Performance (MIP)

Dept. Code: MIP

The Department of Instrumental Performance offers a bachelor of music performance degree in 17 traditional instruments: flute, oboe, clarinet, saxophone, bassoon, horn, trumpet, trombone, euphonium, tuba, percussion, violin, viola, violoncello, double bass, guitar, and harp.

Bachelor of Music: Instrumental Performance (MIP)

The purpose of the Bachelor of Music in Performance Degree is to

1. Provide the highest quality of education possible in the areas of musicianship that will lead toward a professional performance career or graduate study as a classical artist.
2. To provide performance opportunities that integrate the skills learned in music and other classes and to foster creativity and research.
3. To provide audition skills and repertoire as well as the skills for building and managing the non-performance aspects of a professional career.

Educational Objectives

- Students will develop musicianship skills and technique that will lead toward a professional career as a solo classical performer or graduate study.
- Students will be able to sight-read and prepare musical performances without assistance.
- Students will develop musicianship skills and technique for working within an ensemble leading towards a professional career or graduate study as a classical performer. Ensemble requirements will vary by applied area.
- Students will develop skills for fostering a professional career or graduate study as a classical performer.
- Students will have a broad knowledge of music literature in their applied area as well as an understanding of stylistic and theoretical principles of the various musical and historical periods.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All instrumental performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. , MIP XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MIP 541-549 Pedagogy and Repertoire, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors**Major in Instrumental Performance**

- B.M. in Instrumental Performance (MIP) degree requirements (p. 303)

Plan of Study

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list takes precedence.

Instrumental Performance (MIP) - Plan of Study

Year One		
Fall		Credit Hours
MIP Program Forum 1, 2, 5, 7, or 9		
MIP Principal Instrument Lesson & Studio Class		2
MTC 140	Experiential Musicianship I	4
& MTC 107	and Skills Lab I	
MKP 140	Keyboard Studies I	1
MCY 140	Experiencing Music	3
ENG 105	English Composition I	3
Large Ensemble		1
Chamber Ensemble		1
UMX 100	The University Of Miami Experience	0
Term Credit Hours:		15
Total Credit Hours:		15

Year One		
Spring		Credit Hours
MIP Program Forum 1, 2, 5, 7, or 9		
MIP Principal Instrument Lesson & Studio Class		2
MTC 141	Experiential Musicianship II	4
& MTC 108	and Skills Lab II	
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Large Ensemble		1
Chamber Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Two		
Fall		Credit Hours
MIP Program Forum 1, 2, 5, 7, or 9		
MIP Principal Instrument Lesson & Studio Class		2
MTC 240	Experiential Musicianship III	4
& MTC 207	and Skills Lab III	
MKP 240	Keyboard Studies III	2
People & Society Cognate		3

STEM Cognate	3
Large Ensemble	1
Chamber Ensemble	1
Term Credit Hours:	16
Total Credit Hours:	16

Year Two		
Spring		Credit Hours
MIP Program Forum 1, 2, 5, 7, or 9		
MIP Principal Instrument Lesson & Studio Class		2
MTC 241	Experiential Musicianship IV	4
& MTC 208	and Skills Lab IV	
MKP 241	Keyboard Studies IV	2
People & Society Cognate		3
STEM Cognate		3
Large Ensemble		1
Chamber Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Fall		Credit Hours
MIP Program Forum 1, 2, 5, 7, or 9		
MIP Principal Instrument Lesson & Studio Class		2
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MIP 307	Skills Lab V: Classical Improvisation	2
MMI 250	Essential Technologies For Musicians	3
MTC 313	18th Century Counterpoint	3
Large Ensemble		1
Chamber Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Three		
Spring		Credit Hours
MIP Program Forum 1, 2, 5, 7, or 9		
MIP Principal Instrument Lesson & Studio Class		2
Junior Recital (with Lesson)		
MIP 308	Skills Lab VI: Composition as Applied Improvisation	2
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MTC 312	20th And 21st Century Techniques	3
STEM Cognate		3
Large Ensemble		1
Chamber Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Fall		Credit Hours
MIP Program Forum 1, 2, 5, 7, or 9		
MIP Principal Instrument Lesson & Studio Class		2
MIP 407	Skills Lab VII: Basic Conducting/ Arranging	2
MMI 310	Music Business and Entrepreneurship	3
MTC 416	Orchestration	3
Non-Music Elective		3
Large Ensemble		1
Chamber Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Spring		Credit Hours
MIP Program Forum 1, 2, 5, 7, or 9		
Principal Instrument Lesson & Studio Class		2
Senior Recital (with Lesson) AWC		
MIP 408	Skills Lab VIII: Culminating Project	2
Select 1 from the following:		2
MIP 541	Bassoon Repertoire and Pedagogy (AWC)	
MIP 542	Clarinet Repertoire and Pedagogy (AWC)	
MIP 543	Flute Repertoire and Pedagogy (AWC)	
MIP 544	Oboe Repertoire and Pedagogy (AWC)	
MIP 545	Brass Repertoire and Pedagogy (AWC)	
MIP 546	Percussion Repertoire and Pedagogy (AWC)	
MIP 547	Saxophone Repertoire and Pedagogy (AWC)	
MIP 548	Guitar Repertoire and Pedagogy (AWC)	
MIP 549	String Repertoire and Pedagogy (AWC)	
MTC 311	Analysis and Experience	3
People & Society Cognate		3
Large Ensemble		1
Chamber Ensemble		1
Term Credit Hours:		14
Total Credit Hours:		14

B.M. in Instrumental Performance

Degree Requirements

General Education Courses MIP		
ENG 105	English Composition I	3

ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University Of Miami Experience	0
Advanced Writing and Communication Skills (3 courses) see description below		
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MIP¹		
Complete 8 semesters of one of the following:		
MIP 1	Brass Forum	0
MIP 2	Guitar Forum	0
MIP 5	Percussion Forum	0
MIP 7	String Forum	0
MIP 9	Woodwind Forum	0
MIP XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MIP XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
MIP XXX	Large Ensembles (3 semesters of 1 credit hour)	3
MIP XXX	Chamber Ensembles (3 semesters of 1 credit hour)	3
Courses in the MIP Major		
MIP XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
Junior & Senior recitals with lesson		
MIP XXX	Large Ensembles (5 semesters of 1 credit hour)	5
MIP XXX	Chamber Ensembles (5 semesters of 1 credit hour)	5
MIP 307	Skills Lab V: Classical Improvisation	2
MIP 308	Skills Lab VI: Composition as Applied Improvisation	2
MIP 407	Skills Lab VII: Basic Conducting/Arranging	2
MIP 408	Skills Lab VIII: Culminating Project	2
MKP 240	Keyboard Studies III	2
MKP 241	Keyboard Studies IV	2
MTC 311	Analysis and Experience	3

MTC 312	20th And 21st Century Techniques	3
MTC 313	18th Century Counterpoint	3
MTC 416	Orchestration	3
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
Complete exactly one of the following:		2
MIP 541	Bassoon Repertoire and Pedagogy (AWC)	
MIP 542	Clarinet Repertoire and Pedagogy (AWC)	
MIP 543	Flute Repertoire and Pedagogy (AWC)	
MIP 544	Oboe Repertoire and Pedagogy (AWC)	
MIP 545	Brass Repertoire and Pedagogy (AWC)	
MIP 546	Percussion Repertoire and Pedagogy (AWC)	
MIP 547	Saxophone Repertoire and Pedagogy (AWC)	
MIP 548	Guitar Repertoire and Pedagogy (AWC)	
MIP 549	String Repertoire and Pedagogy (AWC)	
Non-Music Elective		3
Total Credit Hours		121

¹ EMC core courses require a grade of "C" or higher.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Instrumental Performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MIP XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MIP 541-549 Pedagogy and Repertoire, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Keyboard Performance (MKP)

Dept. Code: MKP

The Department of Keyboard Performance offers a bachelor of music performance degree in piano.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements

will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All keyboard performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MKP XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MKP 547 Keyboard Pedagogy, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors

Major in Keyboard Performance

- B.M. in Keyboard Performance (p. 306)

Plan of Study

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list take precedence.

Keyboard Performance (MKP) - Plan of Study

Year One		
Fall		Credit Hours
MKP 6	Piano Forum	0
MKP PI1	Piano (Lesson & Studio Class)	2
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 189, 190, or 191	Accompanying, Level I or Accompanying, Level II or Accompanying, Level III	1
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
Ensemble		1
Term Credit Hours:		14
Total Credit Hours:		14

Year One		
Spring		Credit Hours
MKP 6	Piano Forum	0
MKP PI1	Piano (Lesson & Studio Class)	2
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MKP 189, 190, or 191	Accompanying, Level I or Accompanying, Level II or Accompanying, Level III	1

ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Ensemble		1
Term Credit Hours:		14
Total Credit Hours:		14

Year Two		
		Credit Hours
Fall		
MKP 6	Piano Forum	0
MKP PI1	Piano (Lesson & Studio Class)	2
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MKP 189, 190, or 191	Accompanying, Level I or Accompanying, Level II or Accompanying, Level III	1
MMI 250	Essential Technologies For Musicians	3
People & Society Cognate		3
STEM Cognate		3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		
		Credit Hours
Spring		
MKP 6	Piano Forum	0
MKP PI1	Piano (Lesson & Studio Class)	2
MKP 189, 190, or 191	Accompanying, Level I or Accompanying, Level II or Accompanying, Level III	1
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
People & Society Cognate		3
STEM Cognate		3
Ensemble		1
Term Credit Hours:		14
Total Credit Hours:		14

Year Three		
		Credit Hours
Fall		
MKP 6	Piano Forum	0
MKP PI3	Piano (Lesson & Studio Class)	2
MKP 189, 190, or 191	Accompanying, Level I or Accompanying, Level II or Accompanying, Level III	1
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MKP 547	Keyboard Pedagogy (AWC)	3
MIP 307	Skills Lab V: Classical Improvisation	2
MTC 313	18th Century Counterpoint	3

Ensemble	1
Term Credit Hours:	15
Total Credit Hours:	15

Year Three		
		Credit Hours
Spring		
MKP 6	Piano Forum	0
MKP PI3	Piano (Lesson & Studio Class)	2
Junior Recital (with Lesson)		
MKP 189, 190, or 191	Accompanying, Level I or Accompanying, Level II or Accompanying, Level III	1
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MIP 308	Skills Lab VI: Composition as Applied Improvisation	2
MTC 312	20th And 21st Century Techniques	3
STEM Cognate		3
Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
		Credit Hours
Fall		
MKP 6	Piano Forum	0
MKP PI3	Piano (Lesson & Studio Class)	2
MKP 189, 190, or 191	Accompanying, Level I or Accompanying, Level II or Accompanying, Level III	1
MCY 526	Keyboard Literature I	3
MCY Elective		3
MMI 310	Music Business and Entrepreneurship	3
MTC 416	Orchestration	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Four		
		Credit Hours
Spring		
MKP 6	Piano Forum	0
MKP PI3	Piano (Lesson & Studio Class)	2
MKP 189, 190, or 191	Accompanying, Level I or Accompanying, Level II or Accompanying, Level III	1
Senior Recital (with Lesson) AWC		
MTC 311	Analysis and Experience	3
Elective		3
Elective		3
People & Society Cognate		3

Ensemble	1
Term Credit Hours:	16
Total Credit Hours:	16

B.M. in Keyboard Performance

Degree Requirements

General Education Courses MKP		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University Of Miami Experience	0
Total General Education credits = 27		
Advanced Writing and Communication Skills (3 courses) see details below		
Experiential Music Curriculum Core Courses MKP ¹		
MKP 6	Piano Forum (8 semesters)	0
MKP PI1	Piano Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MKP PI3	Piano Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I (waived for piano majors and principals)	
MKP 141	Keyboard Studies II (waived for piano majors and principals)	
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 46		
Courses in the MKP Major		
	Ensembles (semesters 7-8, 1 credit hour)	2
MKP PI3 (Level 3)	Piano Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
	Junior & Senior recitals with lesson	
Complete from the following courses 8 semesters of 1 credit hour:		
MKP 189	Accompanying, Level I	
MKP 190	Accompanying, Level II	
MKP 191	Accompanying, Level III	

MIP 307	Skills Lab V: Classical Improvisation	2
MIP 308	Skills Lab VI: Composition as Applied Improvisation	2
MTC 311	Analysis and Experience	3
MTC 312	20th And 21st Century Techniques	3
MTC 313	18th Century Counterpoint	3
MTC 416	Orchestration	3
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MCY 526	Keyboard Literature I	3
MKP 547	Keyboard Pedagogy (AWC)	3
MCY XXX	Elective	3
	Electives	6
Total credits for courses in the major = 48		
Total Credit Hours		121

¹ EMC core courses require a grade of "C" or higher.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All keyboard performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MKP XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MKP 547 Keyboard Pedagogy, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Music Business Entertainment Industries (MBEI)

Dept. Code: MMI

The Department of Music Media and Industry includes two programs:

- Music Engineering Technology
- Music Business Entertainment Industries

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. a Senior recital or culminating project, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue. MBEI take MMI 537 Recorded Music Operations, MUE take MMI 410 Music Engineering Capstone Project.
3. one required course in their major which will include discipline specific communication skills. MBEI take ENG 230 Advanced Business Communication or COS 333 Business Communication, or ENG 331 Legal Writing. MUE take MMI 401 Audio Electronics.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors

Major in Music Media and Industry

- B.M. in Music Business Entertainment Industries with a Required Minor in Business, Communications, or Entertainment (p. 309)

Plan of Study

If a discrepancy exists between the Academic Bulletin and the Plan of Study, the Academic Bulletin course list takes precedence.

Music Business & Entertainment Industries (MBEI) - Plan of Study

Year One		
Fall		Credit Hours
MMI 14	Music Industry Forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC/MSJ/MMI 140 Experiential Musicianship I	3
	MTC/MSJ/MMI 107 Skills Lab I	1
	MCY 140 Experiencing Music	3
	MKP 140 Keyboard Studies I	1
	ENG 105 English Composition I	3
	UMX 100 The University Of Miami Experience	0
	Ensemble	1
Term Credit Hours:		14
Total Credit Hours:		14

Year One		
Spring		Credit Hours
MMI 14	Music Industry Forum	0
	Principal Instrument/Voice Lesson & Studio Class	2

MTC/MSJ/MMI 141 Experiential Musicianship II		3
MTC/MSJ/MMI 108 Skills Lab II		1
MCY 141	Musical Traditions (AWC)	3
MKP 141	Keyboard Studies II	1
MMI 173	Multinational Recorded Music Industry	3
ENG 106	English Composition II	3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		
Fall		Credit Hours
MMI 14	Music Industry Forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC/MSJ/MMI 240 Experiential Musicianship III	3
	MTC/MSJ/MMI 207 Skills Lab III	1
	MMI 274 Introduction to Music Copyright Law	3
	Business Elective	3
	MTH 113 Finite Mathematics	3
	Ensemble	1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Spring		Credit Hours
MMI 14	Music Industry Forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC/MSJ/MMI 241 Experiential Musicianship IV	3
	MTC/MSJ/MMI 208 Skills Lab IV	1
	MMI 250 Essential Technologies For Musicians	3
	MMI 273 Artist Development and the Live Entertainment Industry	3
	Elective	3
	Ensemble	1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Fall		Credit Hours
MMI 14	Music Industry Forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC or MCY Elective 300 level +	3
	MMI 378 Entertainment Industry Contract Basics.	3
	Minor Course (P&S Cognate)	3
	STEM Cognate	3

Ensemble	1
Term Credit Hours:	15
Total Credit Hours:	15

Year Three		Credit Hours
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		
MMI 537	Recorded Music Operations (AWC)	3
MMI 573	International Music Publishing	3
Select one of the following Advanced Writing Communication courses:		
ENG 230, COS 333, or ENG 331	Advanced Business Communication or Business Communication or Legal Writing	3
Minor Course (P&S Cognate)		3
Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		Credit Hours
Fall		
MMI 14	Music Industry Forum	0
MMI Elective		3
Elective		3
Business Elective		3
Minor Course (P&S Cognate)		3
STEM Cognate		3
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		Credit Hours
Spring		
MMI 14	Music Industry Forum	0
Elective		3
MMI Elective		3
Minor Course (P&S Cognate) or Elective		3
STEM Cognate		3
Term Credit Hours:		12
Total Credit Hours:		12

Music Business & Entertainment Industries w/Creative American Music Minor (CAM) -Plan of Study

Year One		Credit Hours
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		
MTC/MSJ/MMI 140	Experiential Musicianship I	3
MTC/MSJ/MMI 107	Skills Lab I	1
MCY 140	Experiencing Music	3

MKP 140	Keyboard Studies I	1
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
Ensemble		1
Term Credit Hours:		14
Total Credit Hours:		14

Year One		Credit Hours
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		
MTC/MSJ/MMI 141	Experiential Musicianship II	3
MTC/MSJ/MMI 108	Skills Lab II	1
MCY 141	Musical Traditions (AWC)	3
MKP 141	Keyboard Studies II	1
MMI 173	Multinational Recorded Music Industry	3
ENG 106	English Composition II	3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		Credit Hours
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		
MTC/MSJ/MMI 240	Experiential Musicianship III	3
MTC/MSJ/MMI 207	Skills Lab III	1
MCY 221	Anglo-American Song Traditions	3
MMI 274	Introduction to Music Copyright Law	3
MTH 113	Finite Mathematics	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		Credit Hours
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		
MTC/MSJ/MMI 241	Experiential Musicianship IV	3
MTC/MSJ/MMI 208	Skills Lab IV	1
MCY 222	African-American Song Traditions	3
MMI 250	Essential Technologies For Musicians	3
MMI 273	Artist Development and the Live Entertainment Industry	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		Credit Hours
Fall		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 307	Skills Lab V: American Pop	1
MMI 320	Contemporary Lyric Writing	3
MMI 378	Entertainment Industry Contract Basics.	3
Minor Course (P&S Cognate) or Elective		3
STEM Cognate		3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		Credit Hours
Spring		
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 308	Skills Lab VI: American Pop	1
MMI 537	Recorded Music Operations (AWC)	3
MMI 573	International Music Publishing	3
Select one of the following Advanced Writing Communication courses:		
ENG 230, COS 333, or ENG 331	Advanced Business Communication or Business Communication or Legal Writing	3
Minor Course (P&S Cognate)		3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Four		Credit Hours
Fall		
MMI 14	Music Industry Forum	0
M CY 311	Modern American Pop Music	3
Business Elective		3
Minor Course (P&S Cognate)		3
STEM Cognate		3
Term Credit Hours:		12
Total Credit Hours:		12

Year Four		Credit Hours
Spring		
MMI 14	Music Industry Forum	0
MMI 445	Senior Project/Portfolio	1
Elective		3
Business Elective		3
Minor Course (P&S Cognate)		3
STEM Cognate		3
Term Credit Hours:		13
Total Credit Hours:		13

B.M. in Music Business Entertainment Industries with a Required Minor in Business, Communications, or Entertainment

Introduction

The Bachelor of Music in Music Business and Entertainment Industries is a professional degree program designed to prepare qualified musicians for careers in the business management, financial, legal, and artistic areas of the music industry. Music, business, and music business courses are combined in an interdisciplinary curriculum, which includes a minor in Marketing, Legal Studies, Business Administration, Management, Finance, Computer Information Systems, Public Relations, or other approved business-related area.

Students must maintain a minimum GPA of 2.70 to remain in the MBEI Program.

Please see below for additional goals and degree requirements.

Degree Requirements

General Education Courses MBEI		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate (some approved minors satisfy STEM)	9
PS_XXXX	People & Society Cognate (most approved minors satisfy P&S)	0
UMX 100	The University Of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) AWC. See details below.	0
Total General Education credits = 18		
Experiential Music Curriculum Core Courses ¹		
MMI 14	Music Industry Forum (each semester in residence)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC/MSJ/ MMI 140	Experiential Musicianship I	3
MTC/MSJ/ MMI 141	Experiential Musicianship II	3
MTC/MSJ/ MMI 240	Experiential Musicianship III	3
MTC/MSJ/ MMI 241	Experiential Musicianship IV	3
MTC/MSJ/ MMI 107	Skills Lab I	1
MTC/MSJ/ MMI 108	Skills Lab II	1
MTC/MSJ/ MMI 207	Skills Lab III	1

MTC/MSJ/ MMI 208	Skills Lab IV	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 573	International Music Publishing	3
MIP/MSJ/ MMI XXX	Ensembles (6 semesters of 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MBEI Major		
MCY/MTC 300+	Musicology or Music Theory 300+ elective	3
MMI 173	Multinational Recorded Music Industry	3
MMI 273	Artist Development and the Live Entertainment Industry	3
MMI 274	Introduction to Music Copyright Law	3
MMI 378	Entertainment Industry Contract Basics.	3
MMI 537	Recorded Music Operations	3
MMI XXX	Elective	3
MMI XXX	Elective	3
Select one of the following 3 AWC courses:		
ENG 230	Advanced Business Communication (AWC)	3
COS 333	Business Communication (AWC)	3
ENG 331	Legal Writing (AWC)	3
	Elective	3
	Elective	3
	Elective	3
	Business Elective	3
	Business Elective	3
	Minor Course	3
	Minor Course	3
	Minor Course	3
	Minor Course or Elective	3
Total credits for courses in the major = 54		
Total Credit Hours		120

¹ EMC core courses require a grade of "C" or higher.

Educational Objectives

- Students will have a conceptual understanding of the structures and inter-relationships of the music and entertainment industries.
- Students will acquire knowledge and understanding of the vocabulary and terminology associated with the music and entertainment industries.
- Students will be able to comprehend and apply basic music publishing procedures including copyright administration, mechanical licensing and royalties distribution.
- Students will know how to promote and sell a music industry product.
- Students will have an understanding of the performing artist as a major economic factor in the marketplace.

- Students will develop a set of skills applicable to the music industry including: financial and project management, create and enact marketing and promotional plans, the ability to write basic agreements and licenses, and copyright management and administration.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MMI 537 Recorded Music Operations, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. ENG 230 Advanced Business Communications, COS 333 Business Communication, or ENG 331 Legal Writing which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Music Education and Music Therapy (MED) & (MTY)

Dept. Code: MED

The Department of Music Education and Music Therapy offers two degree programs,

- music education (MED) and
- music therapy (MTY).

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

1. a required musicology course, which will include substantial evaluated and revised writing components. MED take MCY 341 Music of the Medieval, Renaissance, and Baroque Periods. MTY take MCY 141 Musical Trends and Traditions.
2. a Senior recital or culminating project, which will include evaluated communication skills in attracting an audience, engaging an audience

during performance, and preparing program notes or similar media as appropriate to the medium/venue. MED take MED 471 Internship in Music Education & MED 473 (6 credits ea.) or MED 475 Internship in Music Education (12 credits).

3. one required course in their major which will include discipline specific communication skills. MED take MED 542 Teaching General Music. MTY take MED 551 Music Therapy Research Methods.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors

Majors in Music Education and Music Therapy

- B.M. in Music Education with Minor in Education (p. 313)
- B.M. in Music Therapy with Minor in Psychology (p. 315)

Plan of Study

If a discrepancy exists between the Academic Bulletin and the Plan of Study, the Academic Bulletin course list takes precedence.

Music Education (MED) - Plan of Study

Year One		
Fall		Credit Hours
MED 15	Music Education Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MTC/MSJ/MMI 140 Experiential Musicianship I		3
MTC/MSJ/MMI 107 Skills Lab I		1
MKP 140	Keyboard Studies I	1
MCY 140	Experiencing Music	3
MED 244	Vocal Techniques	1
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
Ensemble ³		1
Term Credit Hours:		15
Total Credit Hours:		15

Year One		
Spring		Credit Hours
MED 15	Music Education Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MTC/MSJ/MMI 141 Experiential Musicianship II		3
MTC/MSJ/MMI 108 Skills Lab II		1
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MED 240, 241, 242, or 243	Woodwind Techniques or Brass Techniques or Percussion Techniques or String Techniques	1
MTH 101	Algebra for College Students	3

Ensemble ³	1
Term Credit Hours:	15
Total Credit Hours:	15

Year Two		
Fall		Credit Hours
MED 15	Music Education Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MTC/MSJ/MMI 240 Experiential Musicianship III		3
MTC/MSJ/MMI 207 Skills Lab III		1
MIP/MVP 181 Conducting I		2
TAL 103	Psychological Foundations of Education	3
TAL 305	Classroom and Behavior Management	3
TAL 306	Field Experience Seminar I	0
MED 240, 241, 242, or 243	Woodwind Techniques or Brass Techniques or Percussion Techniques or String Techniques	1
Ensemble ³		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Spring		Credit Hours
MED 15	Music Education Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MTC/MSJ/MMI 241		3
MTC/MSJ/MMI 208 Skills Lab IV		1
MED 240, 241, 242, or 243	Woodwind Techniques or Brass Techniques or Percussion Techniques or String Techniques	1
MED 245	Folk Modern Instrumental Techniques	1
MIP 182 or MVP 182	Instrumental Conducting II or Choral Conducting II	2
TAL 404	Content Area Literacy in the Secondary Classroom	3
STEM Cognate		3
Ensemble ³		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Three		
Fall		Credit Hours
MED 15	Music Education Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3

MED 240, 241, 242, or 243	Woodwind Techniques or Brass Techniques or Percussion Techniques or String Techniques	1
MED 542	Teaching General Music (K-5) (AWC)	3
MED 549	Teaching Vocal Music	3
MED Emphasis Elective		3
Ensemble ³		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Spring		Credit Hours
MED 15	Music Education Forum	0
Principal Instrument Lesson/Voice & Studio Class	Class	2
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MED 543	Teaching Instrumental Music	3
MED 544	Teaching Modern Music (7-12)	3
MED Emphasis Elective		3
STEM Cognate		3
Ensemble ³		1
Term Credit Hours:		18
Total Credit Hours:		18

Year Four		
Fall		Credit Hours
MED 15	Music Education Forum	0
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
TAL 429	Field Experience Seminar Ii	0
TAL 506	Issues and Strategies for ESOL	3
MED Emphasis Elective		3
Stem Cognate		3
Ensemble ³		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Four		
Spring		Credit Hours
MED 433	Seminar for Teaching Associates.	1
MED 471	Internship in Music Education (Elementary School) (AWC) ²	6
MED 473	Internship in Music Education (Secondary School) (AWC) ²	6
TAL 580	Seminar on Teaching	1
Term Credit Hours:		14
Total Credit Hours:		14

² MED 475 Internship in Music Education (12 credits) can be substituted for MED 471 & MED 473 (6 credits ea.) AWC

³ MIP 170 Marching Band (2 semesters required, all brass, percussion, and woodwind principals).

If a discrepancy exists between the Academic Bulletin and the Plan of Study, the Academic Bulletin course list takes precedence.

Music Therapy (MTY) - Plan of Study

Year One		
Fall		Credit Hours
MED 10	Music Therapy Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MTC/MSJ/MMI 140 Experiencing Music I		3
MTC/MSJ/MMI 107 Skills Lab I		1
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MED 159	Introduction to Music Therapy	2
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year One		
Spring		Credit Hours
MED 10	Music Therapy Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MTC/MSJ/MMI 141 Experiential Musicianship II		3
MTC/MSJ/MMI 108 Skills Ensemble II		1
MKP 141	Keyboard Studies II	1
MED 149	Functional Techniques in Music Therapy I	2
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Fall		Credit Hours
MED 10	Music Therapy Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MTC/MSJ/MMI 240 Experiential Musicianship III		3
MTC/MSJ/MMI 207 Skills Lab III		1
DAN 290	Introduction To Dance-Movement Therapy	2
MED 244 or MVP 250	Vocal Techniques or Lyric Diction For Singers -- English And Italian	1-2
MED 259	Music Therapy Pre-Practicum	2
PSY 110	Introduction to Psychology	3

Ensemble	1
Term Credit Hours:	15-16
Total Credit Hours:	15-16

Year Two		
Spring		Credit Hours
MED 10	Music Therapy Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 241	Experiential Musicianship IV	3
MTC/MSJ/MMI 208	Skills Lab IV	1
MCY 141	Musical Traditions (AWC)	3
MED 242	Percussion Techniques	1
MED 359	Music Therapy Practicum 1A	1
PSY 230	Child And Adolescent Development	3
Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Three		
Fall		Credit Hours
MED 10	Music Therapy Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MED 249	Functional Techniques in Music Therapy II	2
MED 360	Music therapy Practicum 1B	1
MED 576	Music and Development	3
STEM Cognate		3
STEM Cognate		3
Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Three		
Spring		Credit Hours
MED 10	Music Therapy Forum	0
Principal Instrument Lesson/Voice & Studio Class		2
MED 361	Music Therapy Practicum 2A	1
MED 545	Music in Rehabilitation	3
MIP 317 or 181	Basic Conducting or Instrumental Conducting I	2
MMI 250	Essential Technologies For Musicians	3
PSY 240	Abnormal Psychology	3
Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Fall		Credit Hours
MED 10	Music Therapy Forum	0
MED 362	Music Therapy Practicum 2B	1

MED 551	Music Therapy Research Methods (AWC)	3
MTC Arranging/Orchestration Elective		3
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors	3
STEM Cognate		3
Ensemble		1
Term Credit Hours:		14
Total Credit Hours:		14

Year Four		
Spring		Credit Hours
MED 10	Music Therapy Forum	0
MED 363	Music Therapy Practicum 3A (AWC)	1
MED 546	Music in Psychotherapy	3
MED 559	Internship in Music Therapy	3
MED 562	Psychology of Music I	3
MMI 310	Music Business and Entrepreneurship	3
PSY 345	Abnormal Child Psychology	3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

B.M. in Music Education with Minor in Education

Introduction

A basic premise of the Music Education program is that music teachers must be both musicians and teachers; thus, competency as a musician is equally as important as having a strong theoretical and practical foundation in music education. The instructional program prepares students for teaching all areas of the instructional specialization (e.g. choral, general, instrumental music) while allowing them to develop a specialization in a given area of music teaching through and emphasis area and internship. The theoretical and practical foundations in our series of music education techniques and methods courses incorporate ideas drawn from theory, research, and the practical experiences of the faculty and other successful practitioners.

Please see below for additional program goals and academic requirements.

Degree Requirements

General Education Courses MED		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
	People & Society Cognate satisfied with Education Minor	0
UMX 100	The University Of Miami Experience	0
Total General Education credits = 18		

	Advanced Writing and Communication Skills (3 courses) see details below	
Experiential Music Curriculum Core Courses MED¹		
MED 15	Music Education Forum (7 or each semester in residence)	0
MXX XX1	Principal Instrument Lesson & Studio Class (Level 1) (semesters 1-4, 2 credit hours)	8
MXX XX3	Principal Instrument Lesson & Studio Class (Level 3) (semesters 5-6, 2 credit hours)	4
MTC/MSJ/ MMI 140	Experiential Musicianship I	3
MTC/MSJ/ MMI 141	Experiential Musicianship II	3
MTC/MSJ/ MMI 240	Experiential Musicianship III	3
MTC/MSJ/ MMI 241	Experiential Musicianship IV	3
MTC/MSJ/ MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/ MMI 140)	1
MTC/MSJ/ MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/ MMI 141)	1
MTC/MSJ/ MMI 207	Skills Lab III (co-requisite MTC 240 /MSJ 240/ MMI 240)	1
MTC/MSJ/ MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/ MMI 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
	Ensembles (semesters 1-6, 1 credit hour)	6
MIP 170	Marching Band (2 semesters required for all brass, percussion, & woodwind principals)	
Total credits for EMC Core courses = 48		
Courses in the MED Major		
	Ensemble (semester 7, 1 credit hour)	1
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MIP/MVP 181	Instrumental Conducting I	2
MIP/MVP 182	Instrumental Conducting II	2
MED 240	Woodwind Techniques	1
MED 241	Brass Techniques	1
MED 242	Percussion Techniques	1
MED 243	String Techniques	1
MED 244	Vocal Techniques	1
or MVP 250	Lyric Diction For Singers --English And Italian	
MED 245	Folk & Modern Instrumental Techniques	1
MED 542	Teaching General Music (K-5) (AWC)	3
MED 549	Teaching Vocal Music	3
MED 543	Teaching Instrumental Music	3

MED 544	Teaching Modern Music (7-12)	3
MED 433	Seminar for Teaching Associates.	1
MED 471	Internship in Music Education (Elementary School) (AWC) ²	6
MED 473	Internship in Music Education (Secondary School) (AWC) ²	6
TAL 103	Psychological Foundations of Education (minor)	3
TAL 305	Classroom and Behavior Management (minor)	3
TAL 306	Field Experience Seminar I (minor)	0
TAL 404	Content Area Literacy in the Secondary Classroom (minor)	3
TAL 429	Field Experience Seminar II (minor)	0
TAL 506	Issues and Strategies for ESOL (minor)	3
TAL 580	Seminar on Teaching (minor)	1
	Emphasis courses (approved by advisor)	9
Total credits for courses in the major = 61		
Total Credit Hours		127

¹ MED and TAL courses require a grade of "C" or higher.

² MED 475 Internship in Music Education (12 credits) can be substituted for MED 471 & MED 473

Program Goals

- Help students develop the musical and teaching competencies necessary to enable them to demonstrate the generic and subject area competencies and the Florida Educational Accomplished Practices (FEAP) for becoming successful music teachers.
- Enable students to apply the musical and instructional skills developed in the program (and reinforced during field experience and student teaching) to teach music in a wide array of contexts.
- Help students to develop the skills and desire to continue music-making as a lifetime endeavor both personally and professionally.
- Help students develop skills in integrating information from the diverse professional literature into their teaching.

Educational Objectives

- Students must demonstrate generic competencies required by the university in general education courses.
- Students must demonstrate competencies related to the core Professional Education courses required by the State of Florida in Teaching and Learning (TAL) courses.
- Students must demonstrate musical competencies related to the requirements of the Bachelor of Music degree, including 66 credit hours in music.
- Students must demonstrate teaching competencies related to the core courses in the music education specialization, including a minimum of 32 credit hours in Music Education.

The Music Education curriculum is designed to prepare students to teach music in a wide array of contexts, including (K-12) public & private schools. All Music Education majors must perform at a high level either vocally or on an instrument. Students must successfully complete the

Florida General Knowledge Examination (FGKE) to be admitted to teacher candidacy and to graduate.

All students must develop knowledge of and performance ability on wind, string, and percussion instruments as well as, vocal skills to assure effective use of the voice in teaching.

Admission to and/or retention in the music education curriculum leading to Florida Teacher Certification requires that students be formally screened with respect to specific criteria. Following are the Requirements for Admission to Teacher Candidacy and for Admission to Associate Teaching:

Admission to Teacher Candidacy

1. Acceptance as a major in the music education program.
2. Satisfactory performance on the Florida General Knowledge Exam (FGKE).
3. Completion of 55 credit hours. (Transfer students must have at least 12 credit hours earned at the University of Miami.)
4. No grade less than a C in TAL & MED courses.
5. Required Background Check completed.

Admission to Student Teaching

1. Approval of MED faculty members.
2. Completion of 90 credit hours.
3. Completion of at least three-fourths of the courses in the teaching major, verified by advisor.
4. Completion of a C or better in all MED & TAL courses
5. Completion of pre-internship field experiences with above-average evaluations.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Music Education students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MED 471 & MED 473 Internship in Music Education (Elementary & Secondary) or MED 475 Internship in Music Education, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MED 542 Teaching General Music, one required course in their major which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

B.M. in Music Therapy with Minor in Psychology

Introduction

The music therapy program provides students with the opportunity to develop comprehensive musicianship as well as clinical knowledge and skills within a rich musical, scholarly and communicative environment. Music therapy majors must demonstrate musical proficiency, either vocally or instrumentally, and must acquire musical competency on guitar, piano, voice and percussion.

Graduates of this program are prepared for careers as professional music therapists in a variety of health care and educational settings. Furthermore, graduates are eligible to take the Board Certification Exam in music therapy, leading to the credential, Music Therapist Board Certified (MT-BC). The music therapy curriculum is approved by the American Music Therapy Association, and is based on the clinical and research paradigm known as Neurologic Music Therapy.

To remain in the Music Therapy program, students must earn a minimum 2.5 GPA each semester. Additionally, music therapy core courses must be completed with a grade of C or higher. All internship applications must include a written letter of recommendation from a music therapy faculty member.

Please see below for additional goals and degree requirements.

Degree Requirements

General Education Courses MTY		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate (should include PSY 220 and BIL 109)	9
	People & Society Cognate satisfied with Psychology Minor	0
UMX 100	The University Of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) see details below	
Total General Education credits = 18		
Experiential Music Curriculum Core Courses MTY ¹		
MED 10	Music Therapy Forum (8 semesters or each semester in residence)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC/MSJ/MMI 140	Experiential Musicianship I	3
MTC/MSJ/MMI 141	Experiential Musicianship II	3
MTC/MSJ/MMI 240	Experiential Musicianship III	3
MTC/MSJ/MMI 241	Experiential Musicianship IV	3

MTC/MSJ/ MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/ MMI 140)	1
MTC/MSJ/ MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/ MMI 141)	1
MTC/MSJ/ MMI 207	Skills Lab III (co-requisite MTC 240 /MSJ 240/ MMI 240)	1
MTC/MSJ/ MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/ MMI 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
MIP/MSJ/ MMI XXX	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MTY Major		
MIP/MSJ/ MMI XXX	Ensembles (semesters 7-8, 1 credit hour)	2
MED 159	Introduction to Music Therapy	2
MED 149	Functional Techniques in Music Therapy I	2
MED 249	Functional Techniques in Music Therapy II	2
MED 259	Music Therapy Pre-Practicum	2
MED 359	Music Therapy Practicum 1A	1
MED 360	Music therapy Practicum 1B	1
MED 361	Music Therapy Practicum 2A	1
MED 362	Music Therapy Practicum 2B	1
MED 363	Music Therapy Practicum 3A (AWC)	1
MED 242	Percussion Techniques	1
MED 244	Vocal Techniques	1
or MVP 250	Lyric Diction For Singers --English And Italian	
MED 545	Music in Rehabilitation	3
MED 546	Music in Psychotherapy	3
MED 551	Music Therapy Research Methods (AWC)	3
MED 559	Internship in Music Therapy (requires recc. letter from MTY faculty)	3
MED 562	Psychology of Music I	3
MED 576	Music and Development	3
MTC XXX	Arranging/Orchestration Elective	3
MIP 317	Basic Conducting	2
or MIP 181	Instrumental Conducting I	
DAN 290	Introduction To Dance-Movement Therapy	2
PSY 110	Introduction to Psychology (minor)	3
PSY 230	Child And Adolescent Development (minor)	3
PSY 240	Abnormal Psychology (minor)	3
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors (minor)	3
PSY 345	Abnormal Child Psychology (minor)	3
Total credits for courses in the major = 57		
Total Credit Hours		123

¹ *MED courses require a grade of "C" or higher.*

Educational Objectives

The music therapy program is designed to address three primary objectives:

- Comprehensive musicianship: through intensive music study and performance experiences, students will articulate knowledge of music structure and style, produce aesthetically pleasing musical performances, and modify music for specific contexts.
- Knowledge of human behavior: by studying both theory and scientific evidence, students will develop an in-depth understanding of the systems of the human body, the intricacies of human behavior, as well as developmental norms and deviations in each domain of functioning.

Knowledge of Music Therapy

Students will engage in rigorous exploration of the theories and scientific evidence that support the use of music in a therapeutic context.

Following the neurologic music therapy approach, all techniques learned in this program are based on scientific evidence regarding music perception and behavior. Furthermore, students have ample opportunity to establish and refine their therapeutic skills through five semesters of clinical practica in addition to a six-month, full-time clinical internship. Internship applications must include a written letter of recommendation from music therapy faculty member.

The Music Therapy Equivalency Program

The equivalency program is designed for the individual who has already completed a bachelor's degree in a related discipline, including the following courses:

Music Theory I, II, III and IV; Music History I and II; Conducting, Arranging, Applied Lessons (6 semesters), Performing Ensembles (8 semesters), Piano Competency (4 semesters of either lessons or group piano) and Introduction to Psychology.

Beyond these courses, the program consists of 50 credit hours that can be completed in two years, followed by a six-month clinical internship. All internship applications must include a written letter of recommendation from a music therapy faculty member. Please contact the Music Therapy Program Director for a listing of the 50 credit hours.

If any of the prerequisite courses have not yet been completed, they can be taken at the University of Miami. Taking these additional courses, however, may lengthen the amount of time required to complete the equivalency program. In certain situations, alternate courses from other universities can substitute for the required courses. Depending on the nature of the course, this decision will be made by the undergraduate dean, in consultation with the Music Therapy Program Director.

In order to determine exactly how many credits are required to complete the equivalency program, the student should obtain official transcripts for their previous degree and meet with the music therapy program director. Following completion of the course and internship, students are then eligible to sit for the music therapy board certification exam and can become professional members of the American Music Therapy Association (AMTA). For students wishing to pursue graduate studies

in music therapy, the equivalency program can be combined with the master's degree in music therapy.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Music Therapy students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MED 363 Senior Practicum, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MED 551 Music Therapy Research Methods, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Music Engineering Technology (MUE)

B.S. Music Engineering Technology with Required Minor in Electrical Engineering or Computer Engineering

Music Engineering Technology Introduction

The mission of the Music Engineering Technology program is to:

1. Provide the highest quality education in the field of music engineering.
2. Promote advancements in the fidelity and creativity of music recording, production and reproduction.
3. Promote advancements in the invention, design and implementation of audio hardware and software.

The goals of the Music Engineering Technology program are to:

1. Further enhance the program's national and international stature.
2. Obtain teaching infrastructure and resources needed to provide contemporary education in the field of music engineering technology.
3. Ensure that curricular offerings are current and able to educate students in new and future theory and practice.
4. To help graduates find professional career positions.

Educational Objectives

- Understanding the theoretical basis of sound recording, processing and reproduction.

- Understanding the practice techniques used in sound recording, processing and reproduction.
- Designing and implementing original audio hardware and/or software.
- Understanding the principles of computer science (Bachelor of Music) or electrical engineering (Bachelor of Science).

The Music Engineering Technology curriculum is designed for musicians interested in pursuing a career in music recording, audio hardware and software design, and related professions in the audio, audio-video, multimedia, and internet industries. The program is interdisciplinary in nature; it includes courses in music, music engineering, computer science, electrical engineering, and mathematics. This program includes a minor in Electrical Engineering or a double major in Computer Science. Freshman students are expected to enroll in calculus, which carries a prerequisite of Trigonometry and Analytical Geometry. Prospective students are expected to have a strong background in music performance and in mathematics.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Music Engineering students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MMI 410 Music Engineering Capstone Project, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MMI 401 Audio Electronics, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors

Major in Music Engineering Technology

- B.S. in Music Engineering with Required Minor in Electrical Engineering or Computer Engineering (p. 319)

Plan of Study

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list take precedence.

Music Engineering Technology (MUE) - Plan of Study

Year One		
Fall		Credit Hours
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 140 Experiential Musicianship I		3
MTC/MSJ/MMI 107 Skills Lab I		1
MKP 140	Keyboard Studies I	1
MMI 201	Introduction to Music Recording	3
ENG 105	English Composition I	3
MTH 161	Calculus I	4
UMX 100	The University Of Miami Experience	0
Ensemble		1
Term Credit Hours:		18
Total Credit Hours:		18

Year One		
Spring		Credit Hours
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 141 Experiential Musicianship II		3
MTC/MSJ/MMI 108 Skills Lab II		1
MKP 141	Keyboard Studies II	1
MMI 151	Desktop Audio Production	3
ENG 106	English Composition II	3
MTH 162	Calculus II	4
Ensemble		1
Term Credit Hours:		18
Total Credit Hours:		18

Year Two		
Fall		Credit Hours
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 240 Experiential Musicianship III		3
MTC/MSJ/MMI 207 Skills Lab III		1
MMI 401	Audio Electronics (AWC)	3
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Spring		Credit Hours
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 241 Experiential Musicianship IV		3
MTC/MSJ/MMI 208 Skills Lab IV		1

MMI 436	Audio Postproduction	3
ECE 204	Electrical Circuits Laboratory	1
ECE 218	Data Structures	3
PHY 205	University Physics I	3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Three		
Fall		Credit Hours
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 140	Experiencing Music	3
MMI 160	Ensemble Recording Workshop I	3
MMI 502	Audio Signal Processing I	3.00
ECE 304	Logic Design	3.00
Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Three		
Spring		Credit Hours
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 141	Musical Traditions (AWC)	3
MMI 161	Ensemble Recording Workshop II	3
MMI 171	Music Engineering Laboratory	1
MMI 503	Audio Signal Processing II	3
ECE 305	Electronics I	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Four		
Fall		Credit Hours
MMI 13	Music Engineering Forum	0
MMI 310	Music Business and Entrepreneurship	3
MMI 460, 505, 506, or 508	Recital Recording And Sound Reinforcement (Recording Services) or Current Trends In Music Engineering I or Current Trends In Music Engineering II or Current Trends In Music Engineering III	3
MMI 501	Transducer Theory	3
People & Society Cognate		3
People & Society Cognate		3
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Spring		Credit Hours
MMI 13	Music Engineering Forum	0
MMI 410	Music Engineering Capstone Project (AWC)	3
MMI 510, 521, or CIM 353	Computational Psychoacoustics or Timbral Ear Training or Post Production Sound Editing and Design	3
People & Society Cognate		3
ECE 306, 318, or 322	Electronics II or Algorithms or Systems Programming	3
Term Credit Hours:		12
Total Credit Hours:		12

B.S. in Music Engineering with Required Minor in Electrical Engineering or Computer Engineering

A minimum 2.7 GPA is required to remain in the Music Engineering Technology program.

A minimum 2.0 GPA is required in all Engineering courses taken.

Please see below for additional goals and degree requirements.

Degree Requirements

General Education Courses MUE		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 161	Calculus I	4
	STEM Cognate satisfied with Electrical or Computer Engineering minor	0
PS_XXXX	People & Society Cognate	9
UMX 100	The University Of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) See details below.	0
Total General Education credits = 19		
Experiential Music Curriculum Core Courses MUE ¹		
MMI 13	Music Engineering Forum (8 semesters)	0
MXX XX1	Principal Instrument Lesson & Studio Class (Level 1) (semesters 1-4, 2 credit hours)	8
MXX XX3	Principal Instrument Lesson & Studio Class (Level 3) (semesters 5-6, 2 credit hours)	4
MTC/MSJ/ MMI 140	Experiential Musicianship I	3
MTC/MSJ/ MMI 141	Experiential Musicianship II	3
MTC/MSJ/ MMI 240	Experiential Musicianship III	3
MTC/MSJ/ MMI 241	Experiential Musicianship IV	3

MTC/MSJ/ MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/ MMI 140)	1
MTC/MSJ/ MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/ MMI 141)	1
MTC/MSJ/ MMI 207	Skills Lab III (co-requisite MTC 240/MSJ 240/ MMI 240)	1
MTC/MSJ/ MMI 208	Skills Lab IV (co-requisite MTC 241/MSJ 241/ MMI 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 151	Desktop Audio Production	3
MMI 310	Music Business and Entrepreneurship	3
MIP/MSJ/ MMI XXX	Ensembles (semesters 1-6, 1 credit hour)	6

Total credits for EMC Core courses = 48

Courses in the MUE Major

MMI 201	Introduction to Music Recording	3
MMI 160	Ensemble Recording Workshop I	3
MMI 161	Ensemble Recording Workshop II	3
MMI 401	Audio Electronics (AWC)	3
MMI 436	Audio Postproduction	3
MMI 502	Audio Signal Processing I	3
MMI 503	Audio Signal Processing II	3

Select one of the following Advanced Music Engineering Electives:

MMI 460	Recital Recording And Sound Reinforcement (Recording Services)	
MMI 505	Current Trends In Music Engineering I	
MMI 506	Current Trends In Music Engineering II	
MMI 508	Current Trends In Music Engineering III	

Select one of the following Advanced Music Engineering Electives:

MMI 510	Computational Psychoacoustics	
MMI 521	Timbral Ear Training	
CIM 353	Post Production Sound Editing and Design	
MMI 171	Music Engineering Laboratory	1
MMI 501	Transducer Theory	3
MMI 410	Music Engineering Capstone Project (AWC)	3
PHY 205	University Physics I	3
MTH 162	Calculus II	4

Select one of the following:

ECE 306	Electronics II	
ECE 318	Algorithms	
ECE 322	Systems Programming	
ECE 118	Introduction to Programming	3
ECE 201	Electrical Circuit Theory	3
ECE 204	Electrical Circuits Laboratory	1
ECE 218	Data Structures	3
ECE 304	Logic Design	3

ECE 305	Electronics I	3
Total credits for courses in the major =		60
Total Credit Hours		127

¹ EMC core courses require a grade of "C" or higher.

- The electrical engineering minor requires ECE 306.
- The computer engineering minor requires ECE 318 or ECE 322.

A dual minor in electrical engineering and computer engineering requires ECE 306 and ECE 318 or ECE 322.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
- MMI 410 Music Engineering Capstone Project, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
- MMI 401 Audio Electronics, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Music Theory Comp. (MTC) & Media Writing & Prod. (MWP)

Dept. Code: MTC

The Department of Music Theory-Composition includes two programs,

- Music Theory-Composition (MTC) and
- Media Writing and Production (MWP).

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Music Theory and Composition students will successfully complete:

1. a required musicology course, which will include substantial evaluated and revised writing components. MTC take MCY 341 Music of the

Medieval, Renaissance, and Baroque Periods. MWP take MCY 141 Musical Trends and Traditions.

2. MTC 402 Composition VIII, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.

3. MTC 311 which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors

Majors in Music Theory-Composition

- B.M. in Music Theory and Composition (p. 324)
- B.M. in Media Writing and Production (p. 323)

Minors

Minor in Music Theory-Composition

- Music Composition (p. 325)

Plan of Study

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list takes precedence.

Music Theory & Composition (MTC) - Plan of Study

Year One		
Fall		Credit Hours
MTC 12	Composition Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 140	Experiential Musicianship I	3
MTC/MSJ/MMI 107	Skills Lab I	1
MKP 140	Keyboard Studies I	1
MCY 140	Experiencing Music	3
MTC 101	Composition I	2
MTC 182	Composition Workshop	1
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year One		
Spring		Credit Hours
MTC 12	Composition Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 141	Experiential Musicianship II	3
MTC/MSJ/MMI 108	Skills Lab II	1
MKP 141	Keyboard Studies II	1

MTC 102	Composition II	2
MTC 182	Composition Workshop	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		
Fall		Credit Hours
MTC 12	Composition Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 240 Experiential Musicianship III		3
MTC/MSJ/MMI 207 Skills Lab III		1
MKP 240	Keyboard Studies III	2
MTC 182	Composition Workshop	1
MTC 201	Composition III	2
MTC 505	Analysis And History Of Electroacoustic And Acousmatic Music	2
STEM Cognate		3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		
Spring		Credit Hours
MTC 12	Composition Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 241 Experiential Musicianship IV		3
MTC/MSJ/MMI 208 Skills Lab IV		1
MKP 241	Keyboard Studies IV	2
MTC 182	Composition Workshop	1
MTC 202	Composition IV	2
MTC 506	DIGITAL EDITING AND SEQUENCING	3
People & Society Cognate		3
Ensemble		1
Term Credit Hours:		18
Total Credit Hours:		18

Year Three		
Fall		Credit Hours
MTC 12	Composition Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MIP 317 or MVP 181	Basic Conducting or Choral Conducting I	2
MTC 301	Composition V	2
MTC 311	Analysis and Experience (AWC)	3

MTC 313	18th Century Counterpoint	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Spring		Credit Hours
MTC 12	Composition Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MIP 418 or MVP 182	Instrumental Conducting or Choral Conducting II	2
MTC 302	Composition VI	2
MTC 312	20th And 21st Century Techniques	3
MTC 516	Advanced Orchestration	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Four		
Fall		Credit Hours
MTC 12	Composition Forum	0
MTC/MCY Elective		3
MMI 310	Music Business and Entrepreneurship	3
MTC 401	Composition VII	2
People & Society Cognate		3
Ensemble		1
Term Credit Hours:		12
Total Credit Hours:		12

Year Four		
Spring		Credit Hours
MTC 12	Composition Forum	0
MTC 402	Composition VIII (AWC)	1
MTC 518	Advanced Counterpoint	3
People & Society Cognate		3
STEM Cognate		3
STEM Cognate		3
Ensemble		1
Term Credit Hours:		14
Total Credit Hours:		14

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list takes precedence.

Media Writing & Production (MWP) - Plan of Study

Year One		
Fall		Credit Hours
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC/MSJ/MMI 140 Experiential Musicianship I	4
	MTC/MSJ/MMI 107 Skills Lab I	2
	MCY 140 Experiencing Music	3
	MKP 140 Keyboard Studies I	1
	MTC 101 Composition I	2
	MTC 182 Composition Workshop	1
	ENG 105 English Composition I	3
	UMX 100 The University Of Miami Experience	0
	Ensemble	1
Term Credit Hours:		17
Total Credit Hours:		17

Year One		
Spring		Credit Hours
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC/MSJ/MMI 141 Experiential Musicianship II	4
	MTC/MSJ/MMI 108 Skills Lab II	2
	MKP 141 Keyboard Studies II	1
	MTC 102 Composition II	2
	MTC 182 Composition Workshop	1
	ENG 106 English Composition II	3
	MTH 113 Finite Mathematics	3
	Ensemble	1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		
Fall		Credit Hours
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC/MSJ/MMI 240 Experiential Musicianship III	4
	MTC/MSJ/MMI 207 Skills Lab III	2
	MKP 240 Keyboard Studies III	2
	MMI 250 Essential Technologies For Musicians	3
	MTC 203 Pop Composition I	2
	Ensemble	1
Term Credit Hours:		14
Total Credit Hours:		14

Year Two		
Spring		Credit Hours
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC/MSJ/MMI 241 Experiential Musicianship IV	4
	MTC/MSJ/MMI 208 Skills Lab IV	2
	MCY 141 Musical Traditions (AWC)	3
	MKP 241 Keyboard Studies IV	2
	MTC 204 Pop Composition II	2
	People & Society Cognate	3
	Ensemble	1
Term Credit Hours:		17
Total Credit Hours:		17

Year Three		
Fall		Credit Hours
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC 303 Music For Media	3
	MTC 311 Analysis and Experience (AWC)	3
	STC 114 Principles of Advertising	3
	STEM Cognate	3
	Ensemble	1
Term Credit Hours:		15
Total Credit Hours:		15

Year Three		
Spring		Credit Hours
MTC 15	Media Writing and Production forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MCY 300+ Elective	3
	MTC 304 Multimedia Projects.	3
	MTC 312 20th And 21st Century Techniques	3
	People & Society Cognate	3
	Ensemble	1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Fall		Credit Hours
MTC 15	Media Writing and Production forum	0
	MMI 310 Music Business and Entrepreneurship	3
	MTC 403 Advanced Music Editing	3
	MTC 511 Film Scoring I	3
	MTC 416 or 516 Orchestration or Advanced Orchestration	3

STEM Cognate	3
Term Credit Hours:	15
Total Credit Hours:	15

Year Four		Credit Hours
Spring		
MTC 15	Media Writing and Production forum	0
MTC 402	Composition VIII (AWC)	1
MSJ or MTC Elective		3
MTC 404	Live Performance Musical Direction	3
MTC 512	Film Scoring II	3
People & Society Cognate		3
STEM Cognate		3
Term Credit Hours:		16
Total Credit Hours:		16

B.M. in Media Writing and Production

The Commercial Music & Production degree program is designed to prepare undergraduate students for the many issues facing today's commercial music writers and producers. In this specialized program, successful students complete diverse compositional assignments, develop technical and practical skills in the recording studio, and acquire an understanding of the music industry. Prospective students should furnish evidence of outstanding compositional ability as well as basic sequencing and music notation skills.

Please see below for additional goals and degree requirements.

Degree Requirements

General Education Courses MWP		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University Of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses) See details below	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MWP ¹		
MTC 15	Media Writing and Production forum (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument/Voice Lesson & Studio Class (semester 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument/Voice Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC/MSJ/ MMI 140	Experiential Musicianship I	3
MTC/MSJ/ MMI 107	Skills Lab I	1
MTC/MSJ/ MMI 141	Experiential Musicianship II	3

MTC/MSJ/ MMI 108	Skills Lab II	1
MTC/MSJ/ MMI 240	Experiential Musicianship III	3
MTC/MSJ/ MMI 207	Skills Lab III	1
MTC/MSJ/ MMI 241	Experiential Musicianship IV	3
MTC/MSJ/ MMI 208	Skills Lab IV	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
	Ensembles (semesters 1-6, 1 credit hour)	6

Total credits for EMC Core courses = 48

Courses in the MWP Major

MKP 240	Keyboard Studies III	2
MKP 241	Keyboard Studies IV	2
MTC 101	Composition I	2
MTC 102	Composition II	2
MTC 182	Composition Workshop (2 semesters of 1 credit hour)	2
MTC 203	Pop Composition I	2
MTC 204	Pop Composition II	2
MTC 303	Music For Media	3
MTC 304	Multimedia Projects.	3
MTC 311	Analysis and Experience (AWC)	3
MTC 312	20th And 21st Century Techniques	3
MTC 402	Composition VIII (AWC)	1
MTC 403	Advanced Music Editing	3
MTC 404	Live Performance Musical Direction	3
MTC 416	Orchestration	3
or MTC 516	Advanced Orchestration	
MTC 511	Film Scoring I	3
MTC 512	Film Scoring II	3
MSJ/MTC	Approved Elective	3
MCY 3XX	Musicology Elective	3
STC 114	Principles of Advertising	3
Total credits for courses in the major = 51		

Total Credit Hours **126**

¹ EMC core courses require a grade of "C" or higher.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in

evaluated and revised writing, speaking, stage presence, and audience engagement.

All Media Writing and Production students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MTC 402 Composition VIII, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MTC 311 Analysis and Experience, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

B.M. in Music Theory and Composition

Introduction

The Bachelor of Music in Composition is designed to:

1. Provide students with a learning environment conducive to the pursuit, fostering, development, and exchange of ideas and information, particularly as it pertains to music composition, production, and performance.
2. To provide student access varied composition communities.
3. To continue to build upon the Frost School of Music's reputation as an innovative, forward-thinking, and first-rate center for advanced study.
4. To maintain the highest educational, professional, and ethical standards.

Goals of the program are:

1. To provide students with training to be fluent in basic compositional skills.
2. To help students understand various directions that available to composers in the 21st century.
3. To help students perform, produce, or realize their music.

The curriculum in Composition is designed for those students intending to pursue a career as a composer and/or to pursue graduate degrees in Theory or Composition. Prospective students are expected to furnish evidence of compositional ability.

Please see below for additional goals and degree requirements.

Degree Requirements

General Education Courses MTC		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University Of Miami Experience	0

Advanced Writing and Communication Skills (3 courses) AWC. See details below		
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MTC ¹		
MTC 12	Composition Forum (8 semesters)	0
MXX XX1 (Level 1)	Principal Instrument/Voice Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument/Voice Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
Senior recital with lesson		
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods	3
MTC 506	DIGITAL EDITING AND SEQUENCING	2
MMI 310	Music Business and Entrepreneurship	3
	Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses		
Courses in the MTC Major		
	Ensembles (semesters 7-8, 1 credit hour)	2
MTC 101	Composition I	2
MTC 102	Composition II	2
MTC 201	Composition III	2
MTC 202	Composition IV	2
MTC 301	Composition V	2
MTC 302	Composition VI	2
MTC 401	Composition VII	2
MTC 402	Composition VIII	1
MTC 182	Composition Workshop (4 semesters of 1 credit hour)	4
MTC 311	Analysis and Experience	3
MTC 312	20th And 21st Century Techniques	3
MTC 313	18th Century Counterpoint	3
MTC 505	Analysis And History Of Electroacoustic And Acousmatic Music	2
MTC 516	Advanced Orchestration	3
MTC 518	Advanced Counterpoint	3
MTC/MCY	Elective Music Theory or Musicology	3
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MKP 240	Keyboard Studies III	2
MKP 241	Keyboard Studies IV	2
MIP 317	Basic Conducting	2

or MVP 181	Choral Conducting I	
MIP 418	Instrumental Conducting	2
or MVP 182	Choral Conducting II	
Total credits for courses in the major = 52		
Total Credit Hours		126

¹ EMC core courses require a grade of "C" or higher.

Educational Objectives

- Students develop basic compositional skills of varying lengths and genres.
- Students compose or produce works utilizing various compositional techniques and styles.
- Students compose works for varied instrumentation and/or media.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Music Theory and Composition students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods, which will include substantial evaluated and revised writing components.
2. MTC 402 Composition VIII, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MTC 311 Analysis and Experience which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Minor in Music Composition

A minor in music composition is primarily intended for students in the Frost School of Music who are pursuing majors in other fields within the Frost School. Students interested in this minor are required to submit a portfolio to the chairman of the department for approval before declaring the minor. The minor consists of 15 credit hours.

MTC 101	Composition I	2
MTC 102	Composition II	2
MTC 201	Composition III	2
MTC 202	Composition IV	2
MTC 182	Composition Workshop (4 semesters of 1 credit hour)	4
Complete exactly 1 course from the following:		3
MTC 416	Orchestration	

MTC 516	Advanced Orchestration	
MTC 312	20th And 21st Century Techniques	
Total Credit Hours		15

Studio Music and Jazz (MSJI) & (MSJV)

Dept. Code: MSJ

The Department of Studio Music and Jazz includes two programs, instrumental and vocal.

Introduction

The mission of the Studio Music and Jazz Performance Program is to:

- Prepare jazz instrumentalists to enter the music profession or graduate school.
- Identify, recruit, and retain high quality students who seek to pursue studio/jazz performance as a career.
- Foster faculty creativity and performance which serves as a role model for students.
- Develop, and revise courses in jazz improvisation, jazz arranging/ composition and provide on and off campus performance opportunities.
- Produce in our on campus facility, recordings for the Down Beat Student Music Awards, compact disks, radio and Internet broadcast.
- Provide a platform of learning that includes performance, composition/arranging, technology, conducting, scholarship and production.

Educational Objectives

- Students will develop musical performance skills necessary to make them competitive in the jazz world.
- Students will develop performance skills in a variety of large and small ensembles that allow a student to participate in the professional jazz world.
- Students will develop the skills necessary to play in a chamber setting emphasizing spontaneous interaction and improvisation.
- Students will develop the skills necessary to play in large jazz ensembles emphasizing the development of ensemble skills necessary in a reading situation.
- Students will perform a senior recital of sixty-minute duration that demonstrates their capabilities in the jazz idiom.
- Students will develop the skills necessary to arrange and compose in a variety of styles appropriate to the jazz and contemporary music field.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Studio Music and Jazz students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MSJ XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MSJ 371 Jazz Improvisation I, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors

Majors in Studio Music and Jazz

- B.M. in Studio Music and Jazz Instrumental (p. 329)
- B.M. in Studio Music and Jazz Voice (p. 330)

Minors

Minor in Studio Music and Jazz

- Studio Music and Jazz Instrumental (Music Majors Only) (p. 331)

Plan of Study

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list takes precedence.

Studio Music & Jazz Instrumental (MSJI) - Plan of Study

Year One		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MSJ Large Ensemble		1
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MSJ 124	Introduction to Jazz Improvisation	3
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
Term Credit Hours:		17
Total Credit Hours:		17

Year One		
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4
MCY 141	Musical Traditions (AWC)	3
MKP 141	Keyboard Studies II	1

ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
MSJ Large Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4
MSJ 371	Jazz Improvisation I (AWC)	3
People & Society Cognate		3
MSJ Large Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 213	Analysis Evolution of Jazz Styles II.	3
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MMI 250	Essential Technologies For Musicians	3
People & Society Cognate		3
MSJ Large Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 342	Technology Skills III	3
MSJ 519	Advanced Modern Arranging I	3
People & Society Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		13
Total Credit Hours:		13

Year Three		
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 520	Advanced Modern Arranging II	3
MSJ 565	Advanced Improvisation I	3

MIP 317	Basic Conducting	2
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 509	Jazz Composition I	3
MSJ 566	Advanced Improvisation II	3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		13
Total Credit Hours:		13

Year Four		
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
Senior Recital (with Lesson) (AWC)		
MMI 310	Music Business and Entrepreneurship	3
Elective		3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		13
Total Credit Hours:		13

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list takes precedence.

Studio Music & Jazz Vocal (MSJV) - Plan of Study

Year One		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ V01	Jazz Voice (Lesson & Studio Class)	2
MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MSJ 124	Introduction to Jazz Improvisation	3
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0

MSJ Large Ensemble	1
Term Credit Hours:	17
Total Credit Hours:	17

Year One		
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ V01	Jazz Voice (Lesson & Studio Class)	2
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4
MCY 141	Musical Traditions (AWC)	3
MKP 141	Keyboard Studies II	1
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
MSJ Large Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ V01	Jazz Voice (Lesson & Studio Class)	2
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4
MSJ 371	Jazz Improvisation I (AWC)	3
People & Society Cognate		3
MSJ Large Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ V01	Jazz Voice (Lesson & Studio Class)	2
MSJ 213	Analysis Evolution of Jazz Styles II.	3
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MMI 250	Essential Technologies For Musicians	3
MSJ 372	Jazz Vocal Improvisation I	3
MSJ Large Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ V03	Jazz Voice (Lesson & Studio Class)	2
MSJ 342	Technology Skills III	3
MSJ 519	Advanced Modern Arranging I	3

People & Society Cognate	3
MSJ Small Ensemble	1
MSJ Large Ensemble	1
Term Credit Hours:	13
Total Credit Hours:	13

Year Three		Credit Hours
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ V03	Jazz Voice (Lesson & Studio Class)	2
MSJ 516	Jazz Vocal Arranging	3
MIP 317	Basic Conducting	2
People & Society Cognate		3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		Credit Hours
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ V03	Jazz Voice (Lesson & Studio Class)	2
MSJ 242	Jazz Percussion Techniques	1
MSJ 509	Jazz Composition I	3
MVP 538	Vocal Pedagogy	2
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		13
Total Credit Hours:		13

Year Four		Credit Hours
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ V03	Jazz Voice (Lesson & Studio Class)	2
Senior Recital (with Lesson) (AWC)		
MMI 310	Music Business and Entrepreneurship	3
Non-Music Elective		3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		13
Total Credit Hours:		13

Drumset (Jazz Percussion) - Plan of Study

Year One		Credit Hours
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2

MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MSJ 220	Basic Drumset Styles and Techniques (Part 1)	3
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
MSJ Large Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year One		Credit Hours
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4
MCY 141	Musical Traditions	3
MKP 141	Keyboard Studies II	1
MSJ 320	Basic Drumset Styles and Techniques (Part 2)	1
ENG 106	English Composition II	3
MSJ Large Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Two		Credit Hours
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4
MSJ 565	Advanced Improvisation I (Choose section for drumset students)	3
People & Society Cognate		3
MSJ Large Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		Credit Hours
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 213	Analysis Evolution of Jazz Styles II.	3
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MMI 250	Essential Technologies For Musicians	3

MSJ 566	Advanced Improvisation II (Choose section for drumset students)	3
MSJ Large Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument & Studio Class		2
MSJ 342	Technology Skills III	3
MSJ 519	Advanced Modern Arranging I	3
MTH 101	Algebra for College Students	3
People & Society Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 520	Advanced Modern Arranging II	3
MIP 317	Basic Conducting	2
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Fall		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
MSJ 509	Jazz Composition I	3
People & Society Cognate		3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		13
Total Credit Hours:		13

Year Four		
Spring		Credit Hours
MSJ 3	Jazz Forum	0
MSJ Principal Instrument Lesson & Studio Class		2
Senior Recital (with Lesson)		
Elective		3

MMI 310	Music Business and Entrepreneurship	3
STEM Cognate		3
MSJ Small Ensemble		1
MSJ Large Ensemble		1
Term Credit Hours:		13
Total Credit Hours:		13

B.M. in Studio Music and Jazz Instrumental

The instrumental curriculum in Studio Music and Jazz is designed for interested and qualified students who desire to continue to develop to the highest degree their background and skills in the performance of studio music and jazz. Admission to this major pre-supposes musical training in jazz on the principal instrument.

Please see below for additional goals and degree requirements.

Degree Requirements

General Education Courses MSJI		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University Of Miami Experience	0
	Advanced Writing and Communication Skills (3 courses)AWC. See details below	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MSJI ¹		
MSJ 3	Jazz Forum (8 semesters)	0
MSJ XX1	Principal Instrument Lesson & Studio Class (Level 1) (semesters 1-4, 2 credit hours)	8
MSJ XX3	Principal Instrument Lesson & Studio Class (Level 3) (semesters 5-6, 2 credit hours)	4
MSJ 140 & MSJ 107	Experiential Musicianship I and Skills Lab I	4
MSJ 141 & MSJ 108	Experiential Musicianship II and Skills Lab II	4
MSJ 240 & MSJ 207	Experiential Musicianship III and Skills Lab III	4
MSJ 241 & MSJ 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
MSJ XXX	Large Ensembles (semesters 1-6, 1 credit hour)	6
Total credit for EMC Core courses = 48		
Courses in the MSJI Major		

MSJ XXX	Large Ensembles (semesters 7-8, 1 credit hour)	2
MSJ XXX	Small Ensembles (4 semesters, 1 credit hour)	4
MSJ XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
	Senior recital with lesson	
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 213	Analysis & Evolution of Jazz Styles II.	3
MSJ 242	Jazz Percussion Techniques	1
or MSJ 320	Basic Drumset Styles and Techniques (Part 2)	
MSJ 342	Technology Skills III	3
MSJ 371	Jazz Improvisation I (AWC)	3
or MSJ 220	Basic Drumset Styles and Techniques (Part 1)	
MSJ 509	Jazz Composition I	3
MSJ 519	Advanced Modern Arranging I	3
MSJ 520	Advanced Modern Arranging II	3
MSJ 565	Advanced Improvisation I (choose section for drumset students.)	3
MSJ 566	Advanced Improvisation II (choose section for drumset students.)	3
MIP 317	Basic Conducting	2
	Elective	3
Total credits for courses in the major = 46		
Total Credit Hours		121

¹ EMC core courses require a grade of "C" or higher.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Studio Jazz Instrumental students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MSJ XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MSJ 371 Jazz Improvisation I, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

B.M. in Studio Music and Jazz Voice

The vocal curriculum in Studio Music and Jazz is designed for interested and qualified vocalists who desire to continue to develop to the highest degree their backgrounds and skills in the performance of studio music (recording), jazz, and contemporary pop music. Admission to this major pre-supposes music training in jazz.

Please see below for additional goals and degree requirements.

Degree Requirements

General Education Courses MSJV		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University Of Miami Experience	0
	Advanced Writing and Communication Skills (3 Course) See details below	0
Experiential Music Curriculum Core Courses MSJV ¹		
MSJ 3	Jazz Forum (8 semesters)	0
MSJ V01 (Level 1)	Voice Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MSJ V03 (Level 3)	Voice Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MSJ 140	Experiential Musicianship I	3
MSJ 141	Experiential Musicianship II	3
MSJ 240	Experiential Musicianship III	3
MSJ 241	Experiential Musicianship IV	3
MSJ 107	Skills Lab I (co-requisite MSJ 140)	1
MSJ 108	Skills Lab II (co-requisite MSJ 141)	1
MSJ 207	Skills Lab III (co-requisite MSJ 240)	1
MSJ 208	Skills Lab IV (co-requisite MSJ 241)	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
MSJ XXX	Large Ensembles (semesters 1-6, 1 credit hour)	6
Courses in the MSJV Major		
MSJ XXX	Large Ensembles (semesters 7-8, 1 credit hour)	2
MSJ XXX	Small Ensembles (4 semesters, 1 credit hour)	4
MSJ V03 (Level 3)	Voice Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
	Senior recital with lesson	
MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 213	Analysis & Evolution of Jazz Styles II.	3
MSJ 342	Technology Skills III	3
MSJ 242	Jazz Percussion Techniques	1

MSJ 371	Jazz Improvisation I (AWC)	3
MSJ 372	Jazz Vocal Improvisation I	3
MSJ 509	Jazz Composition I	3
MSJ 516	Jazz Vocal Arranging	3
MSJ 519	Advanced Modern Arranging I	3
MIP 317	Basic Conducting	2
MVP 538	Vocal Pedagogy	2
	Non-Music Elective	3
Total Credit Hours		120

¹ EMC core courses require a grade of "C" or higher.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Studio Jazz Vocal students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MSJ V03 Private Lesson Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MSJ 371 Jazz Improvisation I, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Minor in Studio Music and Jazz Instrumental (Music Majors Only)

A 12 credit hour minor is available for students enrolled in the Frost School of Music whose principal performance medium is a jazz instrument. Permission of the studio teacher is required. The following courses must be taken to fulfill the requirement of this minor:

MSJ 113	Analysis and Evolution of Jazz Styles I	3
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 371	Jazz Improvisation I	3
MSJ 519	Advanced Modern Arranging I	3
Total Credit Hours		12

The Bruce Hornsby Creative American Music Program

The Bruce Hornsby Creative American Music Program is designed to develop the creative skills of talented performing songwriters by

immersing them in the diverse traditions that form the foundation of modern American songwriting. This rigorous approach will require students to become intimate, both in understanding and practice, with the vast and varied legacy that is American music. The CAM Program is open to all Frost School of Music students by audition. Those who successfully complete the program will earn a Minor in Creative American Music. A minor in Creative American Music requires 17 credit hours.

The Contemporary Performance Principal

The Contemporary Performance Principal accommodates talented songwriters, singers, and instrumentalists who are not classical or jazz musicians. Contemporary instruments include Guitar (Electric and Acoustic), Voice, Electric Bass, Keyboard, Media (Alternate Controllers/Electronic Producers), Strings (Fiddle, Electric Violin, etc.) and Percussion (incl. Drums). Songwriters will also apply to the Creative American Music Program. The Contemporary Performance Principal is available to students in the following majors: Music Business and Entertainment Industries, Music Engineering Technology, Media Writing and Production, Music Education, Music Theory/Composition, Music Therapy, and the Bachelor of Arts in Music. Pre-screening and audition are required.

Majors

Major in the Bruce Hornsby Creative American Music Program

- B.M. in Music Business Entertainment Industries with Minor in Creative American Music & Business, Communications, or Entertainment (p. 335)

Minors

Minor in the Bruce Hornsby Creative American Music Program

- Creative American Music (p. 336)

Plan of Study

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list take precedence.

Music Business & Entertainment Industries w/ Creative American Music Minor (CAM)-Plan of Study

Year One		
Fall		Credit Hours
MMI 14	Music Industry Forum	0
	Principal Instrument/Voice Lesson & Studio Class	2
	MTC/MSJ/MMI 140 Experiential Musicianship I	3
	MTC/MSJ/MMI 107 Skills Lab I	1
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
	Ensemble	1
Term Credit Hours:		14
Total Credit Hours:		14

Year One		
Spring		Credit Hours
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 141 Experiential Musicianship II		3
MTC/MSJ/MMI 108 Skills Lab II		1
MCY 141	Musical Traditions (AWC)	3
MKP 141	Keyboard Studies II	1
MMI 173	Multinational Recorded Music Industry	3
ENG 106	English Composition II	3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		
Fall		Credit Hours
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 240 Experiential Musicianship III		3
MTC/MSJ/MMI 207 Skills Lab III		1
MCY 221	Anglo-American Song Traditions	3
MMI 274	Introduction to Music Copyright Law	3
MTH 113	Finite Mathematics	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Spring		Credit Hours
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 241 Experiential Musicianship IV		3
MTC/MSJ/MMI 208 Skills Lab IV		1
MCY 222	African-American Song Traditions	3
MMI 250	Essential Technologies For Musicians	3
MMI 273	Artist Development and the Live Entertainment Industry	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		
Fall		Credit Hours
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 307	Skills Lab V: American Pop	1
MMI 320	Contemporary Lyric Writing	3
MMI 378	Entertainment Industry Contract Basics.	3

STEM Cognate	3
Minor Course (P&S Cognate) or Elective	3
Ensemble	1
Term Credit Hours:	16
Total Credit Hours:	16

Year Three		
Spring		Credit Hours
MMI 14	Music Industry Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 308	Skills Lab VI: American Pop	1
MMI 537	Recorded Music Operations (AWC)	3
MMI 573	International Music Publishing	3
Minor Course (P&S Cognate)		3
Select one of the following Advanced Writing Communication courses:		
ENG 230, COS 333, or ENG 331	Advanced Business Communication or Business Communication or Legal Writing	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Four		
Fall		Credit Hours
MMI 14	Music Industry Forum	0
MCY 311	Modern American Pop Music	3
Business Elective		3
Minor Course (P&S Cognate)		3
STEM Cognate		3
Term Credit Hours:		12
Total Credit Hours:		12

Year Four		
Spring		Credit Hours
MMI 14	Music Industry Forum	0
Elective		3
Business Elective		3
Minor Course (P&S Cognate)		3
MMI 445	Senior Project/Portfolio	1
STEM Cognate		3
Term Credit Hours:		13
Total Credit Hours:		13

Music Engineering Technology w/ Creative American Music Minor (CAM)-Plan of Study

Year One		
Fall		Credit Hours
MMI 13	Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MTC/MSJ/MMI 140 Experiential Musicianship I		3

MTC/MSJ/MMI 107 Skills Lab I	1
MKP 140 Keyboard Studies I	1
MMI 201 Introduction to Music Recording	3
ENG 105 English Composition I	3
MTH 161 Calculus I	4
UMX 100 The University Of Miami Experience	0
Ensemble	1
Term Credit Hours:	18
Total Credit Hours:	18

Year One	
Spring	Credit Hours
MMI 13 Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class	2
MTC/MSJ/MMI 141 Experiential Musicianship II	3
MTC/MSJ/MMI 108 Skills Lab II	1
MKP 141 Keyboard Studies II	1
MMI 151 Desktop Audio Production	3
ENG 106 English Composition II	3
MTH 162 Calculus II	4
Ensemble	1
Term Credit Hours:	18
Total Credit Hours:	18

Year Two	
Fall	Credit Hours
MMI 13 Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class	2
MTC/MSJ/MMI 240 Experiential Musicianship III	3
MTC/MSJ/MMI 207 Skills Lab III	1
MCY 221 Anglo-American Song Traditions	3
MMI 401 Audio Electronics (AWC)	3
ECE 118 Introduction to Programming	3
ECE 201 Electrical Circuit Theory	3
Term Credit Hours:	18
Total Credit Hours:	18

Year Two	
Spring	Credit Hours
MMI 13 Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class	2
MTC/MSJ/MMI 241 Experiential Musicianship IV	3
MTC/MSJ/MMI 208 Skills Lab IV	1
MCY 222 African-American Song Traditions	3
MMI 436 Audio Postproduction	3
ECE 218 Data Structures	3
PHY 205 University Physics I	3
Term Credit Hours:	18
Total Credit Hours:	18

Year Three	
Fall	Credit Hours
MMI 13 Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class	2
MCY 140 Experiencing Music	3
MCY 311 Modern American Pop Music	3
MMI 160 Ensemble Recording Workshop I	3
MMI 307 Skills Lab V: American Pop	1
MMI 502 Audio Signal Processing I	3
ECE 304 Logic Design	3
Term Credit Hours:	18
Total Credit Hours:	18

Year Three	
Spring	Credit Hours
MMI 13 Music Engineering Forum	0
Principal Instrument/Voice Lesson & Studio Class	2
MCY 141 Musical Traditions (AWC)	3
MMI 161 Ensemble Recording Workshop II	3
MMI 171 Music Engineering Laboratory	1
MMI 308 Skills Lab VI: American Pop	1
MMI 503 Audio Signal Processing II	3
ECE 204 Electrical Circuits Laboratory	1
ECE 305 Electronics I	3
Term Credit Hours:	17
Total Credit Hours:	17

Year Four	
Fall	Credit Hours
MMI 13 Music Engineering Forum	0
MMI 310 Music Business and Entrepreneurship	3
MMI 460, 505, 506, or 508 Recital Recording And Sound Reinforcement (Recording Services) or Current Trends In Music Engineering I or Current Trends In Music Engineering II or Current Trends In Music Engineering III	3
MMI 501 Transducer Theory	3
People & Society Cognate	3
People & Society Cognate	3
Ensemble	1
Term Credit Hours:	16
Total Credit Hours:	16

Year Four	
Spring	Credit Hours
MMI 13 Music Engineering Forum	0
MMI 320 Contemporary Lyric Writing	3

MMI 410	Music Engineering Capstone Project (AWC)	3
MMI 445	Senior Project/Portfolio	1
MMI 510, 521, or CIM 353	Computational Psychoacoustics or Timbral Ear Training or Post Production Sound Editing and Design	3
People & Society Cognate		3
ECE 306, 318, or 322	Electronics II or Algorithms or Systems Programming	3
Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Media Writing & Production w/Creative American Music Minor (CAM)-Plan of Study

Year One		
Fall		Credit Hours
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MSJ 140 or MMI 140	Experiential Musicianship I or Experiential Musicianship I	3
MSJ 107 or MMI 107	Skills Lab I or Skills Lab I	1
MCY 140	Experiencing Music	3
MTC 101	Composition I	2
MTC 182	Composition Workshop	1
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year One		
Spring		Credit Hours
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MSJ 141 or MMI 141	Experiential Musicianship II or Experiential Musicianship II	3
MSJ 108 or MMI 108	Skills Lab II or Skills Lab II	1
MTC 102	Composition II	2
MTC 182	Composition Workshop	1
ENG 106	English Composition II	3
MTH 113	Finite Mathematics	3
Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		
Fall		Credit Hours
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MSJ 240 or MMI 240	Experiential Musicianship III or Experiential Musicianship III	3
MSJ 207 or MMI 207	Skills Lab III or Skills Lab III: American Song Traditions	1
MCY 221	Anglo-American Song Traditions	3
MMI 250	Essential Technologies For Musicians	3
MTC 203	Pop Composition I	2
Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Two		
Spring		Credit Hours
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MSJ 241 or MMI 241	Experiential Musicianship IV or Experiential Musicianship IV	3
MSJ 208 or MMI 208	Skills Lab IV or Skills Lab IV: American Song Traditions	1
MCY 222	African-American Song Traditions	3
MCY 141	Musical Traditions	3
MTC 204	Pop Composition II	2
People & Society Cognate		3
Ensemble		1
Term Credit Hours:		18
Total Credit Hours:		18

Year Three		
Fall		Credit Hours
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MMI 307	Skills Lab V: American Pop	1
MMI 320	Contemporary Lyric Writing	3
MTC 303	Music For Media	3
MTC 311	Analysis and Experience	3
STC 114	Principles of Advertising	3
STEM Cognate		3
Term Credit Hours:		18
Total Credit Hours:		18

Year Three		
Spring		Credit Hours
MTC 15	Media Writing and Production forum	0
Principal Instrument/Voice Lesson & Studio Class		2
MCY 311	Modern American Pop Music	3
MMI 308	Skills Lab VI: American Pop	1
MTC 304	Multimedia Projects.	3
MTC 312	20th And 21st Century Techniques	3
People & Society Cognate		3
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Fall		Credit Hours
MTC 15	Media Writing and Production forum	0
MMI 310	Music Business and Entrepreneurship	3
MTC 403	Advanced Music Editing	3
MTC 416 or 516	Orchestration or Advanced Orchestration	3
MTC 511	Film Scoring I	3
STEM Cognate		3
Term Credit Hours:		15
Total Credit Hours:		15

Year Four		
Spring		Credit Hours
MTC 15	Media Writing and Production forum	0
MTC 402	Composition VIII	1
MSJ or MTC Electve		3
MTC 404	Live Performance Musical Direction	3
MTC 512	Film Scoring II	3
MMI 445	Senior Project/Portfolio	1
People & Society Cognate		3
STEM Cognate		3
Term Credit Hours:		17
Total Credit Hours:		17

B.M. in Music Business Entertainment Industries with Minor in Creative American Music & Business, Communications, or Entertainment

Degree Requirements

General Education Courses MBEI CAM		
ENG 105	English Composition I	3
ENG 106	English Composition II	3

MTH 113	Finite Mathematics	3
ST_XXXX	STEM Cognate (some approved minors satisfy STEM)	9
PS_XXXX	People & Society Cognate (most approved minors satisfy P&S)	0
UMX 100	The University Of Miami Experience	0
Total General Education credits = 18		
Advanced Writing and Communication Skills (3 courses) AWC		
Experiential Music Curriculum Core Courses ¹		
MMI 14	Music Industry Forum (each semester in residence)	0
MXX XX1 (Level 1)	Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MXX XX3 (Level 3)	Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC/MSJ/ MMI 140	Experiential Musicianship I	3
MTC/MSJ/ MMI 141	Experiential Musicianship II	3
MTC/MSJ/ MMI 240	Experiential Musicianship III	3
MTC/MSJ/ MMI 241	Experiential Musicianship IV	3
MMI 107	Skills Lab I (co-requisite MTC 140/MSJ 140/ MMI 140)	1
MMI 108	Skills Lab II (co-requisite MTC 141/MSJ 141/ MMI 141)	1
MMI 207	Skills Lab III: American Song Traditions	1
MMI 208	Skills Lab IV: American Song Traditions	1
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 141	Musical Traditions (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 573	International Music Publishing	3
MIP/MSJ/ MMI XXX	Ensembles (6 semesters of 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MBEI Major with CAM Minor		
MCY 311	Modern American Pop Music (CAM)	3
MMI 173	Multinational Recorded Music Industry	3
MMI 273	Artist Development and the Live Entertainment Industry	3
MMI 274	Introduction to Music Copyright Law	3
MMI 378	Entertainment Industry Contract Basics.	3
MMI 537	Recorded Music Operations (AWC)	3
MMI 320	Contemporary Lyric Writing (CAM)	3
MMI 307	Skills Lab V: American Pop (CAM)	1
MMI 308	Skills Lab VI: American Pop (CAM)	1
MMI 445	Senior Project/Portfolio (CAM, AWC)	1
Select one of the following:		
		3

ENG 230	Advanced Business Communication (AWC)	
COS 333	Business Communication (AWC)	
ENG 331	Legal Writing (AWC)	
	Elective	3
	Business Elective	3
	Business Elective	3
MCY 221	Anglo-American Song Traditions	3
MCY 222	African-American Song Traditions	3
	Minor Course	3
	Minor Course	3
	Minor Course	3
	Minor Course or Elective	3
Total credits for courses in major = 54		
Total Credit Hours		120

¹ EMC core courses require a grade of "C" or higher.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All MBEI CAM students will successfully complete:

1. MCY 141 Musical Trends and Traditions, which will include substantial evaluated and revised writing components.
2. MMI 445, Senior project/portfolio, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. ENG 230 Advanced Business Communication or COS 333 Business Communication, or ENG 331 Legal Writing, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Minor in Creative American Music

MCY 221	Anglo-American Song Traditions	3
MCY 222	African-American Song Traditions	3
MCY 311	Modern American Pop Music	3
MMI 207	Skills Lab III: American Song Traditions (co-requisite MCY 221)	1
MMI 208	Skills Lab IV: American Song Traditions (co-requisite MCY 222)	1
MMI 307	Skills Lab V: American Pop	1
MMI 308	Skills Lab VI: American Pop	1
MMI 320	Contemporary Lyric Writing	3

MMI 445	Senior Project/Portfolio	1
Total Credit Hours		17

Vocal Performance (MVP)

Dept. Code: MVP

The Department of Vocal Performance offers a bachelor of music degree in vocal performance.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Vocal Performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods which will include substantial evaluated and revised writing components.
2. MVP XXX Private Lesson Level 3 Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MVP 538 Vocal Pedagogy, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Majors

Major in Vocal Performance

- B.M. in Vocal Performance (p. 338)

Plan of Study

If a discrepancy exists between the Academic Bulletin course list and the Plan of Study, the Academic Bulletin course list takes precedence.

Vocal Performance - MVP - Plan of Study

Year One		
Fall		Credit Hours
MVP 8	Voice Forum	0
MVP V01	Voice (Lesson & Studio Class)	2
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MCY 140	Experiencing Music	3
MKP 140	Keyboard Studies I	1
MVP 188	Opera Theater I	1
ENG 105	English Composition I	3
UMX 100	The University Of Miami Experience	0

Choral Ensemble	1
Term Credit Hours:	15
Total Credit Hours:	15

Year One		Credit Hours
Spring		Credit Hours
MVP 8	Voice Forum	0
MVP V01	Voice (Lesson & Studio Class)	2
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MKP 141	Keyboard Studies II	1
MVP 250	Lyric Diction For Singers –English And Italian	2
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
Choral Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Two		Credit Hours
Fall		Credit Hours
MVP 8	Voice Forum	0
MVP V01	Voice (Lesson & Studio Class)	2
MKP 240	Keyboard Studies III	2
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MMI 250	Essential Technologies For Musicians	3
MVP 181	Choral Conducting I	2
MVP 252	Lyric Diction For Singers-German And French	2
MVP 288	Opera Theater III	1
Choral Ensemble		1
Term Credit Hours:		17
Total Credit Hours:		17

Year Two		Credit Hours
Spring		Credit Hours
MVP 8	Voice Forum	0
MVP V01	Voice (Lesson & Studio Class)	2
MKP 241	Keyboard Studies IV	2
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
STEM Cognate		3
ITA 101	Elementary Italian I	3
Choral Ensemble		1
Term Credit Hours:		15
Total Credit Hours:		15

Year Three		Credit Hours
Fall		Credit Hours
MVP 8	Voice Forum	0

MVP V03	Voice (Lesson & Studio Class)	2
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MVP 388	Opera Theater V	1
GER 101	Elementary German I	3
People & Society Cognate		3
STEM Cognate		3
Choral Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Three		Credit Hours
Spring		Credit Hours
MVP 8	Voice Forum	0
MVP V03	Voice (Lesson & Studio Class)	2
Junior Recital (with Lesson)		
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MCY 525 or 522	Art Song Literature or Operatic Literature	3
MVP 552	Vocal Performance Preparation	1
FRE 101	Elementary French I	3
Choral Ensemble		1
Term Credit Hours:		13
Total Credit Hours:		13

Year Four		Credit Hours
Fall		Credit Hours
MVP 8	Voice Forum	0
MVP V03	Voice (Lesson & Studio Class)	2
MMI 310	Music Business and Entrepreneurship	3
MTC 311	Analysis and Experience	3
MVP 538	Vocal Pedagogy (AWC)	2
MVP 552	Vocal Performance Preparation	1
MVP 488	Opera Theater VII	1
People & Society Cognate		3
Choral Ensemble		1
Term Credit Hours:		16
Total Credit Hours:		16

Year Four		Credit Hours
Spring		Credit Hours
MVP 8	Voice Forum	0
MVP V03	Voice (Lesson & Studio Class)	2
Senior Recital (with Lesson) (AWC)		
MCY 522 or 525	Operatic Literature or Art Song Literature	3
MVP 552	Vocal Performance Preparation	1
People & Society Cognate		3
STEM Cognate		3

Choral Ensemble	1
Term Credit Hours:	13
Total Credit Hours:	13

B.M. in Vocal Performance

Degree Requirements

General Education Courses MVP		
ENG 105	English Composition I	3
ENG 106	English Composition II	3
MTH 101	Algebra for College Students	3
ST_XXXX	STEM Cognate	9
PS_XXXX	People & Society Cognate	9
UMX 100	The University Of Miami Experience	0
	Advanced Writing and Communication Skills (3 course) see details below	0
Total General Education credits = 27		
Experiential Music Curriculum Core Courses MVP ¹		
MVP 8	Voice Forum (8 semesters)	0
MVP VO1 (Level 1)	Voice Lesson & Studio Class (semesters 1-4, 2 credit hours)	8
MVP VO3 (Level 3)	Voice Lesson & Studio Class (semesters 5-6, 2 credit hours)	4
MTC 140 & MTC 107	Experiential Musicianship I and Skills Lab I	4
MTC 141 & MTC 108	Experiential Musicianship II and Skills Lab II	4
MTC 240 & MTC 207	Experiential Musicianship III and Skills Lab III	4
MTC 241 & MTC 208	Experiential Musicianship IV and Skills Lab IV	4
MKP 140	Keyboard Studies I	1
MKP 141	Keyboard Studies II	1
MCY 140	Experiencing Music	3
MCY 341	Music of the Mediaeval, Renaissance, and Baroque Periods (AWC)	3
MMI 250	Essential Technologies For Musicians	3
MMI 310	Music Business and Entrepreneurship	3
MVP XXX	Choral Ensembles (semesters 1-6, 1 credit hour)	6
Total credits for EMC Core courses = 48		
Courses in the MVP Major		
MVP XXX	Choral Ensembles (semesters 7-8, 1 credit hour)	2
MVP XXX	Opera Theater I-IV (4 semesters, 1 credit hour)	4
MVP VO3 (Level 3)	Voice Lesson & Studio Class (semesters 7-8, 2 credit hours)	4
	Junior & Senior recitals with lesson	
MCY 342	Music of the Classical, Romantic, and Modern Periods	3
MCY 522	Operatic Literature	3
MCY 525	Art Song Literature	3

MKP 240	Keyboard Studies III	2
MKP 241	Keyboard Studies IV	2
MTC 311	Analysis and Experience	3
MVP 181	Choral Conducting I	2
MVP 250	Lyric Diction For Singers --English And Italian	2
MVP 252	Lyric Diction For Singers-German And French	2
MVP 538	Vocal Pedagogy (AWC)	2
MVP 552	Vocal Performance Preparation (1 credit class for 3 semesters)	3
ITA 101	Elementary Italian I	3
FRE XXX	French	3
GER XXX	German	3
Total credits for courses in the major = 46		
Total Credit Hours		121

¹ EMC core courses require a grade of "C" or higher.

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Writing and Communication Skills (AWC) courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All Vocal Performance students will successfully complete:

1. MCY 341 Music of the Medieval, Renaissance, and Baroque Periods which will include substantial evaluated and revised writing components.
2. MVP VO3 Private Lesson (Level 3) Senior Recital, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. MVP 538 Vocal Pedagogy, which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Experiential Music Curriculum Core Courses

The EMC Core courses are common to all Frost School of Music students regardless of degree program. The EMC core courses empower students to become internal musicians as they develop deep knowledge in music and a high level of musical skills. As a community of musicians, all students interact with their peers whose diverse interest strengthen their music making abilities.

Additional courses for Principal Instrument Lesson & Studio Class and Ensembles may be required for the major.

All EMC core courses must be successfully completed with a grade of "C" or higher.

Experiential Music Curriculum Core Courses		
Major Program Forum (each semester in residence)		0
MXX XX1 (Level 1) Principal Instrument Lesson & Studio Class (semesters 1-4, 2 credit hours)		8
MXX XX3 (Level 3) Principal Instrument Lesson & Studio Class (semesters 5-6, 2 credit hours)		4
MTC/MSJ/MMI 140 Experiential Musicianship I		3
MTC/MSJ/MMI 141 Experiential Musicianship II		3
MTC/MSJ/MMI 240 Experiential Musicianship III		3
MTC/MSJ/MMI 241 Experiential Musicianship IV		3
MTC/MSJ/MMI 107 Skills Lab I (co-requisite MTC/MSJ/MMI 140)		1
MTC/MSJ/MMI 108 Skills Lab II (co-requisite MTC/MSJ/MMI 141)		1
MTC/MSJ/MMI 207 Skills Lab III (co-requisite MTC/MSJ/MMI 240)		1
MTC/MSJ/MMI 208 Skills Lab IV (co-requisite MTC/MSJ/MMI 241)		1
MKP 140 Keyboard Studies I		1
MKP 141 Keyboard Studies II		1
MCY 140 Experiencing Music		3
Complete exactly one of the following:		3
MCY 141 Musical Traditions (MSJI, MSJV, MTY, MWP, MBEI, MUE)		
MCY 341 Music of the Mediaeval, Renaissance, and Baroque Periods (MIP, MKP, MVP, MED, MTC, MUS)		
MMI 250 Essential Technologies For Musicians (OR MMI 151 for MUE)		3
MMI 310 Music Business and Entrepreneurship (OR MMI 573 for MBEI)		3
Ensembles (semesters 1-6, 1 credit hour)		6
Total Credit Hours		48

General Education

Music students are expected to meet the university general education requirements, detailed in the academic bulletin, in order to ensure that they have acquired essential intellectual skills. Music students are encouraged to engage in a range of academic disciplines.

English and Mathematics Requirements

Students requiring ENG 105, ENG 106, or MTH 101 must enroll in these classes during the first year in residence and are not permitted to drop the courses.

Course and Cognate Requirements

ENG 105 English Composition I	3
ENG 106 English Composition II	3
Select one of the following:	3

MTH 101 Algebra for College Students (MIP, MKP, MVP, MSJI, MSJV, MED, MTY)	
MTH 113 Finite Mathematics (MBEI, MUS, MTC, MWP)	
MTH 161 Calculus I (MUE)	
ST_XXXX STEM Cognate	9
PS_XXXX People & Society Cognate	9
UMX 100 Freshman Experience	0
Advanced Writing and Communication Skills (3 courses)	
Total Credit Hours	27

Advanced Writing and Communication Skills

Courses

All students are required to successfully complete 3 Advanced Communications and Writing courses. Student degree requirements will include courses that meet the desired communication outcomes in evaluated and revised writing, speaking, stage presence, and audience engagement.

All music students will successfully complete:

1. a required musicology course, which will include substantial evaluated and revised writing components.
2. a Senior recital or culminating project, which will include evaluated communication skills in attracting an audience, engaging an audience during performance, and preparing program notes or similar media as appropriate to the medium/venue.
3. one required course in their major which will include discipline specific communication skills.

Assessment

There will be at least 2 specific assessments in each Advanced Communications Skills course for communications or writing equivalent to 4000 words, evaluated and revised.

Areas of Knowledge

Arts and Humanities Cognates

All Frost School of Music students satisfy the Arts and Humanities cognate upon successful completion of the BM, BS, or BA music degree requirements.

People and Society Cognates

Students enrolled in the following degree programs: MIP, MKP, MVP, MSJI, MSJV, MTC, MWP, and MUE must complete a People and Society cognate. For the current listing of cognates, visit <http://www.miami.edu>/cognates.

The following degree programs satisfy the People and Society cognate upon successful completion of the required minor:

- MED Music Education required minor in Education
- MTY Music Therapy required minor in Psychology
- MBEI Music Business and Entertainment Industries required minor in Business, Communications or Entertainment, if the minor is designated as People and Society

- MUS Bachelor of Arts in Music required minor outside of music **may** fulfill this requirement if the minor is in the People and Society area of knowledge
- A minor in Music Business and Entertainment Industries satisfies the People and Society cognate.

Science, Technology, Engineering, and Math (STEM) Cognate

Students enrolled in the following degree programs: MIP, MKP, MVP, MSJI, MSJV, MED, MTY, MTC, MWP, and MBEI must complete a STEM cognate. For the current listing of cognates, visit <http://www.miami.edu/cognates>.

The following degree programs satisfy the STEM cognate upon successful completion of the required minor:

- MUE Music Engineering required minor in Electrical Engineering or Computer Engineering
- MBEI Music Business and Entertainment Industries required minor in Business, Communications or Entertainment, if the minor is designated as STEM
- MUS Bachelor of Arts in Music required minor outside of music **may** fulfill this requirement if the minor is in the STEM area of knowledge

Minors

Music Minor

(Audition Required)

Any student wishing to declare a minor in music must audition on an instrument and be approved by the Frost School of Music as a minor. The approval form is available at <http://www.miami.edu/frost/index.php/frost/students/> or in the Undergraduate Dean's Office. A fee is assessed for private instruction. The fee is currently \$300 per semester and must be paid prior to enrolling. Please note that private lessons may not be available on all instruments. Studio space varies from year to year. A music minor requires 15 credit hours, 12 of which must be earned at the University of Miami.

Complete exactly 2 courses from the following:	6
MTC 109 Music Theory Skills I	
MTC 110 Music Theory Skills II	
Complete exactly 1 course from the following:	3
MCY 124 The Evolution of Jazz	
MCY 127 Evolution of Rock	
MCY 131 Understanding Music	
Complete at least 6 credit hours from the following:	6
Private Lessons* (maximum of 4 semesters)	
Ensembles (entrance by audition)	
Music Electives	
Total Credit Hours	15

Minor in Music Business and Entertainment Industries (MBEI)

(No Audition Required)

A minor in Music Business and Entertainment Industries requires 12 credit hours.

MMI 274 Introduction to Music Copyright Law	3
Complete exactly 1 course from the following:	3
MMI 173 Multinational Recorded Music Industry	
MMI 310 Music Business and Entrepreneurship (music majors only)	
Complete exactly 2 courses from the following:	6
MMI 273 Artist Development and the Live Entertainment Industry	
MMI 378 Entertainment Industry Contract Basics.	
MMI 537 Recorded Music Operations	
MMI 530 Entrepreneurship for Musicians	
Total Credit Hours	12

Minor in Creative American Music (CAM)

(Audition Required, Music majors only)

The Bruce Hornsby Creative American Music Program

The Bruce Hornsby Creative American Music Program is designed to develop the creative skills of talented performing songwriters by immersing them in the diverse traditions that form the foundation of modern American songwriting. This rigorous approach will require students to become intimate, both in understanding and practice, with the vast and varied legacy that is American music. The CAM Program is open to all Frost School of Music students by audition. Those who successfully complete the program will earn a minor in Creative American Music. A minor in Creative American Music requires 17 credit hours.

MCY 221 Anglo-American Song Traditions	4
& MMI 207 and Skills Lab III: American Song Traditions	
MCY 222 African-American Song Traditions	4
& MMI 208 and Skills Lab IV: American Song Traditions	
MCY 311 Modern American Pop Music	3
MMI 307 Skills Lab V: American Pop	1
MMI 308 Skills Lab VI: American Pop	1
MMI 320 Contemporary Lyric Writing	3
MMI 445 Senior Project/Portfolio	1
Total Credit Hours	17

Minor in Music Composition

(Audition Required, Music majors only)

A minor in music composition is intended for students in the Frost School of Music who are pursuing majors in other fields within the Frost School. The curriculum in composition is designed for those students intending to pursue a career as a composer and/or to pursue graduate degrees in Theory or Composition. Students interested in this minor are required to submit a compositional portfolio to the chairman of the department for approval before declaring the minor. A minor in music composition requires 15 credit hours.

MTC 101 Composition I	2
MTC 102 Composition II	2
MTC 201 Composition III	2

MTC 202	Composition IV	2
MTC 182	Composition Workshop (4 semesters of 1 credit hour)	4
Complete exactly 1 course from the following:		3
MTC 312	20th And 21st Century Techniques	
MTC 416	Orchestration	
MTC 516	Advanced Orchestration	
Total Credit Hours		15

DAN 285	Creative Dance For Children	
DAN 286	Teaching Dance To Children	
DAN 290	Introduction To Dance-Movement Therapy	
DAN 380	Dance Composition Level 3	
Total Credit Hours		15

Minor in Studio Music and Jazz Instrument

(Audition Required, Music majors only)

A minor in Studio Music and Jazz Instrumental is available for students enrolled in the Frost School of Music whose principal performance medium is a jazz instrument. Permission of the studio teacher is required. A minor in Studio Music and Jazz Instrumental requires 12 credit hours.

MSJ 113	Analysis & Evolution of Jazz Styles I or MSJ 213 Analysis & Evolution of Jazz Styles II	3
MSJ 124	Introduction to Jazz Improvisation	3
MSJ 371	Jazz Improvisation I	3
MSJ 519	Advanced Modern Arranging I	3
Total Credit Hours		12

Minor in Dance

(Audition Required)

There is no undergraduate degree for dance.

A minor in dance is intended for students interested in developing their performance and choreographic skills as well as basics for teaching K-12.

Prospective students interested in this minor are required to audition for acceptance as well as maintain a grade point average of 3.0 in dance courses. Dance courses are open to all university students with the approval of their advisor. A minor in Dance requires 15 credit hours.

DAN 130	Orientation To Dance (prerequisite for all students interested in the Dance minor)	2
Complete exactly 1 course from - Advanced Studio Technique:		3
DAN 211	Modern Dance, Level Two	
DAN 311	Modern Dance, Level Three	
DAN 411	Modern Dance; Level Four	
Complete exactly 1 course from - Dance Education:		3
DAN 385	Methods Of Teaching Dance (K-12)	
DAN 585	Methods of Teaching Dance K-12 (Advanced)	
Complete exactly 1 course from - Dance History:		3
DAN 450	History Of Modern Dance	
DAN 550	Women In Theatrical Dance	
Complete exactly 4 credit hours from - Studio Electives:		4
DAN 111	Modern Dance, Level One	
DAN 140	Theatre Dance Forms	
DAN 190	Improvisation	
DAN 240	Cultural Dance Forms	
DAN 280	Dance Composition Level 2	

Nursing and Health Studies

<http://www.miami.edu/nur>

Please consult your 2015 - 2016 Undergraduate Student Handbooks and the School of Nursing and Health Studies website for the applicable curriculum and program policies. Please note that courses and policies are subject to change throughout the academic year. Check with an advisor in the Office of Student Services at the School of Nursing and Health Studies for current information.

The School of Nursing and Health Studies is committed to academic excellence, the advancement of healthcare, and service to society. Opportunities are also available for students to study and earn course credit hours in a variety of international settings.

Mission

The mission of the School of Nursing and Health Studies is to educate students and support faculty committed to excellence in nursing and health science. Through research, education and practice, the school will create and disseminate health knowledge and prepare culturally competent leaders to provide safe service to our community, the nation and the world.

Student Responsibilities

Students in the School of Nursing and Health Studies are responsible for meeting the degree requirements. The student is responsible to comply with all the provisions of the *Bulletin*. Changes to academic requirements and policies are updated in the School of Nursing and Health Studies Undergraduate Handbooks and website.

The general requirements for graduation from the University of Miami are further described in the General University Information (p. 13) section of the Bulletin.

Students with Disability Accommodation Policy

The policy of the University of Miami School of Nursing and Health Studies is to adhere to Standards of the Americans with Disabilities Act. Any student needing special accommodations should go to the Office of Disability Services (ODS). This office is the primary source responsible for the coordination of services for students with disabilities. The student is responsible for adhering to the Office of Disability Services requirements.

Financial Assistance

Students interested in obtaining financial aid in the form of student loans and grants should contact the Office of Financial Assistance Services. Limited, small scholarships are available through the School of Nursing and Health Studies. The qualifications for these scholarships vary; further information is available from the Office of Financial Assistance Services, and on the SONHS website (www.miami.edu/sonhs (<http://www.miami.edu/nursing>)).

Facilities

The School of Nursing and Health Studies is located on the Coral Gables Campus. The four-story Jerusalem-stone and stucco Schwartz Nursing Center features classrooms and clinical practice labs, conference rooms, one computer lab, and a simulation academy, all equipped with the latest technology. The spacious 53,000-square-foot facility supports

the work of more than 40 nurse scientists and clinical educators and our approximately 850 undergraduate and graduate students enrolled in the school's nursing and health science studies programs annually. The building opened in fall 2006. Library resources for nursing students are at the Otto G. Richter Library on the Coral Gables Campus and the Calder Medical Library on the Medical Center Campus. Clinical experiences are offered in a variety of hospitals and health related agencies in the community.

Foote Fellows

The Foote Fellows Honors Program recognizes the most educationally accomplished incoming students at the University of Miami. Foote Fellows have distinguished themselves both in and out of the classroom at their previous schools, are self-motivated, and think independently. Admission to the Foote Fellows Honors Program is by invitation.

Foote Fellows are exempt from the Cognates Program of General Education requirements. Within the curricular framework of their school or college, Foote Fellows enjoy unmatched freedom and flexibility to explore a multitude of educational resources. Many Foote Fellows leverage this opportunity to take additional majors and/or minors and to study abroad.

At each of the nine undergraduate schools at the University of Miami, a dedicated advisor helps Foote Fellows chart their academic path and attain access to distinctive learning opportunities at the University, such as special school-based seminars, faculty-mentored research, networking opportunities, and off-campus internships.

Foote Fellows also will be invited to join advanced, interdisciplinary Foote Fellow seminars taught by leading faculty members from across the University. An example is Books That Matter, a rigorous seminar in non-fiction reading that is offered in sessions for first-year and for upper-class students. Freshman Foote Fellows benefit from early move-in to the residential colleges. Further, Foote Fellows receive focused advising on post-baccalaureate distinguished fellowships and awards.

The Foote Fellows Honors Program reflects the educational vision of former University of Miami President Edward T. Foote, who retired in 2000 after serving the University for twenty years.

Health Science

Health Science

Please consult your 2015-2016 Student Handbook for the applicable curriculum and program policies. Please note that courses and policies are subject to change throughout the academic year. Check with the Office of Student Services at the School of Nursing and Health Studies for current materials.

The University of Miami School of Nursing and Health Studies offers courses leading to the degree of Bachelor of Science in Health Science. Baccalaureate education provides the foundation for further education in specialized health professional fields. Pre-professional tracks include:

- Pre-physical Therapy,
- Pre-pharmacy,
- Health Science/Health Management and Policy, and

- Health Science General.

Academic Policies

Admission

In accepting students into the Health Science program, the University does not in any way assure admittance into any professional graduate programs. Admission to any of these programs is dependent upon academic performance in the undergraduate course-work and is determined independently by the school or program to which the student applies.

Entering freshmen in the 75th percentile have mid-range SAT and ACT scores of 1410 and/or 32 respectively. Entering freshmen have an average weighted GPA of 4.2. Transfer students have a mean cumulative GPA of 3.33.

Requirements for Admitted Students

Required courses for the Health Science degree include courses in biology, chemistry, physics and mathematics, (where required by the track) and health science with a minimum grade of C- in each course. Students must satisfy both the general education requirements listed below and the requirements of a specific track, to be awarded the Bachelor of Science in Health Science degree. Students must maintain at least a 2.8 GPA in the courses listed under the track requirements with no grade below a C-.

Academic Programs

The School of Nursing and Health Studies will award a Bachelor of Science in Health Science once a student has completed the requirements listed below.

The Health Science Program offers curricula that are designed to prepare students for health professional or graduate education programs. Programs of study can be tailored for students wishing a variety of health professional options. Students are encouraged to contact graduate programs directly to ascertain if there are specific course requirements that might differ from health science track requirements. Any course requirements may be added to a student’s undergraduate curriculum track.

No minor or second major is offered in Health Science. Health Science students may not minor in biology.

General Education Requirements

Areas of Proficiency

The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

English Composition

Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. The expectation is that students become adept at using the English language as an effective communication tool. Effective writing skills are representative of an educated person because they are instruments to advance ideas efficiently and persuasively. Students fulfill this requirement by satisfactorily completing ENG 105 and ENG 106, or the equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy this requirement. An appropriate score on the SAT or ACT

verbal examination may earn a student exemption from, but not credit hour for, ENG 105.

Students will be able to:

- Gather information, synthesize data, compare various points of view, and present results in writing.
- Develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument.
- Consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks.

Advanced Writing and Communication Skills: Health Studies Pertinent Educational Outcomes:

1. Effectively communicate information related to public health in both speech and in writing, using appropriate information sources, presentation formats, and technologies.
2. Demonstrate the necessary written and verbal communication skills to effectively carry out a career in healthcare.

Healthcare Studies Assignments that Require Formal Student Writing or Presentation

Course	Writing Assignment	Student Presentations
ENG 105, ENG 106	Prerequisite courses	Prerequisite courses
BPH 206	Final written project	Final student presentation
BPH 317	Five journal entries	Group presentation
BPH 490	Five journal entries, final paper	Final student presentation
BPH 202	Final written project	
BPH 465	Final written project, small written summaries	
BPH 310	Four reflective papers	Final student presentation
BPH 309	Three reflective papers	Final student presentation
BPH 305	Three reflective papers	Final student presentation
BPH 419	Seven reflective papers	Five research show and tell presentations
BPH 321	Five reflective papers	Student presentations throughout class
BPH 487	Daily journal, written health assessment	Final student presentation
BPH 306	Dietary Assessment paper	

Assessment Measures

- Student performance on written assignments and presentations:

In order to graduate from the Health Sciences program students must successfully pass two courses in English Composition (English 105 & 106) as well as 5 writing intensive courses with a grade greater than or equal to 70%. The majority of required courses for the B.S. in Public Health program include written assignments and student presentations as part of the course grade. Grading of student written assignments and oral presentations are based on defined rubrics. A number of elective courses in the health studies curriculum also require students to submit

significant written assignments and give oral presentations throughout the semester. Throughout the Health Studies curriculum student must demonstrate their ability to write and communicate accurately and with clarity in order to successfully complete their courses.

- Graduating Senior Survey responses for questions related to written and verbal communication:

Indicate the extent to which each capacity was enhanced by your undergraduate experiences	Mean 2010 (n=28)	Mean 2011 (n=23)	Mean 2012 (n=28)	Mean 2013 (n=37)	Mean 2014 (n=50)
Write effectively	3.3	3.0	3.5	3.1	3.3
Improve presentation skills	3.1	3.4	3.3	3.3	3.3
Communicate well orally	3.2	3.2	3.5	3.3	3.4
Relate well to people of different races, nations and religions	3.5	3.3	3.7	3.4	3.6
COMPOSITE SCORE	3.3	3.2	3.5	3.3	3.4

- Based on the results from the GSS (2010–2014) students believe their undergraduate coursework in the Health Studies significantly enhanced their written, oral and formal presentation skills which in turn allowed them to more effectively interact with various individuals and groups.

Mathematics/Statistics/Computer science

In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to use and understand essential mathematical applications. The mathematics requirement helps students learn to use quantitative methods to solve problems.

The course requirements for mathematics emphasize the manipulation, interpretation, and application of quantitative data. Students fulfill this requirement by completing *an approved course in statistics, calculus 1, and a CSC or CIS course*. Exemption from the mathematics requirement or placement in prerequisite courses is based on any of the following tests: AP, IB, or a placement examination administered by the Department of Mathematics.

Students will be able to:

- Select quantitative tools appropriate for solving problems.
- Use quantitative tools appropriate for solving problems.

- Interpret quantitative data in an appropriate manner for solving problems.

Areas of Knowledge

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the areas of knowledge provide a broad array of intellectual and cultural exploration. In satisfying these requirements students examine creative expression in the arts, literature, and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world.

COGNATES:

Students fulfill the Areas of Knowledge requirement by completing three *cognates*, one from each of the three areas of the university curriculum:

- Arts & Humanities;
- People & Society; and
- Science, Technology, Engineering & Mathematics.

A cognate is a group of at least three courses for at least nine credits, related in a topical, thematic, interdisciplinary, sequential, or other fashion, so that completion of a cognate provides coherent depth of knowledge. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the coherent focus of the cognate.[1] (p.) While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed by students are listed on the students' transcripts, thus certifying their depth of knowledge in those areas.

The university offers a large number and range of cognates. Additionally, each major and minor fulfills the cognate requirement in one Area of Knowledge. (Some majors and minors, depending on the courses selected, can fulfill alternative Areas of Knowledge.) All approved cognates are visible in a cognate search engine (at www.miami.edu/cognates) that allows students to search for cognates based on cognate features, cognate courses, and keywords. Each cognate is administered by a department or program that is designated as the Responsible Academic Unit (RAU) for the cognate. Inquiries regarding a cognate should be directed to the cognate's RAU.

[1] (p.) The University's cognate approval process ensures that all Arts & Humanities cognates require students to complete at least one course that goes beyond skill development, i.e., beyond the basic composition, oral communication, and introductory foreign language courses.

¹ The University's cognate approval process ensures that all Arts & Humanities cognates require students to complete at least one course that goes beyond skill development, i.e., beyond the basic composition, oral communication, and introductory foreign language courses.

Arts & Humanities (9 credits)

Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students

to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

Students will be able to:

- Critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis.
- Understand the creation and performance of art.

People & Society (9 credits)

People & Society cognates help students understand and analyze the organization of society and the patterns of social change, in the past and in the contemporary world.

Students will be able to:

- Analyze the organization of society.
- Analyze patterns of social change.

Science, Technology, Engineering & Mathematics (stem) Fulfilled by BSHS Degree

Science, Technology, Engineering & Mathematics cognates develop students' abilities to think critically about mathematical, scientific, and technological issues, through an understanding of processes and methods of scientific inquiry involving experimentation, observation, and quantitative analysis. The cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Students will be able to:

- Understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems.
- Interpret quantitative data and draw useful conclusions.

The three cognates taken to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors) must have different RAUs. No more than two Areas of Knowledge may be fulfilled by cognates whose RAUs are in the same school or college, except for the College of Arts and Sciences. Majors and minors may cover more than one Area of Knowledge, but may be used to fulfill the cognate requirement in only one of those areas. A course may be used in only one cognate used to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors). Students may petition for individual course substitutions in cognates, by application to the cognate's RAU. Transfer courses, Advanced Placement, International Baccalaureate, CLEP, dual enrollment, etc., that are transferred in with specific UM course credit hour, can be used in cognates.

Majors

Major in Health Science

- B.S. in Health Science - General Track (p. 345)
- B.S. in Health Science - Pre-Physical Therapy Track (p. 347)
- B.S. in Health Science - Pre-Pharmacy Track (p. 347)
- B.S. in Health Science - Health Science/Health Management and Policy Track (p. 346)

B.S. in Health Science - General Track

General Education Requirement		
ENG 105 & ENG 106	English Composition I and English Composition II	6
HCS 202	Introductory Statistics in Health Care ¹	3
CIS/CSC Computer Course		
MTH 141	Calculus Concepts with Foundations B	4
9 credit hours of Arts/Humanities Cognate		
9 credit hours of People & Society Cognate		
Core Health Science Requirements		
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
BIL 160 & BIL 161	Evolution and Biodiversity and Evolution and Biodiversity Laboratory	5
BIL 250	Genetics	3
BIL 255	Cellular and Molecular Biology	3
HCS 212	Human Anatomy	3
HCS 213	Human Anatomy Laboratory	1
HCS 215	Principles of Systemic Physiology	3
BPH 306	Principles Of Nutrition	3
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory) ²	4
Select one of the following: ²		
CHM 104 Chemistry for Life Sciences II (Lecture) & CHM 106 and Chemistry for Life Sciences II (Laboratory)		
CHM 111 Principles of Chemistry I & CHM 113 and Chemistry Laboratory I		
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II ²	4
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I ²	4
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II ²	4
Physics - two semesters with lab		

¹ MAS 201 for Health Management and Policy Track

² Constitutes a Chemistry Minor

NOTE: Please add 9 credits of People & Society on the above table (after 9 credits of Art & Humanities Cognate)

Health Sciences General Track

3 credit hours of electives in biology or Public Health above the 200 level	3
A minor in a discipline accepted by the School of Nursing and Health Studies	

Sample Plan of Study

Freshman Year		
Fall		Credit Hours
ENG 105	English Composition I (or 107)	3
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5

Cognate Arts & Humanities	3
MTH 101 Algebra for College Students	3
UMX 100 The University Of Miami Experience	0
Term Credit Hours:	14
Spring	
ENG 106 English Composition II	3
BIL 160 Evolution and Biodiversity & BIL 161 and Evolution and Biodiversity Laboratory	5
Cognate Arts & Humanities	3
MTH 141 Calculus Concepts with Foundations B	4
Term Credit Hours:	15
Sophomore Year	
Fall	
Select one of the following options:	4
CHM 103 Chemistry for Life Sciences I & CHM 105 (Lecture) and Chemistry for Life Sciences I (Laboratory)	
CHM 111 Principles of Chemistry I & CHM 113 and Chemistry Laboratory I	
BIL 250 Genetics	3
Cognate People & Society	3
HCS 202 Introductory Statistics in Health Care	3
Term Credit Hours:	13
Spring	
Select one of the following options:	4
CHM 104 Chemistry for Life Sciences II & CHM 106 (Lecture) and Chemistry for Life Sciences II (Laboratory)	
CHM 112 Principles of Chemistry II & CHM 114 and Chemistry Laboratory II	
BIL 255 Cellular and Molecular Biology	3
HCS 212 Human Anatomy & HCS 213 and Human Anatomy Laboratory	4
Cognate Arts & Humanities	3
BPH 306 Principles Of Nutrition	3
Term Credit Hours:	17
Junior Year	
Fall	
HCS 215 Principles of Systemic Physiology	3
CIS/CSC Computer Information	3
PHY College Physics I w/ Lab	5
Minor	3
Cognate People & Society	3
Term Credit Hours:	17
Spring	
Cognate People & Society	3
Elective	3

PHY 102 College Physics II & PHY 108 and College Physics Laboratory II	5
Minor	3
Elective	3
Term Credit Hours:	17
Senior Year	
Fall	
Minor	3
BIL 200+/HCS Elective	3
Elective	3
Minor	3
Elective	3
Term Credit Hours:	15
Spring	
Minor	3
Elective	3
Elective	3
Elective	3
Elective	3
Term Credit Hours:	15
Total Credit Hours:	123

Students must also complete a minor in a discipline accepted by the School of Nursing and Health Studies

B.S. in Health Science - Health Science/Health Management and Policy Track

General Education Requirement		
ENG 105 English Composition I & ENG 106 and English Composition II		6
HCS 202 Introductory Statistics in Health Care ¹		3
CIS/CSC Computer Course		
MTH 141 Calculus Concepts with Foundations B		4
9 credit hours of Arts/Humanities Cognate		9
9 credit hours of People & Society Cognate		9
Core Health Science Requirements		
BIL 150 General Biology & BIL 151 and General Biology Laboratory		5
BIL 160 Evolution and Biodiversity & BIL 161 and Evolution and Biodiversity Laboratory		5
BIL 250 Genetics		3
BIL 255 Cellular and Molecular Biology		3
HCS 212 Human Anatomy		3
HCS 213 Human Anatomy Laboratory		1
HCS 215 Principles of Systemic Physiology		3
BPH 306 Principles Of Nutrition		3
CHM 103 Chemistry for Life Sciences I (Lecture) & CHM 105 and Chemistry for Life Sciences I (Laboratory) ²		4
Select one of the following: ²		4
CHM 104 Chemistry for Life Sciences II (Lecture) & CHM 106 and Chemistry for Life Sciences II (Laboratory)		

CHM 111 Principles of Chemistry I & CHM 113 and Chemistry Laboratory I	4
CHM 112 Principles of Chemistry II & CHM 114 and Chemistry Laboratory II ²	4
CHM 201 Organic Chemistry I (Lecture) & CHM 205 and Organic Chemistry Laboratory I ²	4
CHM 202 Organic Chemistry II (Lecture) & CHM 206 and Organic Chemistry Laboratory II ²	4
Physics - two semesters with lab	

¹ MAS 201 for Health Management and Policy Track

² Constitutes a Chemistry Minor

Health Science/Health Management and Policy Track

12 credit hours of electives in biology or health science above the 100 level	12
Health Sector Management and Policy Minor Required	

B.S. in Health Science - Pre-Pharmacy Track

General Education Requirement

ENG 105 English Composition I & ENG 106 and English Composition II	6
HCS 202 Introductory Statistics in Health Care ¹	3
CIS/CSC Computer Course	
MTH 141 Calculus Concepts with Foundations B	4
9 credit hours of Arts/Humanities Cognate	9
9 credit hours of People & Society Cognate	9

Core Health Science Requirements

BIL 150 General Biology & BIL 151 and General Biology Laboratory	5
BIL 160 Evolution and Biodiversity & BIL 161 and Evolution and Biodiversity Laboratory	5
BIL 250 Genetics	3
BIL 255 Cellular and Molecular Biology	3
HCS 212 Human Anatomy	3
HCS 213 Human Anatomy Laboratory	1
HCS 215 Principles of Systemic Physiology	3
BPH 306 Principles Of Nutrition	3
CHM 103 Chemistry for Life Sciences I (Lecture) & CHM 105 and Chemistry for Life Sciences I (Laboratory) ²	4
Select one of the following: ²	4
CHM 104 Chemistry for Life Sciences II (Lecture) & CHM 106 and Chemistry for Life Sciences II (Laboratory)	
CHM 111 Principles of Chemistry I & CHM 113 and Chemistry Laboratory I	
CHM 112 Principles of Chemistry II & CHM 114 and Chemistry Laboratory II ²	4
CHM 201 Organic Chemistry I (Lecture) & CHM 205 and Organic Chemistry Laboratory I ²	4

CHM 202 Organic Chemistry II (Lecture) & CHM 206 and Organic Chemistry Laboratory II ²	4
Physics - two semesters with lab	

¹ MAS 201 for Health Management and Policy Track

² Constitutes a Chemistry Minor

Pre-Pharmacy Track

3 credit hours of electives in biology or health science above the 200 level	3
Chemistry Minor	
CHM 111 Principles of Chemistry I & CHM 113 and Chemistry Laboratory I	
CHM 112 Principles of Chemistry II & CHM 114 and Chemistry Laboratory II	
CHM 201 Organic Chemistry I (Lecture) & CHM 205 and Organic Chemistry Laboratory I	
CHM 202 Organic Chemistry II (Lecture) & CHM 206 and Organic Chemistry Laboratory II	
ECO 211 Economic Principles and Problems	3
ECO 212 Economic Principles and Problems	3
MIC 301 Introduction to Microbiology and Immunology or MIC 303 Part 1 of 2: Introductory Microbiology and Immunology & MIC 304 (Lecture) and Part 2 of 2: Introductory Microbiology and Immunology (Lab)	5
BMB 401 Biochemistry For The Biomedical Sciences	3
COS 211 Public Speaking	3
HCS 216 Principles of Systemic Physiology Laboratory	1

(Transfer students who do not complete the chemistry minor at the University of Miami must choose another minor accepted by the School of Nursing and Health Studies.)

B.S. in Health Science - Pre-Physical Therapy Track

General Education Requirement

ENG 105 English Composition I & ENG 106 and English Composition II	6
HCS 202 Introductory Statistics in Health Care ¹	3
CIS/CSC Computer Course	
MTH 141 Calculus Concepts with Foundations B	4
9 credit hours of Arts/Humanities Cognate	9
9 credit hours of People & Society Cognate	9

Core Health Science Requirements

BIL 150 General Biology & BIL 151 and General Biology Laboratory	5
BIL 160 Evolution and Biodiversity & BIL 161 and Evolution and Biodiversity Laboratory	5
BIL 250 Genetics	3
BIL 255 Cellular and Molecular Biology	3
HCS 212 Human Anatomy	3

HCS 213	Human Anatomy Laboratory	1
HCS 215	Principles of Systemic Physiology	3
BPH 306	Principles Of Nutrition	3
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory) ²	4
Select one of the following: ²		4
CHM 104 & CHM 106	Chemistry for Life Sciences II (Lecture) and Chemistry for Life Sciences II (Laboratory)	
CHM 111 & CHM 113	Principles of Chemistry I and Chemistry Laboratory I	
CHM 112 & CHM 114	Principles of Chemistry II and Chemistry Laboratory II ²	4
CHM 201 & CHM 205	Organic Chemistry I (Lecture) and Organic Chemistry Laboratory I ²	4
CHM 202 & CHM 206	Organic Chemistry II (Lecture) and Organic Chemistry Laboratory II ²	4
Physics - two semesters with lab		

¹ MAS 201 for Health Management and Policy Track

² Constitutes a Chemistry Minor

Pre-Physical Therapy Track

3 credit hours of electives in biology or health science above 100 level		3
HCS 216	Principles of Systemic Physiology Laboratory (also recommended)	1
PSY 230 or PSY 240	Child And Adolescent Development Abnormal Psychology	3
A minor in a discipline accepted by the School of Nursing and Health Studies		

Nursing

Nursing Accreditation

The nursing baccalaureate program is approved by the Florida Board of Nursing and accredited by the:

Commission of Collegiate Nursing Education (CCNE)
One DuPont Circle NW, Suite 530
Washington, DC 20036
202-887-6791

The University of Miami School of Nursing and Health Studies (SONHS) offers courses leading to the degrees of:

- Bachelor of Science in Nursing (BSN),
- Master of Science in Nursing (MSN),
- Doctor of Nursing Practice (DNP) and
- Doctor of Philosophy (PhD).

Baccalaureate education is the primary foundation for professional nursing, as well as for graduate education; students who successfully complete the baccalaureate program are eligible to apply for the licensure examination to practice professional nursing. Graduates of diploma and Associate's nursing degree programs may apply as transfer students to obtain the BSN degree. Students holding a baccalaureate degree in a field

other than nursing who would like to pursue the BSN may apply to the Accelerated Option BSN Program.

Academic Policies

Admission

Admission as a freshman or sophomore to the BSN Program is open to applicants who have met the requirements for admission to the University of Miami. Requests for admission should be directed to the Office of Admissions on the Coral Gables Campus.

Transfer students to the Traditional BSN Program, from accredited universities, colleges, or junior colleges may be admitted with advanced standing as space allows provided they have completed courses comparable to those required by the University of Miami. Transfer students are advised to contact the Office of Student Services at the School of Nursing and Health Studies concerning prerequisites.

Transfer students to the Accelerated Option Program must have a Baccalaureate degree from an accredited university or college and must have met all the nursing prerequisites required by the University of Miami. Students are recommended to contact an advisor in the Office of Student Services at the School of Nursing and Health Studies.

An RN transition option is offered to RN's with an Associate's degree or diploma to earn the BSN. Academic transcripts are evaluated to determine if the 60 credits of transferable course work, including pre-requisites have been successfully completed.

Technical Standards

Nursing education requires that the accumulation of scientific knowledge be accompanied by the simultaneous acquisition of skills and professional attitudes and behaviors. The nursing degrees awarded by the University of Miami School of Nursing and Health Studies at the completion of the educational process certifies that the individual has acquired a base of knowledge and skills required for the practice of nursing at the respective undergraduate or graduate level. To this end, all courses in the curriculum must be completed successfully. In order to acquire the knowledge and skills to function in a variety of clinical situations and to render a wide spectrum of patient care, candidates for the undergraduate and graduate degrees in nursing must have abilities and skills in five areas:

- Observation
- Communication
- Motor
- Conceptual-Integrative
- Behavioral-Social

Technological compensation can be made for some disabilities in certain of these areas, but a candidate should be able to perform in a reasonably independent manner and exercise independent judgment.

Observation

The candidate must be able to observe demonstrations and participate in didactic courses and simulated learning opportunities. A candidate must be able to observe a patient accurately at a distance and close at hand. Observation requires the use of common sense, as well as the functional use of the senses of vision, audition, olfaction, and palpation.

Communication

Candidates must communicate effectively using English in clinical and classroom settings. A candidate must be able to elicit information from patients, describe changes in mood, activity and posture, and perceive nonverbal communications. A candidate must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but reading and writing. The candidate must be able to communicate effectively and efficiently with all members of the health care team in both immediate and recorded modes.

Motor

Candidates should have sufficient motor function to elicit information from patients by palpation, auscultation, percussion and other assessment techniques. A candidate should be able to perform nursing skills requiring the use of gross and fine motor skills (e.g. IV insertion, venous blood draw, urinary catheter insertion). A candidate should be able to execute motor movements reasonably required to provide nursing care and emergency response to patients. Examples of emergency responses reasonably required of nurses are cardiopulmonary resuscitation, medication administration, and application of pressure to stop bleeding. Candidates must perform actions which require the use of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision. Candidates should also be able to assist and/or participate in various lifting activities.

Conceptual-Integrative

These abilities include measurement, calculation, reasoning, analysis, synthesis, and retention of complex information. Critical thinking requires all of these intellectual abilities in order to provide optimal nursing care. In addition, the candidate should be able to comprehend three-dimensional relationships and to understand the spatial relationships of structures.

Behavioral-Social

Candidates must possess the emotional health required for the full use of their intellectual abilities, the exercise of good judgment, the prompt completion of all responsibilities attendant to the care of patients, and the development of mature, sensitive and effective relationships with patients. Candidates must be able to tolerate physically taxing workloads and to function effectively under stress in the classroom and clinical area. They must be able to adapt to changing environments, display flexibility and learn to function in the face of uncertainties inherent in the clinical environment. Compassion, integrity, concern for others, interpersonal skills, interest and motivation are all personal qualities that are assessed during the admissions and educational process.

Reasonable accommodations will be considered on a case by case basis for individuals who meet eligibility under applicable statutes. Any person expecting to need accommodations should request them prior to beginning the program, as some accommodations may not be considered reasonable and may impact an applicant's ability to complete all components of the program.

Requirements for Enrollment into Upper Division and Clinical Courses

- Traditional BSN students at the University of Miami of Miami must achieve junior standing with a minimum UM GPA of 3.0 and a UM prerequisite GPA of 2.75.
- Transfer students must have a minimum cumulative GPA of 3.5 and a prerequisite GPA of 3.3.

- Accelerated Option BSN students must have a minimum GPA of 3.0 with a 3.0 for prerequisite courses.
- To be considered for progression or admission to clinical coursework, students are allowed to repeat only 1 failed prerequisite course. Failure of a second course, regardless of a passing retake on the first failed course disqualifies the student for progression or admission to the clinical course work.
- Students are required to have a health examination prior to enrollment in clinical nursing courses. All students must provide evidence of a current TB screening test, hepatitis B, MMR, tetanus, varicella and influenza vaccinations, and certification in Basic Life Support. Students must submit to drug screening and background checks. See the School of Nursing and Health Studies 2015-16 Student Handbooks for further information.

Requirements for Enrollment into Upper Division Nursing Courses

Traditional BSN

CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	4
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3
MIC 320	Introduction to Microbiology and Immunology for Nurses	3
NUR 202	Introductory Statistics in Health Care	3
PSY 110	Introduction to Psychology	3
MTH 101	Algebra for College Students	3
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
NUR 306	Principles of Nutrition	3
NUR 317	Theories in Growth and Development	3
Total Credit Hours		34

Accelerated Option BSN

CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	4
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3
MIC 320	Introduction to Microbiology and Immunology for Nurses	3
NUR 202	Introductory Statistics in Health Care	3
PSY 110	Introduction to Psychology	3
NUR 306	Principles of Nutrition	3
NUR 317	Theories in Growth and Development	3
Baccalaureate Degree		
Total Credit Hours		26

RN-BSN

CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	4
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
HCS 215	Principles of Systemic Physiology	3

MIC 320	Introduction to Microbiology and Immunology for Nurses	3
NUR 202	Introductory Statistics in Health Care	3
PSY 110	Introduction to Psychology	3
MTH 101	Algebra for College Students	3
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
NUR 306	Principles of Nutrition	3
NUR 317	Theories in Growth and Development	3
FL RN License		
Total Credit Hours		34

Academic Progress

To be assured of uninterrupted progression through the BSN program, students must maintain a grade point average of 2.0 or better.

Student records are reviewed at the close of each semester, and those students with a cumulative average of less than 2.0 are subject to being placed on academic probation according to the University of Miami Policy on Academic Probation and Dismissal. A grade of C- is not a passing grade in any nursing course within the BSN program.

When a clinical nursing course is repeated, both theoretical and clinical components must be repeated. When a course must be repeated, progression in the nursing program will be altered in order for prerequisites to be met. Such alteration will lengthen the time required to complete the BSN program. Students are required to fulfill the requirements that are in effect at the time of the current program. No special courses will be created for students who are repeating the same course.

Failure of two nursing courses with a grade of C- or below or failure of the same nursing course twice with a grade of C- or below constitutes failure of two nursing courses and the student will be dismissed from the program. A student who fails only one nursing course, retakes the failed nursing course and receives a passing grade on the second attempt at a failed nursing course, may progress through the program but the original failure is still counted as a failed course. If the student should fail another nursing course later in the program of study, then the student will not be allowed to retake the second failed course and the student will be dismissed from the program.

Registered Nurse Licensure

Graduates of the BSN program are eligible to apply for the National Council Licensure Examination (NCLEX-RN) for registered nursing after a student passes all the courses, completes the credit hours, and completes the requirements for the RN Exit HESI exam.

Requirements for Graduation

Traditional BSN

General Education Requirements

Philosophy

The University of Miami's General Education Requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. The General Education Requirements provide students with the opportunity to study methodologies and

achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The General Education Requirements allow students to create an integrative map for their academic careers, providing a context for more focused studies.

Areas of Proficiency

The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

English Composition

Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. The expectation is that students become adept at using the English language as an effective communication tool. Effective writing skills are representative of an educated person because they are instruments to advance ideas efficiently and persuasively. Students fulfill this requirement by satisfactorily completing ENG 105 and ENG 106, or the equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy this requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit hour for, ENG 105.

Students will be able to:

- Gather information, synthesize data, compare various points of view, and present results in writing.
- Develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument.
- Consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks

Advanced Writing and Communication Skill Requirements

Summary of Communication Skills Required of Students in the Bachelor of Science in Nursing (BSN) Program

Students must communicate effectively using English in clinical and classroom settings. A student must be able to elicit information from patients, describe changes in mood, activity, and posture, and perceive nonverbal communications. A student must be able to communicate effectively and sensitively with patients. Communication includes not only speech, but reading and writing. The candidate must be able to communicate effectively and efficiently with all members of the health care team in both immediate and recorded modes. Throughout the curriculum students are expected to achieve skills in the following communication domains:

Therapeutic Communication

Therapeutic communication between the nurse and patient is a cornerstone of effective nursing care. This communication style is goal-oriented and focused on learning and promoting growth.

Example content: principles of therapeutic use of self; therapeutic communication techniques; health education/teaching; reflective journals.

Technical Communication

Technical communication encompasses the specific methods used by the nursing profession to communicate information necessary for nursing practice.

Example content: use of clinical information systems (e.g., electronic health record, physician order entry); application of standardized health care terminology; use of data and data systems

Inter- and Intra-Professional Communication

Effective communication among all members of the healthcare team is essential for delivering high quality, safe patient care.

Example content: teamwork/cooperative learning; scopes of practice; conflict resolution; group dynamics and evaluation.

Scholarly Written Communication

Scholarly writing is a formal means of communication in which the writer communicates synthesized knowledge about a topic while also demonstrating original thought and unique perspectives.

Example content: scholarly papers; research critiques; application of APA publication style.

Scholarly Verbal Communication

Scholarly verbal communication is a formal way of speaking with the intended audience to provide and/or elicit information in a systematic manner. Primary methods of scholarly verbal communication involve verbal presentations/lectures and formal data gathering processes such as interviews.

Example content: scholarly presentations; key informant interviews

Minimal Writing Proficiency Standards

Writing proficiency is evaluated throughout the BSN program plan of study. Three primary categories of writing are required:

1. scholarly papers (NUR 400/NUR 401, NUR 440, NUR 453);
2. patient care documentation (NUR 304, NUR 308, NUR 318, NUR 320, NUR 411, NUR 448, NUR 453); and
3. reflective journals (NUR 306, NUR 453). Each writing component is evaluated as part of the grading rubric for the associated course, with feedback and revisions required.

Plan for Assessment of the BSN Program Advanced Writing and Communication Skills Requirement

Content to meet the required communication skills and minimal writing proficiency standards is provided across the curriculum. The table below outlines the specific communication domains and content covered in each course as well as assessment/outcome criteria for each. In addition to demonstrating skills across these five communication domains, students are also required to complete ENG 105 and ENG 106 (or equivalent) as prerequisite course to provide the foundation for the development of more advanced writing and communication skills.

*Bold course numbers are courses in the accelerated BSN plan of study

Author Comment: Table with specific communication domains and content should go here (needs to be created by courseleaf)

Course	Communication Domain	Assessment/Outcome (exemplars)
ENG 105, ENG 106 (or equivalent)	(Pre-requisite)	(Pre-requisite)
HCS 212/HCS 213	Technical Communication	Examinations
HSC 215/HSC 216	Technical Communication	Examinations
NUR 306	Technical Communication	Dietary journals
	Therapeutic Communication	Dietary Analysis System
		Reflective Paper
NUR 202	Technical Communication	Examinations
NUR 317	Therapeutic Communication	Reflective Journals
	Scholarly Verbal Communication	Scholarly Presentation
NUR 304	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
		Simulation
NUR 307	Technical Communication	Examinations
NUR 311	Therapeutic Communication	Scholarly Papers
	Inter- and Intra-Professional Communication	Scholarly Presentation
		Wiki Postings
	Scholarly Written Communication	
	Scholarly Verbal Communication	
NUR 314	Technical Communication	Examinations
	Therapeutic Communication	Simulation
NUR 315	Technical Communication	Examinations
NUR 308	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
		Simulation
NUR 318	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation

	Inter- and Intra-Professional Communication	Clinical Evaluations
		Health Teaching Project Simulation
NUR 320	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
		Health Teaching Project Simulation
NUR 411	Technical Communication	Examinations
	Therapeutic Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
	Scholarly Verbal Communication	Scholarly Presentation Simulation
NUR 440	Therapeutic Communication	Examinations
	Technical Communication	Clinical Evaluations
	Inter- and Intra-Professional Communication	Health Teaching Project
	Scholarly Written Communication	Key Informant Interviews
	Scholarly Verbal Communication	Surveillance Data
		Scholarly Paper
		Scholarly Presentation Simulation
NUR 448	Therapeutic Communication	Examinations
	Technical Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
NUR 400/NUR 401	Scholarly Written Communication	Scholarly Paper
	Scholarly Verbal Communication	Scholarly Presentation
NUR 430	Therapeutic Communication	Examinations
	Inter- and Intra-Professional Communication	
NUR 453	Therapeutic Communication	Examinations

	Technical Communication	Patient Care Documentation
	Inter- and Intra-Professional Communication	Clinical Evaluations
	Scholarly Written Communication	Reflective Journals
		Scholarly Paper Simulation
HCS/NUR XXX Nursing Elective	Varies	Varies

Mathematics/Statistics

In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to use and understand essential mathematical applications. The mathematics requirement helps students learn to use quantitative methods to solve problems. The course requirements for mathematics emphasize the manipulation, interpretation, and application of quantitative data. Students fulfill this requirement by completing a statistics course beyond MTH101

Students will be able to:

- Select quantitative tools appropriate for solving problems.
- Use quantitative tools appropriate for solving problems.
- Interpret quantitative data in an appropriate manner for solving problems.

SOCIAL SCIENCE

- Introduction to Psychology (PSY 110)
- A Social Science Course

AREAS OF KNOWLEDGE

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the areas of knowledge provide a broad array of intellectual and cultural exploration. In satisfying these requirements students examine creative expression in the arts, literature, and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world.

COGNATES

Students fulfill the Areas of Knowledge requirement by completing three cognates, one from each of the three areas of the university curriculum: Arts & Humanities; People & Society; and Science, Technology, Engineering & Mathematics. A cognate is a group of at least three courses for at least nine credits, related in a topical, thematic, interdisciplinary, sequential, or other fashion, so that completion of a cognate provides coherent depth of knowledge. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the coherent focus of the cognate (1). While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed by students are listed on the students' transcripts, thus certifying their depth of knowledge in those areas.

The university offers a large number and range of cognates. Additionally, each major and minor fulfills the cognate requirement in one Area of Knowledge. (Some majors and minors, depending on the courses selected, can fulfill alternative Areas of Knowledge.) All approved cognates are visible in a cognate search engine (at www.miami.edu/cognates) that allows students to search for cognates based on cognate features, cognate courses, and keywords. Each cognate is administered by a department or program that is designated as the Responsible Academic Unit (RAU) for the cognate. Inquiries regarding a cognate should be directed to the cognate's RAU.

Arts & Humanities

Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

Students will be able to:

- Critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis.

Understand the creation and performance of art.

People & Society

People & Society cognates help students understand and analyze the organization of society and the patterns of social change, in the past and in the contemporary world.

Students will be able to:

- Analyze the organization of society.
- Analyze patterns of social change.

Science, Technology, Engineering & Mathematics (Fulfilled Through BSN Degree)

Science, Technology, Engineering & Mathematics cognates develop students' abilities to think critically about mathematical, scientific, and technological issues, through an understanding of processes and methods of scientific inquiry involving experimentation, observation, and quantitative analysis. The cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Students will be able to:

- Understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems.
- Interpret quantitative data and draw useful conclusions.
- The three cognates taken to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors) must have different RAUs. No more than two Areas of Knowledge may be fulfilled by cognates whose RAUs are in the same school or college, except for the College of Arts and Sciences. Majors and minors may cover more than one Area of Knowledge, but may be used to fulfill the cognate requirement in only one of those areas. A course may

be used in only one cognate used to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors). Students may petition for individual course substitutions in cognates, by application to the cognate's RAU. Transfer courses, Advanced Placement, International Baccalaureate, CLEP, dual enrollment, etc., that are transferred in with specific UM course credit, can be used in cognates.

¹ The University's cognate approval process ensures that all Arts & Humanities cognates require students to complete at least one course that goes beyond skill development, i.e., beyond the basic composition, oral communication, and introductory foreign language courses.

**Tracks in BSN Programs
Majors in Nursing**

- Traditional BSN (p. 354)
- Accelerated BSN (p. 353)
- RN-BSN (p. 354)

Accelerated BSN

**BSN Accelerated Program of Study - Upper
Division Nursing Major**

Junior Year		
First Semester		Credit Hours
NUR 304	Adult Health I: Fundamentals of Nursing Practice (Civic)	6
NUR 307	Pharmacology	3
NUR 314	Health Assessment and Promotion (NUR 314 course title was previously Health Assessment, but it now changed to Health Assessment and Promotion)	3
NUR 315	Pathophysiology	3
Term Credit Hours:		15
Second Semester		
NUR 308	Adult Health II (Civic)	8
NUR 318	Women's Health Nursing(Civic) NUR 318 course title was previously Maternal Health, but it changed to Women's Health Nursing	4
NUR 320	Child and Adolescent Health Nursing(Civic) NUR 320 was previously known as Pediatric Health Nursing but it changed to Child and Adolescent Health Nursing	4
NUR 401	Evidence-Based Nursing Practice.Course Title for Pediatric Health Nursing was changed to Child and Adolescent Health Nursing (Civic) ¹	3

NUR 430	Leadership In Nursing ¹	3
Term Credit Hours:		22
Third Semester		
NUR 411	Adult Health Iii(Civic)	5
NUR 440	Population Focused Nursing (Civic)	4
NUR 448	Psychiatric Mental Health Nursing. (Civic)	4
NUR 453	Role Transition (Civic) ¹	5
Term Credit Hours:		18
Total Credit Hours:		55

¹ Indicates Writing Intensive Course

RN-BSN

RN - BSN Full-Time Program of Study - Upper Division Nursing Major

Junior Year		
First Semester		Credit Hours
NUR 311	Theories and Concepts of Nursing ¹	2
NUR 314	Health Assessment and Promotion (NUR 314 changed course title from Health Assessment to Health Assessment and Promotion)	3
NUR 350	Pathophysiology/Pharmacology For Rn/Bsn	4
NUR 390	Advanced Placement Practice I for RN/BSN Students	10
Term Credit Hours:		19
Second Semester		
NUR 400	Theories, Research and Evidence-Based Practice ¹	3
NUR 405	Professionalism And Career Pathways	3
NUR 440	Population Focused Nursing (Civic)	4
NUR 403	Advanced Placement Practice II for RN/BSN Students	10
Term Credit Hours:		20
Third Semester		
NUR 305	Issues in Health Disparities ¹	3
NUR 408	Genetics And Healthcare ¹	3
NUR 426	Leadership Management in Nursing ¹	5
NUR 414	Advanced Placemnt Practice III for RN/BSN students	10
Term Credit Hours:		21
Total Credit Hours:		60

¹ Indicates Writing Intensive Course

RN - BSN Part-Time Program of Study - Upper Division Nursing Major

First Semester		Credit Hours
NUR 311	Theories and Concepts of Nursing ¹	2
NUR 350	Pathophysiology/Pharmacology For Rn/Bsn	4
Term Credit Hours:		6
Second Semester		
NUR 314	Health Assessment and Promotion (NUR 314 changed course title from Health Assessment to Health Assessment and Promotion)	3
NUR 400	Theories, Research and Evidence-Based Practice ¹	3
Term Credit Hours:		6
Third Semester		
NUR 405	Professionalism And Career Pathways	3
NUR 408	Genetics And Healthcare ¹	3
Term Credit Hours:		6
Fourth Semester		
NUR 305	Issues in Health Disparities ¹	3
NUR 440	Population Focused Nursing	4
Term Credit Hours:		7
Fifth Semester		
NUR 426	Leadership Management in Nursing ¹	5
Term Credit Hours:		5
Advanced Placement		
NUR 390	Advanced Placement Practice I for RN/BSN Students	10
NUR 403	Advanced Placement Practice II for RN/BSN Students	10
NUR 414	Advanced Placemnt Practice III for RN/BSN students	10
Term Credit Hours:		30
Total Credit Hours:		60

¹ Indicates Writing Intensive Course

Traditional BSN

BSN Traditional Program of Study - Lower Division Nursing Major

These are intended as examples only. Students have several options for completing the first two years of study. The Office of Student Services will assist students to select specific courses which most accurately reflect the student's interests, abilities, and career goals. Students **must** complete **all** prerequisites prior to entering the junior year of clinical coursework.

Freshman Year		
Fall		Credit Hours
ENG 105	English Composition I	3
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
	Cognate Arts & Humanities or People & Society	3
MTH 101	Algebra for College Students ¹	3
UMX 100	The University Of Miami Experience	0
	Term Credit Hours:	14
Spring		
ENG 106	English Composition II	3
HCS 212 & HCS 213	Human Anatomy and Human Anatomy Laboratory	4
	Cognate Arts & Humanities or People & Society	3
PSY 110	Introduction to Psychology ¹	3
	Cognate Arts & Humanities or People & Society	3
	Term Credit Hours:	16
Sophomore Year		
Fall		Credit Hours
HCS 215	Principles of Systemic Physiology ¹	3
	Cognate Arts & Humanities or People & Society	3
CHM 103 & CHM 105	Chemistry for Life Sciences I (Lecture) and Chemistry for Life Sciences I (Laboratory)	4
NUR 306	Principles of Nutrition ¹	3
	Cognate Arts & Humanities or People in Society	3
	Term Credit Hours:	16
Spring		
NUR 202	Introductory Statistics in Health Care ¹	3
MIC 320	Introduction to Microbiology and Immunology for Nurses ¹	3
NUR 317	Theories in Growth and Development ¹	3
	Cognate Art & Humanities or People & Society	3
	Elective Optional	3
	Term Credit Hours:	15
	Total Credit Hours:	61

¹ Prerequisite

BSN Traditional Program of Study - Upper Division Nursing Major

Junior Year		
Fall		Credit Hours
NUR 304	Adult Health I: Fundamentals of Nursing Practice (Civic)	6
NUR 307	Pharmacology	3
NUR 311	Theories and Concepts of Nursing ¹	2

NUR 314	Health Assessment and Promotion (NUR 314 course title was changed to Health Assessment and Promotion)	3
NUR 315	Pathophysiology	3
	Term Credit Hours:	17
Spring		
NUR 308	Adult Health II (Civic)	8
NUR 318	Women's Health Nursing (NUR 318 course title was previously Maternal Health Nursing and is changing to Women's Health Nursing)	4
NUR 320	Child and Adolescent Health Nursing (NUR 320 course title was previously Pediatric Health Nursing and is changing to Child and Adolescent Health Nursing)	4
	Term Credit Hours:	16
Senior Year		
Fall		Credit Hours
NUR 400	Theories, Research and Evidence- Based Practice ¹	3
NUR 411	Adult Health Iii (Civic)	5
NUR 448	Psychiatric Mental Health Nursing. (Civic)	4
	Term Credit Hours:	12
Spring		
HCS/NUR XXX: Nursing Elective ¹		3
NUR 430	Leadership In Nursing	3
NUR 440	Population Focused Nursing (Civic) ¹	4
NUR 453	Role Transition (Civic) ¹	5
	Term Credit Hours:	15
	Total Credit Hours:	60

Public Health

The University of Miami School of Nursing and Health Studies offers courses leading to the degree of Bachelor of Science in Public Health. Baccalaureate education provides the foundation for further education in Public Health and/or other specialized health professional fields.

Academic Policies

Admission

Entering freshmen in the 75th percentile have mid-range SAT and ACT scores of 1410 and/or 32 respectively. Entering freshmen have an average weighted GPA of 4.2. Transfer students have a mean cumulative GPA of 3.3.

Requirements for Admitted Students

The course work for the BSPH Program is based on recommendations made by the Association for Prevention Teaching and Research (2008)

for undergraduate course work in Public Health. Students are required to complete:

- 33 credit hours of Public Health coursework, including:
- 27 credit hours of core required courses and
- 6 credit hours of approved Public Health electives.

Academic Programs

The School of Nursing and Health Studies will award a Bachelor of Science in Public Health, once a student has completed the requirements listed below.

The Public Health Program offers curricula that are designed to prepare students for public health practice or graduate education in health related fields. Programs of study can be tailored for students wishing to combine Public Health education with a variety of other health related fields (e.g., pre-med, pre-physical therapy).

No minor is required within the Public Health program. However, students have room within their plan of study to pursue a minor if desired.

General Education Requirements

Philosophy

The University of Miami's General Education Requirements ensure that graduates have acquired essential intellectual skills and have engaged a range of academic disciplines. The General Education Requirements provide students with the opportunity to study methodologies and achievements in all areas of human inquiry and creative endeavor, and to cultivate abilities essential for the acquisition of knowledge. The General Education Requirements allow students to create an integrative map for their academic careers, providing a context for more focused studies.

Areas of Proficiency

The Areas of Proficiency requirements ensure that students either already possess, or develop at the University, the ability to express themselves effectively, to use mathematics with facility, and to reason cogently.

English Composition

Good writing facilitates clear thinking, and clear thinking is the foundation of effective communication. The expectation is that students become adept at using the English language as an effective communication tool. Effective writing skills are representative of an educated person because they are instruments to advance ideas efficiently and persuasively. Students fulfill this requirement by satisfactorily completing ENG 105 and ENG 106, or the equivalent. Appropriate Advanced Placement (AP) or International Baccalaureate (IB) scores in English composition may be used to satisfy this requirement. An appropriate score on the SAT or ACT verbal examination may earn a student exemption from, but not credit hour for, ENG 105.

Students will be able to:

- Gather information, synthesize data, compare various points of view, and present results in writing.
- Develop the ability to read texts critically and to use textual evidence to support a sophisticated written argument.
- Consider audience, tone, organization, and standard conventions in relationship to specific rhetorical tasks.

Mathematics/Statistics/Computer Science:

In a world increasingly influenced by science and technology, it is important for students to acquire the capacity to use and understand essential mathematical applications. The mathematics requirement helps students learn to use quantitative methods to solve problems. The course requirements for mathematics emphasize the manipulation, interpretation, and application of quantitative data. Students fulfill this requirement by completing an approved course in statistics. Exemption from the mathematics requirement or placement in prerequisite courses is based on any of the following tests: AP, IB, or a placement examination administered by the Department of Mathematics.

Students will be able to:

- Select quantitative tools appropriate for solving problems.
- Use quantitative tools appropriate for solving problems.
- Interpret quantitative data in an appropriate manner for solving problems.

Social Science

Introduction to Psychology (PSY 110)

An additional Social Science course

Areas of Knowledge

The Areas of Knowledge requirement is designed to help students understand and appreciate intellectual achievements in major areas of human inquiry and creative endeavor. The courses offered in the areas of knowledge provide a broad array of intellectual and cultural exploration. In satisfying these requirements students examine creative expression in the arts, literature, and philosophy; study human development and behavior; and explore the mathematical, scientific, and technological world.

Cognates

Students fulfill the Areas of Knowledge requirement by completing three *cognates*, one from each of the three areas of the university curriculum:

- Arts & Humanities;
- People & Society; and
- Science, Technology, Engineering & Mathematics.

A cognate is a group of at least three courses for at least 9 credit hours, related in a topical, thematic, interdisciplinary, sequential, or other fashion, so that completion of a cognate provides coherent depth of knowledge. Each cognate has course options that allow students to complete the cognate in a manner that meets their interests, while staying within the coherent focus of the cognate.¹ While students are required to take three cognates to fulfill the Areas of Knowledge requirement, there is no limit to the number of additional cognates students may complete. All cognates completed by students are listed on the students' transcripts, thus certifying their depth of knowledge in those areas.

The university offers a large number and range of cognates. Additionally, each major and minor fulfills the cognate requirement in one Area of Knowledge. (Some majors and minors, depending on the courses selected, can fulfill alternative Areas of Knowledge.) All approved cognates are visible in a cognate search engine (at www.miami.edu/cognates) that allows students to search for cognates based on cognate features, cognate courses, and

keywords. Each cognate is administered by a department or program that is designated as the Responsible Academic Unit (RAU) for the cognate. Inquiries regarding a cognate should be directed to the cognate's RAU.

¹ The University's cognate approval process ensures that all Arts & Humanities cognates require students to complete at least one course that goes beyond skill development, i.e., beyond the basic composition, oral communication, and introductory foreign language courses.

Arts & Humanities (9 credits)

Arts & Humanities cognates engage students in the study of the most enduring and influential works of art, imagination, and culture. Through study, creation, and performance, courses in this area enable students to understand the works of artists, musicians, novelists, philosophers, playwrights, poets, historians, and theologians. These courses cultivate the ability to interpret, critically evaluate, and experience the creative products of human culture and expression.

Students will be able to:

- Critically evaluate and interpret the creative products of humanistic and artistic expression, applying appropriate vocabulary and concepts for their description and analysis.
- Understand the creation and performance of art.

People & Society (Fulfilled by BSPH Degree)

People & Society cognates help students understand and analyze the organization of society and the patterns of social change, in the past and in the contemporary world.

Students will be able to:

- Analyze the organization of society.
- Analyze patterns of social change.

Science, Technology, Engineering & Mathematics (STEM - 9 credits)

Science, Technology, Engineering & Mathematics cognates develop students' abilities to think critically about mathematical, scientific, and technological issues, through an understanding of processes and methods of scientific inquiry involving experimentation, observation, and quantitative analysis. The cognates nurture literacies that enable students to make informed decisions in an increasingly complex world.

Students will be able to:

- Understand the use of quantitative tools, experimentation, and observation to analyze and solve mathematical, scientific, environmental, and technological problems.
- Interpret quantitative data and draw useful conclusions.

The three cognates taken to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors) must have different RAUs. No more than two Areas of Knowledge may be fulfilled by cognates whose RAUs are in the same school or college, except for the College of Arts and Sciences. Majors and minors may cover more than one Area of Knowledge, but may be used to fulfill the cognate requirement in only one of those areas. A course may be used in only one cognate used to fulfill the Areas of Knowledge requirement (including cognates fulfilled by majors and minors). Students may petition for individual course substitutions in cognates, by application to the cognate's RAU. Transfer courses, Advanced Placement, International

Baccalaureate, CLEP, dual enrollment, etc., that are transferred in with specific UM course credit hour, can be used in cognates.

Bachelor of Science in Public Health (BSPH) to Master of Public Health (MPH)/M.S. in Public Health (MSPH) 4+1 Program

The School of Nursing and Health Studies (SONHS) and the Graduate Programs in Public Health at the University of Miami Miller School of Medicine have developed a Bachelor of Science in Public Health (BSPH) to a Master's in Public Health (MPH) or M.S. in Public Health (MSPH) 4 + 1 program.

Program Highlights

- Undergraduate students enrolled in the BSPH program in the SONHS who qualify academically may apply to the MPH or MSPH program in the spring of their junior year.
- Accepted students are then able to take 12 credit hours of Master's level Public Health courses in their senior year. These Master's level credit hours would count toward their MPH or MSPH degree.
- By completing 3-6 credit hours of Master's level MPH or MSPH coursework in the summer following completion of their BSPH degree, students could complete their MPH or MSPH degree in only one additional academic year.
- Students accepted to the 4 + 1 program will continue to pay undergraduate tuition for the senior year.
- Upon graduation with the BSPH, accepted students will then matriculate into the MPH or MSPH program and complete the remaining 33 credit hours of MPH or MSPH coursework at UM graduate school tuition rates.

Admissions Criteria

- BSPH students must have an overall undergraduate GPA of at least a 3.0 at the time of application to be considered. Accepted students who do not maintain a GPA of 3.0 for the remainder of their undergraduate coursework are subject to re-evaluation.
- GRE scores are not required for University of Miami undergraduates who apply to the 5 year BSPH + MPH program.
- Admissions decisions to the graduate program will be made solely by the admissions committee for the Graduate Programs in Public Health at the Miller School of Medicine.
- BSPH students taking master's level public health courses in their senior year must obtain a grade of B or better in these courses in order for them to count towards the graduate degree.

Majors

Major in Public Health

- B.S. in Public Health (p. 358)

Minors

Minor in Public Health

- Public Health (p. 359)
- Health Communication (p. 359)

B.S. in Public Health

Freshman Year		
Fall		
ENG 105	English Composition I	3
BIL 150 & BIL 151	General Biology and General Biology Laboratory	5
Arts & Humanities Cognate		3
MTH 107	Precalculus Mathematics I	3
UMX 100	The University Of Miami Experience	0
Term Credit Hours:		14
Spring		
BPH 202	Introductory Statistics In Health Care	3
ENG 106	English Composition II	3
BPH 206	Introduction To Public Health	3
Foreign Language (100 level)		3
STEM Cognate		3
Term Credit Hours:		15
Sophomore Year		
Fall		
BPH 321	Health Promotion And Disease Prevention	3
Foreign Language (200 level)		3
Arts and Humanities Cognate		3
PSY 110	Introduction to Psychology	3
		0
CHM 105 or 103	Chemistry for Life Sciences I (Laboratory) or Chemistry for Life Sciences I (Lecture)	4
Term Credit Hours:		16
Spring		
BPH 208	Introductory Epidemiology	3
BPH 309	Health Environ.	3
Arts and Humanities Cognate		3
STEM Cognate		3
Elective Social Science		4
Term Credit Hours:		16
Junior Year		
Fall		
BPH 352	Biological Principles Of Public Health	3
STEM Cognate		3
Elective		3
Elective		3
Elective		3
Term Credit Hours:		15
Spring		
BPH 310	Global Health	3
BPH 322	Introduction To Health Policy	3

Elective		3
Elective		3
Elective		3
Term Credit Hours:		15
Senior Year		
Fall		
BPH 465	Public Health Statistics And Data Management	3
Public Health Elective		3
Elective		3
Elective		3
Elective		3
Term Credit Hours:		15
Spring		
BPH 490	Field Practicum In Community Health	3
Public Health Elective		3
Elective		3
Elective		3
Elective		3
Term Credit Hours:		15
Total Credit Hours:		121

Required Public Health Courses (need: 9X3=27 credits)		
BPH 206	Introduction To Public Health	3
BPH 208	Introductory Epidemiology	3
BPH 310	Global Health	3
BPH 309	Health & Environ.	3
BPH 321	Health Promotion And Disease Prevention	3
BPH 352	Biological Principles Of Public Health	3
BPH 465	Public Health Statistics And Data Management	3
BPH 322	Introduction To Health Policy	3
BPH 490	Field Practicum In Community Health	3
Approved Public Health Electives (need: 2x3=6 credits)		
Select two of the following:		6
BPH 301	Human Sexuality And Vulnerable Populations	
BPH 303	Hiv/Aids And Health Maintenance For Health Care Providers	
BPH 305	Issues In Health Disparities	
BPH 306	Principles Of Nutrition	
BPH 317	Theories In Growth And Development	
BPH 319	Contemporary Issues In Bioethics For Health Care	
BPH 355	Global Nutrition	
BPH 419	Contemporary Health Issues In South Florida	
BPH 487	Global Health Practicum (Chile, Spain, etc.)	
MGT 270	Introduction To Health Sector Organization And Management	3
<hr/>		
APY 205	Medicine, Health Care In Society, Medicine, Health Care in Society	3

Additional Program Requirements		
BIL 150	General Biology	5
& BIL 151	and General Biology Laboratory	
Select one of the following:		4
CHM 103	Chemistry for Life Sciences I (Lecture)	
CHM 111	Principles of Chemistry I	
Social Science class		
PSY 110	Introduction to Psychology (or equivalent)	3
Total Credit Hours		51

Minor in Health Communication

Minor in Health Communication

A joint minor in Health Communication is offered in conjunction with the School of Communication. The Minor in Health Communication consists of 15 credits:

COS 324	Health Communication	3
BPH 206	Introduction To Public Health	3
Select two Communication Studies Electives		6
COS 325	Communication In Health Organization	
COS 426	Patient-Provider Communication	
COS 427	Health Behavior And Risk	
COS 472	Persuasion	
Select one Public Health Elective		3
BPH 305	Issues In Health Disparities	
BPH 310	Global Health	
BPH 321	Health Promotion And Disease Prevention	
BPH 322	Introduction To Health Policy	
Total Credit Hours		15

A grade of C or higher is required in all courses (a grade of C- or lower is not acceptable for minor).

Minimum UM GPA of 2.0 required to declare minor.

For further information, please contact the Office of Student Services at 305-284-4325 or via email at <http://www.miami.edu/sonhs/index.php/sonhs/>

Minor in Public Health

MINOR IN PUBLIC HEALTH:

The School of Nursing & Health Studies (SONHS) offers a minor in Public Health (12 credits). The Public Health minor consists of two required courses, Introduction to Public Health and Introduction to Epidemiology, and two elective courses chosen from a list of approved Public Health electives (see below):

BPH 206	Introduction To Public Health	3
BPH 208	Introductory Epidemiology	3
Elective Courses (Must complete two from the list below):		6
BPH 301	Human Sexuality And Vulnerable Populations	
BPH 303	Hiv/Aids And Health Maintenance For Health Care Providers	

BPH 305	Issues In Health Disparities	
BPH 309	Health & Environ.	
BPH 310	Global Health	
BPH 317	Theories In Growth And Development	
BPH 319	Contemporary Issues In Bioethics For Health Care	
BPH 321	Health Promotion And Disease Prevention	
BPH 322	Introduction To Health Policy	
BPH 352	Biological Principles Of Public Health	
BPH 355	Global Nutrition	
BPH 419	Contemporary Health Issues In South Florida	
BPH 465	Public Health Statistics And Data Management	
BPH 487	Global Health Practicum	
APY 205	Medicine, Health Care In Society, Medicine, Health Care in Society	
Total Credit Hours		12

GRADUATE ACADEMIC PROGRAMS

Mission

The mission of the Graduate School is to promote graduate education, scholarship, and research; to support individuals, departments, and programs in the pursuit of excellence; to foster innovative, multidisciplinary, and interdisciplinary activities; and to maintain high ethical and academic standards in graduate studies.

The standards of study and conduct in the Graduate School are high. They are not set and maintained by the Graduate School but rather by the faculty who determine the standards for their individual program. The Graduate School through its Council sets no course requirements for a degree. It does set certain general residence, grade and examination standards. Fundamentally the Graduate School delegates responsibility to the student and his/her program. Within this broad responsibility the recommendation for the degree rests with the Committee.

Graduate School

<http://www.miami.edu/grad>

All graduate work (except for the Master's Degree in Law, J.D. in Law and M.D. degree) at the University of Miami is under the direction of the Dean of the Graduate School and the Graduate Council.

All graduate students at the University of Miami are subject to the general standards and requirements of the University and its various programs in regard to attendance, examinations, payment of fees, and conduct, as well as to the specific requirements of the Graduate School. The graduate student is expected to assume the initiative in completing all requirements in the time specified.

Admission requirements are described in the *Bulletin* of the Graduate School, and may be obtained from the individual department or program. Information is also available at www.miami.edu/grad (<http://www.miami.edu/grad>).

Applications to the Graduate School are processed through the various Schools and Colleges. See http://www.miami.edu/gs/index.php/graduate_school/apply/ for a listing of online applications by program.

Prospective students should note that "graduate study" means an integrated program of advanced, specialized study, based on an undergraduate major and/or adequate background, presupposing academic and personal maturity, and making much more than average demand upon the industry, initiative, and scholarship of the student. The term must be distinguished from "post-graduation study" which means merely that courses, not necessarily of graduate level, are taken after the student has received a bachelor's degree.

To preserve its ideals of scholarship, conduct, and character the Graduate School reserves the right and the student by his/her registration concedes the right to require the withdrawal of any student for any reason deemed sufficient by the Graduate School at any time.

Academic Policies

Time to Completion

Time to completion starts when a student begins any program in the Graduate School, whether it be a master's or doctoral program. All work must be completed within six years of the time of admission to graduate work, for those studying for the various master's degrees; and within eight years for those studying for doctoral degrees. For those admitted directly into a Ph.D. program without a master's degree in field, work must be completed within eight years. Individual programs may set a shorter time period. Exceptions may be granted by the Dean of the Graduate School at the request of the Graduate Program Director.

Recency/Validation for Over-Aged Credit Hours

Graduate credit hours transferred from another university may not be applied toward a graduate degree at the University of Miami if their age at the time of acceptance into the University of Miami program exceeds six years. On an individual basis, students may be permitted to validate over-aged credit hours by examination, with program approval.

Continuous Enrollment

To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and readmission must be granted. Doctoral students for whom course work is no longer appropriate should consult their program for registration guidance.

Registration

Graduate students can register on the first day of registration and through the registration period. For more information on registration, students should contact their respective School or College. See academic calendar for dates of registration periods at <http://www.miami.edu/index.php/registrar/calendar/>.

Full-Time Study

The categories of full-time students include:

1. Graduate students taking 18 or more graduate credit hours during the calendar year (9 credit hours in a regular semester or 6 credit hours in a summer semester).
2. Graduate teaching and research assistants taking 16 or more graduate credit hours during the calendar year (8 credit hours in regular semester or 6 credit hours in a summer semester).
3. Graduate students enrolled in any course numbered 800 or above, i.e., any 800-level course required for the completion of the degree.
4. All MBA for Executive and Professional students and Master of Science in Professional Management students are considered full-time.

In all cases, determination as to whether or not a student is in full-time study is the privilege of the Dean of the Graduate School.

The maximum number of credit hours allowed for full-time study is 12 for each semester and six for each summer semester. Exception to this policy can only be made by the Dean of the Graduate School or his/her designee and requires a signed recommendation from the Program Director.

For thesis and dissertation students, full-time registration is required during the semester or summer session in which a candidate defends the thesis or dissertation. Students who wish to have this requirement waived must have a written request provided to the Graduate School by the Dean of their respective College or School, or the dean's designee.

No full-time faculty member may be a full-time student, whether or not working toward a degree. Nor may a full-time student be a full-time faculty member.

No full-time student will be a principal investigator in any grant or contract, whether in name or fact. And no principal investigator will be a full-time student.

Exceptions to these rules may be made in cases in which students are encouraged to apply individually for small research grants that are consistent with and contribute to their field of study and their dissertation work, and, in certain programs, in which students in a terminal degree status are obliged, as a part of their degree program, to teach as *de facto* faculty members. (Note: Faculty from School of Nursing and Health Sciences and from the Physical Therapy program are permitted to pursue Doctoral degrees in their home program/school.

Withdrawals

Withdrawals, either from individual courses or from a graduate program, should be processed through the office of the Dean of the School of the student's program. Students who wish to officially withdraw from joint or dual degree programs should consult the office of the Dean of the School or College for both disciplines. The date of withdrawal is that on which the student notifies the office of the Dean or the date of receipt of a letter requesting withdrawal. No withdrawal from the University is official until the student has consulted with the Dean of his/her school and has completed the necessary forms.

Students wishing to officially withdraw from the University of Miami must provide the Office of the Registrar notification of their intent to withdraw. Initial notification may be made in person, in writing, by fax, or by telephone. This notification will be recorded and used for notification purposes for the Federal Government. Repayment of any federal funds will be based on the date of notification.

Students must also follow the required process as set forth by their school/college for withdrawing from courses. This process often requires that a signature from a dean or the dean's representative be obtained on a Change of Course form. In some cases, students can complete the Change of Course form (hard copy or through the CaneLink system) without an approving signature. Change of Course forms must be submitted to the Office of the Registrar for final processing/review.

In addition to the completion of the Change of Course form, students will be asked to complete a Withdrawal Checklist and a Withdrawing Student Survey. The Withdrawal Checklist provides students with a series of offices that need to be notified concerning their withdrawal.

To officially withdraw from the MBA Program or Master of Science in Professional Management program, students must inform the Office of Graduate Business Programs in writing prior to the beginning of a course/term. Tuition will be refunded on a prorated basis based on the number of class meetings attended. No tuition refund will be granted when class attendance has exceeded 50% of class meetings. For

further information contact: Office of Graduate Business Programs, 305-284-4643, email: mba@miami.edu.

Military Withdrawal

Tuition refunds of 100% are granted to students who withdraw due to military service, provided they do not receive credit hour for the course (see below under "Credit Hour for Courses After the 12th Week of the Semester").

If you receive federal financial aid and withdraw before you complete 60% of the semester, a pro rate calculation will determine the amount of financial aid you have earned. It is based on the amount of time you were enrolled. This calculation is independent of any charges incurred at the university.

Credit Hour for Courses After the 12th Week of the Semester

The following statement of policy was adopted by action of the Academic Deans' Council April 14, 1967:

1. On recommendation of the Dean of the school, students who withdraw after the 12th week of the semester because of official orders to active duty with the Armed Forces of the United States may be awarded credit hour in any course in which they have achieved a C or better up to the time of withdrawal. Instructors must certify that the student had achieved satisfactory accomplishment on the basis of previous work in the course by awarding an appropriate grade. Accomplishment of less than C should be entered on the permanent record as a withdrawal without prejudice (W).
2. Credit hour granted for a course under this policy should count toward graduation.
3. There should be no refund of tuition for courses for which credit hour has been granted. Refunds of courses not awarded credit hour should be on the same basis as complete withdrawals for military service.
4. The above recommendations are procedures for determining the awarding of credit hour and do not release the student from the usual withdrawal procedures.

Veterans and children of deceased or totally disabled veterans attending the University as students under the government's educational benefits bills must also clear their withdrawal with the main campus Veterans Affairs Officials in the Office of the Registrar who can be contacted at:

Phone: 305-284-2294 or
Email: registrar@miami.edu

Additional Information on Military Withdrawal is available at:

<https://www6.miami.edu/registrar/MilitaryWithdrawalInfo.pdf>

Leave of Absence

Leave may be obtained by petition of the Program Director followed by the approval of the Dean of the Graduate School. Leave of Absence officially stops the time to completion clock. The Petition for Leave of Absence form may be found at http://www.miami.edu/gs/index.php/graduate_school/forms/.

Grades and Credit Hours

The same letter grades are used for graduate and undergraduate students, but with somewhat different meaning.

A	Excellent accomplishment
B	Good accomplishment
C	Fair, but below that expected of graduate students (C- is the lowest passing grade. Some programs may require higher standards.).
S	Symbol used for acceptable (U-unacceptable) thesis, dissertation, practicum, and internship credit hour. It may be used for regular courses under special circumstances with the prior approval of the instructor, department chairman, and the Dean of the Graduate School. The Graduate School considers a grade of "S" to indicate a minimum of a 3.0 GPA in a graduate course if a student has taken no prior coursework on the graduate level. A grade of "S" reflects that a student is in good academic standing.
D	Poor (not acceptable for credit hour toward the advanced degree).
F	Failure
W	Course dropped prior to the last day for withdrawing from classes as published in the official calendar of the university. Courses dropped after last date must have approval of Dean of graduate school. Credit hour can be earned only by successful repetition of the course.
I	Incomplete work in passing status with the instructor's permission to complete the course. (Not to be used for thesis or dissertation credit hours). The "I" should be changed to a letter grade within one (1) calendar year after it is given, unless the Academic Dean of the student's primary school or college and the Dean of the Graduate School approve the delay. If the "I" is not changed within one year, credit hour can be earned only by successful repetition of the course. (Note: Fellowships and financial aid may be withdrawn if there is an excess accumulation of "I"s on a student's transcript).
IP	Denotes in progress grade given by instructor for any course (600, 700, or 800 level) in which a student has made expected or clearly satisfactory progress during the semester, but has yet fully to complete requirements for the course. "IP" is to be given for 800-level internships, research, thesis, and dissertation courses that have not been completed. Upon satisfaction of all Graduate School requirements, the Assistant Director, Programs of the Graduate School will issue final credit hour for all master's thesis and doctoral dissertation courses (e.g., 810, 820, 830, 835, 840 and 850). Zero-credit hour courses (e.g., 820 and 850) will be changed to "S." Please note that all "IP"s must be converted to "S", letter grade, or "I" at graduation. "IP" will also be converted to "I" upon any departure from the University for a period in excess of one year.
NG	Symbol assigned by Enrollment Services indicating that the instructor has not yet reported the student's grade. For a student to receive credit hour for the course, the instructor must report a passing grade prior to the student's graduation. ¹

¹ Faculty Senate Legislation #85005(B)

An average of B (3.0) is required for a graduate degree, and no "D" credit hour may be counted toward the degree. All work leading to the graduate degree and taken as a graduate student will be counted in computing the quality point average, including courses graded "D".

No transferred credit hours are calculated into the University of Miami G.P.A.

Award of Academic Merit

Students who obtain a 3.8 G.P.A. or better will receive an Award of Academic Merit from the Graduate School. The Award is posted on the transcript.

Quality points are awarded as follows:

A+	4.00
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	0.00
D	0.00
F	0.00

The quality point average is then determined by dividing the total of quality points earned by the total of credit hours attempted. The symbols "S", "W", and "I" are not counted as credit hour attempted.

Repeat Rule

A student may repeat a course *in which a failing grade was earned*, but the repetition of the course will not eliminate the previous grade from the record. A course may be repeated only once unless written authorization is provided by the Dean of the Graduate School. All grades are included in the computation of the quality point average. If a course in which an unsatisfactory grade (as determined by the program advisor) was earned is repeated and the repeat grade is a "C-" or higher, the number of credit hours required for graduation will be increased by the number of credit hours repeated.

Registrations which involve repeating a course in which a grade of "A" or "B" has already been earned may not earn quality points or credit hours, nor count as credit hours attempted.

Levels of Graduate Study

Graduate study implies the need for a minimum of formal courses and a maximum of independent work under faculty supervision. Coursework, in itself, is not necessarily a determinant of graduate progress and achievement. The appropriate determinants are the ability of the qualified student to master the various qualifying and comprehensive examinations that a program requires of the student. All work taken by a graduate student in the major area or area of concentration shall be at the graduate level (600 or above). With the permission of the program

of major concentration a student may take elective credit hours (not prerequisite to the major) at any level provided the following limits are observed:

Total Graduate Course Credit Hours	Maximum Course Credit Hours Below 500 Level
30	3
31 or above	6

Approval for undergraduate credit hours as part of the graduate degree program can be made only after a minimum of 12 credit hours is completed. Award may not be made retroactively, nor are credit hours accepted from another institution.

RA, TA, GA Hourly Guidelines

To receive a stipend an RA, TA, GA must be a full-time student.

Graduate students with appointments as RAs, TAs or GAs will be expected to work 20 hours per week with the exception of efforts directly required for dissertation research.

International students may work on campus provided the student is maintaining F1 status and does not work more than a total of 20 hours per week (including any off campus work the student may have been authorized to perform) while school is in session. Questions regarding work for international students should be directed to International Student and Scholar Services: <http://www.miami.edu/iss>.

Graduate students with Assistantships and Fellowships will be classified with the following designations. *(FE) Fellows, *(RA) Research Assistant, *(TA) Teaching Assistant, *(GA) Graduate Assistant, *(TR) Trainee. *Please contact the Graduate School for specific codes.

Definitions

FE (Fellow)

Responsibilities do not include the provision of direct services to the University and require internal/external fellowship support.

RA (Research Assistant)

Responsibilities are mainly conducting research and/or assisting with research projects.

TA (Teaching Assistant)

Responsibilities are mainly teaching and/or assisting in the area of teaching.

GA (Graduate Assistant)

Responsibilities are mainly in professional support of University operations and programs. Graduate students should not be hired to perform clerical duties.

TR (Trainee)

Designated as such by specific federal guidelines which indicate a complex process wherein the trainee takes on an increasingly independent role in the selection, conceptualization, and execution of research projects under the supervision of an experienced mentor.

In definitions where the word "mainly" is used, "mainly" is defined as greater than 50%.

Requirements for Teaching Assistants

1. Graduate teaching assistants who are the instructors of record and responsible for assigning grades in a course must have a master's in the teaching discipline or 18 graduate credit hours in the discipline.
2. Graduate teaching assistants must be directly supervised by a faculty member in the teaching discipline, must attend regular in-service training provided by the Instructional Advancement Center (in coordination with the Graduate School or provided by the specific graduate program), and must be reviewed by the supervising faculty member once a semester.
3. Graduate Teaching Assistants who have previous teaching experience and indication of competency may be exempted from TA Training by the Dean of the Graduate School in consultation with the Graduate Program Director in the discipline. A request for waiver must be submitted to the Dean of the Graduate School by the Graduate Program Director.

Policy on Outside Employment for RA/TA/GA

A graduate student must have prior approval from the chair or advisor to work outside the department, since such activities might impede progress toward his/her degree. Any question or concern should be discussed with the Dean of the Graduate School.

1. A graduate student is allowed to supplement his/her stipend by tutoring undergraduate students in courses in which he/she has no direct responsibility at the time.
2. A graduate student who is teaching a class or lab of a multi-section course using a common syllabus and common exams may not tutor any student in any section of that course.
3. A graduate student, like any other member of the teaching faculty, may offer review sessions for his or her students to which he or she may invite students from other sections of the same course. The graduate student arranging such sessions may not under any circumstances take money from the students in attendance.
4. A graduate student may use his or her office for tutoring or may ask departmental permission to use a classroom or other appropriate university facility.
5. The graduate advisor or department chair may require a graduate student to limit his or her outside employment or tutoring activity if, in the view of the department, such activity is impeding the graduate student's academic progress or keeping him or her from fulfilling responsibilities within the department.
6. International students should clear their work instructions with International Student and Scholar Services. Questions regarding work for international students should be directed to International Student and Scholar Services, 305-284-2928, email: iss@miami.edu or visit: <http://www.miami.edu/iss>.

Graduation

It is the responsibility of the student to apply for graduation through CaneLink during the student's final semester before the date indicated on the Graduate School calendar and the Schedule of Classes. These dates are published at <http://www.miami.edu/index.php/registrar/calendar/>. Students who previously applied for a diploma but did not receive the degree must repeat the application procedure. Deadlines for the commencement program are firm. Students may walk in the graduation ceremony, but the program will indicate "in progress" if information is

missing. Students will be degree candidates until they have been cleared by the Graduate School.

Graduation ceremonies are held in May and December only. Those completing degree requirements during the fall, spring or summer sessions may, if they wish, participate in the graduation ceremonies of the previous or following May or December. Students receiving Ph.D., D.M.A., D.N.P, D.P.T, or Ed.D. degrees who are participating in the hooding ceremony and all masters marching in the graduation ceremony must have the approval of the graduate advisor, director, or appropriate person in the program to participate in the ceremonies.

Participation in graduation for students in all graduate programs is contingent upon the following:

1. The student must have met the requirements for their program.
2. The student must have a minimum of 3.00 cumulative grade point average; all students receiving master's degrees must have completed a minimum of 30 credit hours; all Ph.D. D.M.A. and Ed.D. students must have completed a minimum of 60 credit hours.
3. The student (Ph.D. D.M.A. and Ed.D. candidates) must be admitted to candidacy one semester prior to graduation.
4. The student may not have any outstanding debt including, but not limited to, tuition, fines, and fees. Tuition for the last semester of study must be paid in full by the beginning of the final semester.
5. The student must complete an electronic thesis or dissertation (ETD) according to the Graduate School's requirements and submit all paperwork, online surveys, and agreements (if required) by the last day of exams in the semester the student wishes to graduate. It is recommended that students begin the ETD process early in the semester by discussing with their advisors a suitable timetable for completing the defense of their thesis or dissertation. Students should check the academic calendar for the defense deadline date set for the semester they wish to graduate. The Graduate School also encourages students to familiarize themselves with the ETD process at www.miami.edu/etd (<http://www.miami.edu/etd>) or contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process. (See dissertation section of the Ph.D. description.)

Clearance for Degree Conferral

For the Graduate School to clear a student for graduation:

1. All original documents (transcripts from previous degrees, GRE scores, etc.) must be on record in the Graduate School (except for MBA students).
2. The Admission to Candidacy form must have been completed by the program at least one semester before graduation. The Graduate School does not require application to candidacy for master's, D.P.T., nor D.N.P. degrees.
3. The student must defend his/her thesis or dissertation no later than two weeks before the last day of class in the semester he/she wishes to graduate.
4. The student must submit his/her final, Dissertation Editor-approved thesis or dissertation with all corrections completed and final paperwork turned in to the Graduate School by the last day of exams

in the semester he/she wishes to graduate for their clearance to be processed in time.

Class Attendance and Absences

Regular and punctual class attendance is expected of all graduate students. It is the student's responsibility to know the instructor's policies regarding examinations, penalties for absences, and late or missed work.

V.A. students will be provided a grade report at the end of each semester period. A copy of the report will be placed in the student's permanent file maintained by the Veteran Affairs Office. Because of the far-reaching effects of these revisions in the V.A. educational benefits program, it is suggested that you exercise care and judgment in your program planning and in the selection of your courses.

Student Responsibility

Standards of study and conduct in the Graduate School are set and maintained, not by fiat of the Graduate School, but rather by the faculty who determine the standards. The Graduate School through its Council sets no course requirements for a degree. It does set certain general residence, grade and examination standards. Fundamentally the Graduate School devolves responsibility upon the student and the appointed committee. Within this broad responsibility the recommendation for the degree rests with the committee.

All graduate students at the University of Miami are subject to the general standards and requirements of the University and its various departments in regard to attendance, examinations, payment of fees, and conduct, as well as to the specific requirements of the Graduate School. The graduate student is expected to assume the initiative in completing all requirements at the time specified.

To preserve its ideals of scholarship, conduct, and character, the Graduate School reserves the right and the student by his/her registration concedes the right to require the withdrawal of any student for any reason deemed sufficient by the Graduate School at any time.

It is the responsibility of the student to be informed concerning all regulations and procedures required. In no case will a regulation be waived or an exception granted because a student pleads ignorance of the regulation or asserts that he/she was not informed of it by an advisor or other authority. The student should become familiar with the Bulletin, including

1. The section presenting the requirements for the degree to be undertaken;
2. The offerings and requirements of the major department;
3. The Graduate Student Honor Code.

After the applicant has been admitted to the Graduate School but before the first registration, the student should consult the school or college and program in which the major work will be done concerning course requirements, deficiencies, if any, the planning of a program or special regulations. Programs may have additional degree requirements that are not listed in this Bulletin. All registrations require the signature of the dean of the school or college (or his/her representative) in which the degree is to be awarded.

Only the Council of the Graduate School may waive requirements stated in this Bulletin.

Graduate Student Code of Ethics

Graduate students agree to abide by the Graduate Student Honor Code.

The University of Miami expects all graduate students to adhere to the highest standards of ethics and academic integrity. All forms of academic fraud are strictly prohibited. These include, but are not limited to, plagiarism, cheating, collusion, falsification, violation of professional ethics or misrepresentation of research data. Students certify that all work (whether an examination, dissertation, thesis, research paper, research project, form of creative expression, experimental data, or any other academic undertaking) submitted for evaluation, presentation, or publication meets these standards. Additionally, graduate students are expected to respect and appreciate the diversity of the community and to respect the rights of others, be they property, privacy, opinion, or expression. Students found to be in violation of these standards are subject to disciplinary actions by the students program and/or the Graduate School through the process described in the Graduate Student Honor Code. All graduate students are bound by the rules and regulations of the University of Miami that apply to them. The Honor Code can be reviewed at http://www6.miami.edu/dean-students/pdf/graduate_honorcode.pdf.

Graduate School Grievance Guidelines

Introduction

These University of Miami Graduate Grievance Procedures provides an opportunity for the resolution of disputes involving graduate students in a fair and collegial manner. These Graduate Student Grievance Procedures supersede all prior such procedures in effect or formerly utilized at the graduate level. They do not supplant UM Students Rights & Responsibilities or any other published policy or procedure relating to graduate students.

Purview of the Guidelines

The formal grievance process described herein is intended for cases not involving grades or matters covered by the Honor Code, which have not been resolved at the department or program level, and it is available only after a final determination within the relevant School or College has been reached. Students are encouraged to seek assistance from the University Ombudsperson for possible resolution before initiating the formal graduate grievance process. The procedures set forth here are applicable to any of the following types of grievances by graduate students who are enrolled in any graduate program at the University of Miami, except exclusively in the MD and JD programs:

1. grievances alleging improper dismissal or suspension from a graduate program;
2. grievances alleging the improper withholding or termination of financial support of any kind;
3. grievances alleging any other improper treatment, either substantive or procedural, of a graduate student by a faculty member, department or program, or university agency or administrator except:
 - a. allegations of improper evaluation of the quality and/or quantity of academic work (see UM Student Rights & Responsibilities);
 - b. allegations of unfair recommendation for employment or further graduate study;

- c. allegations of discriminatory treatment arising from the student complainant's age, race, gender, sexual preference, handicap, national origin, or religion. (Such allegations ordinarily are handled by the Office of Equality Administration).

Constitution of the Committee and Grievance Panel

The Graduate Council Grievance Committee (GCGC) is a standing committee comprised of the Schools' and Colleges' alternate representatives to the Graduate Council. Grievances as understood herein shall be heard by *ad hoc* appeals panels, constituted from time to time by the Dean of the Graduate School to review individual graduate grievances. The grievance review panel (GRP) shall consist of five disinterested members: four faculty members of the GCGC and one graduate student appointed by the executive board of the Graduate Students' Association. Notice of the constitution of the GRP shall be given by the Office of the Graduate Dean in writing to all parties to the grievance within ten (10) days after the grievance review request is properly filed.

Any party to the grievance may challenge the disinterestedness of a GRP member in writing to the Dean of the Graduate School within five (5) days after notification of the appointment. The challenge must specify reasons that would prevent the committee member or graduate student from making an unbiased recommendation with respect to the grievance. If such a challenge is determined to be valid by the Graduate Dean, a substitute appointment shall be made and the process will resume accordingly.

Procedure and Time Limits for Filing a Grievance

After a final determination has been made in the relevant School or College (or by the head of the relevant administrative office in the event of a grievance against a university agency), a student who believes he or she has grounds for appeal within the purview of these guidelines may file a written grievance review request with the Office of the Dean of the Graduate School. The request shall describe the student's allegations in a clear and concise fashion and shall clearly identify the individual(s), program(s), department, School or College, and/or University agency or administrator against whom the grievance is brought. The student's written grievance review request shall be filed within thirty (30) days of the final determination. No grievance review request nor any other appeal of any kind will be granted after this time limit has expired unless a written extension of time is granted by the Dean of the Graduate School based on a written request from the grievant stating good cause.

Definitions and Assumptions

Burden of Persuasion

The burden of persuasion is on the grievant.

Final Determination

This grievance process is available only after a final determination within the relevant School or College has been reached. This provision is intended to require the grievant to exhaust the remedies available within the relevant School or College before appealing to the Graduate Dean. In the case of a student in an interdisciplinary program who does not yet have a chair and/or committee assembled, the Dean of the Graduate School shall make a final determination in the student's case subject thereafter to the appeal contemplated by this policy. Appeal from the Graduate School Dean's decision follows this same procedure, except

that the GRP shall be constituted by the Office of the Provost from the pool of GCGC members. Written notice of the constitution of the GRP in the case of a student in an interdisciplinary program without a chair or committee, shall be given by the Office of the Provost to all parties to the grievance within ten (10) days after the grievance review request is properly filed. All other deadlines, requirements, procedures, and the hearing format remain the same.

Originals

Wherever possible, the party in possession of an original document in support of or rebuttal to or at issue in the grievance shall provide it to the GRP within the time frames set out in the Hearing Materials and Preparation Deadlines. If a party has only a copy of a document not received by him, her, or it, the copy shall serve as an original. Digital documents or email messages in contention shall be printed and may then serve as originals.

Party

A party is the student grievant or the individual, program, department, School or College, or University agency or administrator against whom the student brings his or her grievance.

Time Limits

All time limits shall be calculated based on working days of the Fall and Spring Semesters, excluding reading and exam periods and University holidays. Grievances originally filed after the end of the Spring semester will be heard at the beginning of the following Fall Semester. Any stated time limit herein may be extended with the written consent of the grievant and the Dean of the Graduate School.

Written

Any document to which these guidelines refer as written signifies paper (hard) copy. Email messages and digital or other electronic versions do not meet the requirement that a form or notice be provided in writing. However, a party may transmit a digital version of any written document by email in addition to providing it in paper form.

Deadlines for Hearing Materials, Preparation, and Witness Identification

All materials to be considered for review by the members of the GRP must be submitted in writing to the Office of the Dean of the Graduate School at least fourteen (14) days before the scheduled date of the hearing, at which time such materials will be distributed to all parties to the grievance and to the members of the GRP. Thereafter, to the extent that any of the parties wishes to have additional materials considered by the GRP, such materials must be received by the Graduate School no later than seven (7) days before the scheduled date of the hearing, at which time all such additional written materials will be distributed to the parties as well as to the members of the GRP. Any party submitting written materials for consideration shall submit the original(s) and five (5) copies thereof to the Office of the Graduate Dean at his, her, or its own expense.

The name of any witness to be called by any party at the hearing shall be provided in writing to the Office of the Graduate Dean no less than five (5) days before the scheduled date of the hearing.

Hearing

The grievance review hearing is chaired by a designated member of the GRP. The hearing is staffed by the non-voting Administrative Assistant of the Dean of the Graduate School, who will record it for archival purposes only. The hearing will proceed as follows:

1. GRP chair's introduction, summary of issues, and process overview.
2. Student's presentation of issues (15 minutes maximum).
3. University representative's presentation of issues (15 minutes maximum).
4. Optional: Presentation(s) by witnesses (limited to 3 per side and a maximum of 15 minutes total per side).
5. Questions by members of the GRP.
6. All presenters and witnesses are excused.
7. Deliberation by GRP.

Presentation of the issues should be concise and relevant. Undoubtedly the dispute is somewhat complex or it would not have reached this stage. Points of dispute or ambiguity may be summarized or illustrated by anecdote at the hearing. Experience suggests, however, that the best approach is to minimize formal presentations and allow the GRP members maximum time for questions.

GRP Decision and Authority

No additional substantive information may be submitted by any party following the hearing, unless requested by the grievance review panel. The GRP may but need not seek additional information from other sources during its deliberations, which will be conducted in closed session. Following its deliberations, and within ten (10) days of the date of the grievance review hearing, the GRP will make its confidential advisory recommendation to the Dean of the Graduate School [Office of the Provost in the event of a student in an interdisciplinary program who does not yet have a chair or committee]. The subsequent decision by the Dean of the Graduate School [Office of the Provost], which shall be rendered within ten (10) days of the GRP's recommendation, is final.

Note: The above guidelines pertain only to matters which do not involve representation by an attorney. If an attorney is involved in the grievance, the Office of Legal Counsel at the University should be contacted.

Modifications

These procedures may be modified or withdrawn with or without notice.

Admission

Eligibility for Admission

In addition to holding the baccalaureate degree from an institution accredited by SACS or another regional accrediting body, the applicant for admission to the Graduate School should have the prerequisite coursework required by the program to which he/she is applying. In general, those applying for graduate admission should have achieved an overall average grade of "B" or better (3.0 G.P.A. on a 4.0 scale). International students will be required to give evidence of adequate knowledge of English through a TOEFL or IELTS test score. University of Miami faculty members above the rank of instructor are not eligible to apply for the doctorate at the University of Miami. (Note: Faculty from the School of Nursing and Health Sciences and from the Physical

Therapy program are permitted to pursue doctoral degrees in their home program/school.)

For specific admission requirements see also statements of the various programs.

Admission of a student to the University of Miami for any semester does not imply that such student will be re-enrolled in any succeeding academic semesters.

All those wishing to take courses for graduate credit hour, whether or not they wish to become candidates for a degree, must make application for admission directly to the program of interest prior to registration.

Requirements for Admission Application

1. The completed online application form
2. Official transcripts of *all* college work, both undergraduate and graduate
3. The official score report of the appropriate entrance examination

GRE	All applicants must submit recent (within five years) Graduate Record Examination (GRE) scores which include 1) the aptitude portion (verbal & quantitative); 2) the most relevant advanced test in the major field if required by the program. GRE scores are valid for 5 years after the test date.
GMAT	Applicants for the Master or Ph.D. of Business Administration, the Master of Professional Accounting, the Master of Science in Management Science (Operations Research/ Applied Statistics), or Taxation must submit the Graduate Management Admissions Test (GMAT) scores. GMAT scores are valid for 5 years after the test date.
TOEFL/IELTS	International applicants whose native language is not English must take the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) and the Graduate Record Examination. The TOEFL and IELTS scores are valid for 2 years after the test date.

4. Letters of recommendation sent directly to the graduate program director of the academic program.
5. Other requirements may be required/requested by individual programs. Contact the specific program to which you are applying for their requirements, or for exemptions from the entrance examination.
6. Application fee of \$65.

7. All materials and the fee should be sent directly to the program as indicated on the application.

Materials submitted in support of an application cannot be released for other purposes nor returned to the applicant.

Categories of Admission

1. *Regular* admission with or without specified deficiencies. Under circumstances in which it is difficult to evaluate the academic background of intellectually qualified applicants, they may be admitted with specified deficiencies based on evaluative criteria established and maintained by the school or college. Such status is often appropriate for international students or students with extensive professional experience relevant to the desired discipline. The Graduate School allows only one semester in deficiency status. Graduate Council notification is required for programs requesting deficiency status beyond one semester. For all regular admissions with deficiencies, students must receive a list of documented requirements to remove the deficiency and specific milestones. Students who fail to qualify at the end of that time will be requested to withdraw from the Graduate School.
2. *Post Baccalaureate*. This category provides an opportunity for graduate study for
 - a. qualified applicants who, for good reason, do not wish to work toward an advanced degree. This would be appropriate for those students who have special objectives for professional study or scholarly work;
 - b. students enrolled in a graduate program elsewhere but desiring to earn graduate credit hour at the University of Miami for the purpose of transferring it to the other institution;
 - c. students already holding the master's degree or doctorate but who desire additional coursework in their field. Those admitted to a post-baccalaureate status should realize that their future admission to regular status is improbable unless they achieve the qualifications originally appropriate to admission to those categories. This is to say that the mere accumulation of graduate course credit hours is not sufficient to permit entrance into another graduate category. No more than a total of 12 credit hours may be taken while in post-baccalaureate status. Transient students described in (b) above should have sent to the Graduate School a letter from the Dean of the School of the student's program they expect to earn a degree, stating that they are in good standing there and have permission to transfer credit hour. If possible, this letter should indicate specific courses to be taken. The students described in (c) above should have a transcript showing their most recent graduate work and graduate degree [to be sent directly by the issuing institution to the Graduate School].
3. *Certification/Professional Goals*. This category provides an opportunity for graduate study for qualified teachers or professionals who do not wish to work toward an advanced degree but who for professional reasons need to continue to take graduate courses and have already taken 12 credit hours in Post-Baccalaureate Status. No credit taken in this status can be applied toward a graduate degree at the University. A letter explaining the need for the course work by the student's employer must accompany the application.

Every applicant for admission can be assured that all credentials will be carefully studied in an effort to select appropriately qualified students. Each application for admission is examined by the members of the faculty responsible for the graduate program. The program informs each applicant of the results.

It is expected that most applicants for admission will be candidates for an advanced degree. Except under unusual circumstances those who already hold an advanced degree are not admitted to candidacy for the same degree. Graduate programs vary as to whether students who do not hold the Master's degree are required to initiate graduate studies at that level.

Applicants should note the following:

1. M.B.A. applicants should send applications and all documents to:
The Office of Graduate Business Programs
School of Business Administration
P.O. Box 248505
Coral Gables, FL 33124.
For further information you may contact mba@miami.edu
2. all other correspondence, applications and documents should be sent directly to the academic department;
3. no action is taken until a file is complete and all documents are available;
4. application files should be complete at least one month before registration, much earlier for some applications, as specified elsewhere in this *Bulletin*;
5. admission to graduate status does not imply admission to candidacy for a degree;
6. some programs close admissions early because of limited capacity;
7. *materials submitted in support of an application are not released for other purposes and cannot be returned to the applicant.*

International Students Admissions

All international students who have been admitted to a program of full-time study at the University of Miami need to enter the U.S. on a student visa. To apply for an F-1 visa, you must provide the U.S. Embassy or Consulate with a Form I-20 or DS-2019, passport, statement of funds, and other documents as required by the U.S. Embassy or Consulate.

Please visit the International Student and Scholar Services (ISSS) website at www.miami.edu/issss (<http://www.miami.edu/issss>) for further information regarding visas, travel, pre-arrival information, etc. The Form I-20 or DS-2019 can only be issued after you have been admitted and have submitted proof of adequate financial support for your studies and living expenses. For questions regarding issuance of the Form I-20 or DS-2019, please contact your individual department.

Readmission

Unless a leave of absence has been requested and approved, students who have not been continuously enrolled must request readmission. Contact the appropriate program office well in advance of registration. If additional college work has been completed elsewhere since the last enrollment at the University of Miami, an official transcript of this will be required. Recency of credit hour rules will apply. The application for readmission to the Graduate School may be found at: https://umshare.miami.edu/web/wda/grad/forms/_web/readmission_to_grad_school.pdf If you are an applicant for readmission

and also an international student, please contact the Office of International Admission at issss@miami.edu and 305-284-2928.

Dual Degree and Accelerated Degree Programs

The University offers unique combined degree programs that culminate with students receiving both the undergraduate and graduate degrees concurrently or an accelerated program of study in which they receive an undergraduate degree and then a graduate degree the following year.

These programs are intended for exceptional students to acquire both undergraduate and graduate degrees, in five years rather than the 4 plus 2 years (approximately) that is traditionally expected.

Please note: Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree.

Requirements

Students must have undergraduate student status and a cumulative G.P.A. of at least 3.0 at the time of application. Students should discuss the program and possibility of entering the program with an academic advisor. The program may require application at the time of matriculation to the undergraduate degree or prior to the beginning of final exams in the junior year.

Undergraduate students must take the GRE Examination before the end of their classification as a senior and attain a combined score of more than 297 on the verbal and quantitative portions.

Once admitted into a dual degree or accelerated program:

In their senior year, students may take a maximum of 12 graduate credit hours, with a maximum of 6 credit hours per semester. While in senior status, to register, students must complete and submit the Graduate School's Application for Undergraduates to Take Graduate Coursework form which is available at www.miami.edu/gs/index.php/graduate_school/forms/ (http://www.miami.edu/gs/index.php/graduate_school/forms/). This form must accompany the Add/Drop and/or Course Request form to ensure that students are registered with the correct registration status. Add/Drop and/or Course Request forms without this approval form will not be processed. Undergraduate students must register for courses with graduate status in the Office of the Registrar. This process cannot be facilitated via online registration.

Financial Implications

Many financial aid programs, including those offered by the University and the federal and state governments are restricted to coursework required to complete an undergraduate degree.

Students are eligible for undergraduate aid only as long as they are undergraduates. Students enrolled in combined or accelerated degree programs are permitted undergraduate federal and University aid for a maximum of four academic years or to the point at which the number of graduate credit hours in a term exceeds the number of undergraduate credit hours, whichever comes first. During that time frame the student's undergraduate enrollment status will be determined using only undergraduate level courses in which the student enrolls. Graduate level courses in which the student enrolls during such semesters will not be used to determine the student's undergraduate enrollment status. Once a

student is registered at the graduate level for financial assistance his/her status is considered graduate for all subsequent semesters.

Once registered as a graduate student, a student cannot revert to undergraduate status.

For further information, contact the Office of Financial Assistance at ofas@miami.edu, call 305-284-5212, or visit the office at Rhodes House (Building 37). Office hours are 8:30 a.m. to 5:00 p.m., Monday through Friday.

Graduation Clearance Requirements

For dual degree programs, the student must apply for undergraduate and graduate graduation at the same time. Degrees from dual degree programs are conferred at the same time.

For accelerated degree programs, the student must apply for undergraduate graduation in one semester, and for graduate graduation in a subsequent semester.

The student must meet the requirements of the Graduate School specified in the Bulletin for the awarding of the graduate degree.

Students enrolled in a dual degree or accelerated program can take a **maximum of 6 graduate credit hours per semester in their senior year for a maximum of 12 graduate credit hours** without incurring additional costs **if they are full-time undergraduate students** during this period.

Students should register for courses towards their graduate degree as "G" credit hours and not as "U" credit hours. These registrations must be completed prior to taking courses. Retroactive add/drops will not be processed.

Summary of Guidelines for Dual Degree and Accelerated Programs

- Take at least 12 undergraduate credit hours per semester. This qualifies you for the opportunity to take up to 6 graduate credit hours per semester at no additional cost.
- Graduate credit hours can be taken only in the senior year in a dual degree or accelerated program (based on the number of credit hours earned towards the undergraduate degree).
- The maximum number of graduate credit hours allowed per semester is 6.
- The maximum number of graduate credit hours the undergraduate student can take at no additional cost is 12.
- The Application for Undergraduates to take Graduate Coursework form should be completed and all signatures must be obtained before registering for graduate credit hours.
- The student can change his/her status to "graduate", or their status might be determined to be "graduate" for financial aid purposes during or at the completion of the senior year. This will make the student eligible for graduate financial aid (for US citizens or permanent residents).
- The student cannot be a full-time undergraduate (taking 12 or more undergraduate credit hours) and a full-time graduate (taking 9 or more graduate credit hours) at the same time.
- Once a student's status changes to graduate (or after they have taken a full load of graduate credit hours) their status cannot revert to undergraduate status.

- In a dual degree or accelerated program, an undergraduate student cannot take graduate credit hours in any other year except in the senior year.
- The student should avoid taking any undergraduate credit hours after the student's status has changed to graduate.

For University of Miami Undergraduates

Undergraduates Taking Graduate Coursework. University of Miami undergraduates within 30 credit hours of meeting the requirements for the Baccalaureate Degree may be considered for concurrent admission to graduate study in non-degree graduate status, and in this status may take and receive credit hour for graduate courses, while completing the requirement for the baccalaureate. The application may be found at <https://www6.miami.edu/grad/forms/ApplicationforUndergraduatestoTakeaGraduateCourse.pdf>.

Admission to Graduate Status requires:

1. Must have a minimum of 3.000 G.P.A.
2. The submission of an Undergraduates to Take a Graduate Course form (which can be obtained at the Graduate School) which will not require the application fee;
3. The written approval of the Chairman of the Department, the Dean of the Undergraduate School or College, and of the Graduate Dean **prior to registration** on the form.

Admission to Graduate status does not automatically admit the student, upon graduation, to status as an applicant for a graduate degree at the University of Miami.

The graduate credit hours earned may NOT be used to meet undergraduate graduation requirements or be used to meet the 120 credit hour requirements at the University of Miami.

No more than 6 credit hours may be taken in one semester, and no more than a total of 12 credit hours may be taken while in Graduate Status. Students may take no more than 15 credit hours of combined undergraduate and graduate courses per semester.

Students electing Graduate status must register and be processed centrally at the Office of the Registrar, 305-284-2294.

Degree Programs

The University of Miami offers majors leading to graduate degrees as follows:

- **MASTER OF ARCHITECTURE (M. Arch.)**
- **MASTER OF ARCHITECTURE IN URBAN DESIGN (MUD)**
- **MASTER OF ARCHITECTURE IN REAL ESTATE AND URBANISM (MRED&U)**
- **MASTER OF ARTS (M.A.) with concentrations in the following:**
 - Applied Marine Physics
 - Art History
 - Art Presenting
 - Communication
 - Communication Studies
 - Film Studies
 - Television Broadcast

- Print Journalism
 - Public Relations
 - Spanish Print in Journalism
- Economics
- English
- Geography and Regional Studies
- History
- International Administration
- International Studies
- Journalism
- Latin American Studies
- Marine Affairs and Policy
- Marine Biology and Fisheries
- Marine Geology and Geophysics
- Marine and Atmospheric Chemistry
- Mathematics
- Meteorology and Physical Oceanography
- Philosophy
- Public Relations/Media Management
- Sociology
- **MASTER OF ARTS IN LIBERAL STUDIES (M.A.L.S.)**
- **MASTER IN ACCOUNTING (M.P.Acc.)**
- **MASTER OF BUSINESS ADMINISTRATION (MBA)**
- **MASTER OF BUSINESS ADMINISTRATION EXECUTIVE TRACKS**
 - **Gables, Nassau, Orlando, DelRay, Tampa 1&2, Health Administration, Stragglers, International Business, Working Professionals, Puerto Rico**
- **MASTER OF SCIENCE IN EDUCATION (M.S.Ed.)** with concentrations in the following:
 - Advanced Professional Studies
 - Community and Social Change
 - Counseling and Research
 - Early Childhood Special Education
 - Education
 - Education and Social Change
 - Elementary Education
 - Exercise Physiology
 - Higher Education/Enrollment Management
 - Higher Education/Student Life & Development
 - Marriage and Family Therapy
 - Counseling Mental Health
 - Reading
 - Research, Measurement and Evaluation
 - Special Education
 - Sport Administration (Focus athletics or recreational sports)
 - Sports Medicine
 - STEM Education
- **MASTER OF FINE ARTS (M.F.A.)** with concentrations in the following:
 - Art (Studio Work)
 - Digital Imaging
 - Painting
 - Sculpture
 - Graphic Design / Multimedia
 - Ceramics / Glass
 - Photography/Digital Imaging
 - Printmaking
- Creative Writing
- Motion Pictures
 - Production
 - Producing
 - Screenwriting
- Printmaking
- **MASTER OF MUSIC (M.M.)** with concentrations in the following:
 - Accompanying and Chamber Music
 - Art Presenting
 - Choral Conducting (A.D.)
 - Collaborative Piano
 - Composition
 - Electronic Music
 - Instrumental Conducting (A.D.)
 - Instrumental Performance (A.D.)
 - Jazz Pedagogy
 - Jazz Performance
 - Keyboard Performance and Pedagogy
 - Media Writing and Production
 - Multiple Woodwinds
 - Music Business and Entertainment Industries
 - Piano Performance (A.D.)
 - Music Education/String Pedagogy
 - Music Theory
 - Music Therapy
 - Musicology
 - Studio Jazz Writing
 - Vocal Performance (A.D.)
- **MASTER OF SCIENCE (M.S.)** with concentrations in the following:
 - Applied Marine Physics
 - Biology
 - Biostatistics
 - Chemistry
 - Computer Information Systems
 - Computer Science
 - Engineering
 - Environmental Health and Safety
 - Information Technology
 - Management Science
 - Management of Technology
 - Marine Affairs and Policy
 - Marine Biology and Fisheries
 - Marine Geology and Geophysics
 - Marine and Atmospheric Chemistry
 - Mathematics

- Meteorology and Physical Oceanography
- Occupational Ergonomics and Safety
- Physics
- Professional Management
- Psychology
- Public Health
- Statistics
- Taxation
- **MASTER OF SCIENCE IN ARCHITECTURAL ENGINEERING (M.S.A.E.)**
- **MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING (M.S.B.E.)**
- **MASTER OF SCIENCE IN CIVIL ENGINEERING (M.S.C.E.)**
- **MASTER OF SCIENCE IN ELECTRICAL AND COMPUTER ENGINEERING (M.S.E.C.E.)**
- **MASTER OF SCIENCE IN INDUSTRIAL ENGINEERING (M.S.I.E.)**
- **MASTER OF SCIENCE IN MECHANICAL ENGINEERING (M.S.M.E.)**
- **MASTER OF SCIENCE IN MUSIC ENGINEERING TECHNOLOGY (M.S.M.E.T.)**
- **MASTER OF SCIENCE IN NURSING (M.S.N.)**
- **MASTER OF SCIENCE IN TAXATION (M.S.Tax.)**
- **MASTER OF PUBLIC ADMINISTRATION (M.P.A.)**
- **MASTER OF PUBLIC HEALTH (M.P.H.)**
- **SPECIALIST IN EDUCATION (Ed.S.)** with concentrations in the following:
 - Advanced Professional Studies
 - Early Childhood Special Education
 - Education
 - Higher Education Leadership
 - Music Education
 - Reading
 - Special Education
 - STEM Education
- **SPECIALIST IN MUSIC EDUCATION (SPEC.M.)**
- **DOCTOR OF MUSICAL ARTS (D.M.A.)** with concentrations in the following:
 - Accompanying and Chamber Music
 - Choral Conducting
 - Collaborative Piano
 - Composition
 - Instrumental Conducting
 - Instrumental Performance
 - Jazz Composition
 - Keyboard Performance and Pedagogy
 - Multiple Woodwinds
 - Performance (Applied Music)
 - Piano Performance
 - Jazz Performance
 - Vocal Pedagogy
 - Vocal Performance
- **DOCTOR OF NURSING PRACTICE (D.N.P.)**
- **DOCTOR OF PHYSICAL THERAPY (D.P.T.)**
- **Higher Education Leadership (Ed.D.)**
- **DOCTOR OF PHILOSOPHY (Ph.D.)** with concentrations in the following:
 - Applied Marine Physics
 - Biochemistry and Molecular
 - Biology
 - Biomedical Engineering
 - Biostatistics
 - Business Administration
 - Cancer Biology
 - Chemistry
 - Civil Engineering
 - Communication (Communication, Film)
 - Computer Science
 - Counseling Psychology
 - Economics
 - Electrical and Computer Engineering
 - English
 - Epidemiology and Public Health
 - Environmental Science and Policy
 - Ergonomics
 - Exercise Physiology
 - History
 - Human Genomics and Genetics
 - Industrial Engineering
 - International Studies
 - Marine and Atmospheric Chemistry
 - Marine Biology and Fisheries
 - Marine Geology and Geophysics
 - Mathematics
 - Mechanical Engineering
 - Meteorology and Physical Oceanography
 - Microbiology and Immunology
 - Molecular and Cellular Pharmacology
 - Molecular Cell and Developmental Biology
 - Music Education
 - Music Education with Music Therapy
 - Neuroscience
 - Nursing
 - Philosophy
 - Physical Therapy
 - Physics
 - Physiology and Biophysics
 - Psychology
 - Romance Studies
 - Research and Evaluation/Exercise
 - Romance Languages
 - French
 - Spanish
 - Sociology
 - Teaching and Learning

- Language and Literacy Learning in Multilingual settings
- Mathematics and Science Education
- Special Education

Interdisciplinary Graduate Studies

Dept. Code: IDS

The Graduate School is no longer accepting applications for the IDS program. This will not affect current IDS students.

Environmental Science and Policy

Dept. Code: ECSD

Through the Graduate School, The Abess Center for Ecosystem Science and Policy offers an interdisciplinary course of study leading to a Ph.D. Details regarding areas of specialization can be found at the Abess Center website at <http://www.cesp.miami.edu/>. In most cases, doctoral students are supported by research assistantships which include tuition remission and a monthly stipend. All students are also required to serve satisfactorily for one term as teaching assistants in the Abess Center undergraduate program.

Prerequisite

Students admitted to the program must have earned a Bachelor's or Master's degree and should display a strong interest in the interdisciplinary study of ecosystem science and policy.

Ph.D. Degree Requirements

Completion of the Ph.D. will take approximately five years. All students are also required to:

- Complete a minimum of 60 credit hours, of which at least 26 must be for coursework taken while in residence at the University of Miami. (Students entering the program with a Master's degree in a related field may be given credit hour for up to 24 course credit hours.)
- Complete 12 credit hours worth of coursework in the following core courses:

ECS 601	Interdisciplinary Environmental Theory	3
ECS 603	Interdisciplinary Environmental Methods	3
ECS 605	Interdisciplinary Environmental Law & Policy	3
ECS 607	Interdisciplinary Environmental Decision Analysis	3
Total Credit Hours		12

- Submit, by the end of their second semester, a proposed group of additional courses, totaling at least 18 credit hours, related to their research interest and intended dissertation research area. This group of courses requires approval of both the student's advisor and the Director of Graduate Studies.
- Accrue at least 13 credit hours worth of dissertation research.
- Pass written and oral comprehensive examinations following the conclusion of the core series of courses, usually at the end of the first year. A majority of the examination committee must be members of the Graduate Faculty of the University. In the event of failing to pass an examination, students are required to retake and pass the examination within one calendar year. By the end of the second year,

students must present and defend a research proposal. Following successful completion of the comprehensive examination and research proposal defense, the student may apply to candidacy for the degree. Any student who fails to be admitted to candidacy for the degree within this two-year period can be dismissed from the program.

- Convene a 4-member dissertation committee by the end of the first year.
- Write and defend a dissertation research proposal by the end of the second year. Students may proceed with the dissertation after the dissertation committee has been appointed and the Director of Graduate Studies and the Graduate School have accepted the dissertation proposal. The dissertation must be an investigation of a substantial scholarly topic and bridge both scientific and policy aspects of the topic area.
- Successfully complete an oral defense of the dissertation.

Office of Study Abroad

Dept. Code: SAP

Opportunities for study abroad may be available for some graduate degree programs during the summer, fall, spring and intersession terms.

Students may participate in programs led by faculty members or may participate in semester exchange program options offered by the MAIA program.

For further information contact:

Office of Study Abroad
PO Box 248263
Coral Gables, FL 33124-1610
305-284-3434
e-mail: ieep@miami.edu

In some programs it is possible to earn graduate credit hours for study taken abroad. The curriculum must be worked out by the student in conjunction with an advisor.

Master's Degree

The minimum residence requirement is two semesters in full-time study or the equivalent in part-time work. In practice, most students need at least three semesters, or two semesters plus summer work, to complete degree requirements.

Foreign Language

The requirements in a foreign language or languages are established by the student's program. In those cases where the program deems it necessary that the student have competency in a foreign language, the student will be required to demonstrate such competence by examination in one or more languages. The choice of language or languages required will be by the program.

Thesis

Decision as to the thesis subject must be approved by the program. The thesis committee will consist of not less than three members. The committee chair must be Regular Faculty from the student's program or department of concentration (this includes secondary appointments).

In addition to the chair, one of the remaining members must also be Regular Faculty or have Graduate Faculty status in the student's program or department of concentration; the third member must be an outside member. "Regular Faculty" are faculty having tenured or tenure-earning appointments of a program or department. A thesis or dissertation committee cannot be chaired by a person unless they hold a higher or equivalent degree as the candidate for the graduate degree. Exceptions to the committee composition may be approved by the chair of the department and Dean of the Graduate School. A program may require additional members.

The committee is nominated by the Graduate Program Director of the program concerned. The duties of the thesis committee are similar to those of the dissertation committee. The student who presents a thesis must enroll for at least 6 credit hours of thesis. Ordinarily no more than 6 credit hours may be granted.

The Dissertation Editor will provide information on the guidelines and deadlines that will become critical in the final months of the degree process or information can be downloaded from www.miami.edu/etd (<http://www.miami.edu/etd>). The Graduate School office telephone number is 305-284-4154, the email address is grad.dissertation@miami.edu.

Master's degree students who are required to write a thesis must defend their thesis by the date specified in the academic calendar and upload one Dissertation Editor-approved PDF to the ETD database and submit final paperwork to the Graduate School by the last day of exams in the semester the student wishes to graduate. It is recommended that students begin the process early in the semester by discussing with their advisors a suitable timetable for meeting these deadlines. All information pertaining to the formatting and electronic guidelines for electronic thesis and dissertation submission can be found at www.miami.edu/etd (<http://www.miami.edu/etd>). The Graduate School also encourages students to contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process.

One Dissertation Editor-approved PDF conforming in style to the formatting standards set by the Graduate School must be uploaded to the ETD database and final paperwork handed in to the Office of the Graduate School on or before the last day of exams in the semester the student wishes to graduate. It is the duty of the student to acquire a copy of the guidelines for preparing theses and dissertations and to conform to the requirements therein. Each thesis must be accompanied by one certificate of approval of oral defense of thesis signed by all members of the Committee, one Signature page from the thesis document signed by all members of the committee, and one ETD Availability Agreement form signed by the student and Committee Chair. The forms can be downloaded from www.miami.edu/etd (<http://www.miami.edu/etd>).

Electronic Theses and Dissertation (ETD) Embargo Policy

Graduate students can elect to withhold their electronic thesis or dissertation for up to two years before the work is available for download from the University of Miami's Scholarly Repository, <http://scholarlyrepository.miami.edu/>. The metadata for all theses and dissertations regardless of the availability option elected (i.e., open access, UM campus only, or embargo) will be immediately available for viewing in the university's Scholarly Repository after the Dissertation

Editor has approved and released the thesis or dissertation to the repository. If embargo is elected by the student, the existence of the student's information page will appear in the Scholarly Repository right away displaying title, defense date, abstract, committee, keywords, etc., but the PDF of the electronic thesis or dissertation will not be downloadable until the term of embargo elected has expired. After the elected embargo period has expired the electronic thesis or dissertation will be released for open access in the Scholarly Repository. Students requesting embargo should carefully review the details of embargo election described in the ETD Availability Agreement form posted at www.miami.edu/etd (<http://www.miami.edu/etd>) to ensure they fully understand the terms of access for their embargoed work.

Final Examination

A final public oral defense of the thesis is required. However, none but the members of the thesis committee may interrogate the candidate. In addition there may be required, if desired by the program, a final written integration examination to test the candidate's ability to integrate the whole graduate program and the thesis in relation to it. These examinations must be held at least two weeks prior to commencement.

Research in Residence

Once a student has completed all course and required research credit hours, he or she must enroll in Research in Residence status until the degree has been granted. Research in Residence status is considered full-time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School. (See Recency of Credit and Time to Completion (p. 33) sections of the Bulletin.) Research in Residence students, while not required, may purchase or receive any perquisites that are normally available to graduate students.

Comprehensive Examination

In most programs a comprehensive examination, either written, oral or both, is a requirement. When the thesis is not a part of the program, an examining board, at least one of whose members must be a regular member of the Graduate Faculty, will be appointed by the program.

A student failing the comprehensive may be allowed one opportunity to retake it if the students committee so advises. The re-examination may not be taken during the same semester or summer session, and must be taken within one calendar year.

Transfer of Credit Hour

Upon recommendation of the major program and the approval of the Graduate School, a maximum of 6 credit hours of graduate credit hour, with grades of B or above, may be transferred from another accredited graduate institution, in partial satisfaction of a master's degree requiring less than 36 credit hours. 9 credit hours of graduate credit hour may be approved for transfer to a degree program requiring 36 credit hours or more. Work taken more than six years prior to transfer will not be accepted. Work taken by extension, correspondence or online is not acceptable. All work transferred is subject to examination by the program. In no case will credit hour be transferred until the student has completed acceptably an equivalent number of credit hours at the University of Miami. Any student wishing to transfer credit hour must be enrolled at the University of Miami during the time of transfer. The satisfaction of the requirements of another university does not relieve

the student from the University of Miami's requirements. An official transcript of work to be transferred must be on file in the Graduate Office. Credit hours that pertain to or have been counted toward another degree cannot be transferred. Students enrolled in the Master of Business Administration program are not eligible for credit hour transfers.

Exceptions must be approved by the Dean of the Graduate School.

No transferred credit hours are calculated into the University of Miami G.P.A.

A Second Master's Degree

A student enrolled in a University of Miami master's degree program or holding a University of Miami master's degree may earn a second master's degree in a related area at the University by completing a minimum of 21 credit hours in residence toward the second degree, as long as all program and admission requirements for the degree are met. Each degree must have a separate thesis if two thesis options are elected. The second program decides if the areas are related enough to qualify for the reduced number of credit hours. The student must contact the second program during the application process for the second program to determine if the areas are related enough to qualify for the reduced number of credit hours.

Doctoral Degree

(For Ph.D., D.M.A., and Ed.D. candidates only)

General

The Graduate School does not specify course requirements for the Ph.D. However, the Graduate School will not, ordinarily, approve the taking of the qualifying examination until the student has had a minimum of one continuous academic year of graduate work in courses, seminars, and directed or tutorial study. 60 credit hours beyond the baccalaureate degree are the minimum requirement for the Ph.D., and not less than half of the total credit hours must be in work open only to graduate students. At least 24 must have been taken in residence at the University of Miami. A minimum of 12 dissertation credit hours must be taken. Graduate students studying for the Ph.D. who have received their master's degree in the same field must take at least twenty-four (24) hours in residence at the University of Miami in doctoral status.

The specific course requirements for the Ph.D. are established by the major department or program which may require such additional graduate credit hour as it deems necessary. Such requirements will be found in that part of the Bulletin which lists course offerings.

Dissertation

A student must take a minimum of 12 credit hours of dissertation research except where otherwise stated. Not more than 12 credit hours of research may be taken in a regular semester, nor more than 6 in a summer session.

Ph.D., D.M.A., Ed.D., or Lecture Recital degree students must defend their dissertation, doctoral essay, or lecture recital essay by the deadline specified in the academic calendar and upload one Dissertation Editor-approved PDF to the ETD database and submit final paperwork to the Graduate School by the last day of exams in the semester the student wishes to graduate. It is recommended that students begin the process early in the semester by discussing with their advisors a suitable

timetable for meeting these deadlines. All information pertaining to the formatting and electronic guidelines for electronic thesis and dissertation submission can be found at www.miami.edu/etd (<http://www.miami.edu/etd>). The Graduate School also encourages students to contact the Dissertation Editor early in the semester at grad.dissertation@miami.edu if they have questions regarding any aspect of the ETD process.

One Dissertation Editor-approved PDF conforming in style to the standards set by the Graduate School, must be uploaded to the ETD database and final paperwork handed in to the Office of the Graduate School on or before the last day of exams in the semester the student wishes to graduate. It is the duty of the student to acquire a copy of the guidelines for preparing theses and dissertations and to conform to the requirements therein. Each dissertation must be accompanied by one certificate of approval of oral defense of thesis signed by all members of the Committee, one Signature page from the dissertation document signed by all committee members, and one ETD Availability Agreement form signed by the student and Committee Chair. The forms can be downloaded from www.miami.edu/etd (<http://www.miami.edu/etd>).

Electronic Theses and Dissertation (ETD) Embargo Policy

Graduate students can elect to withhold their electronic thesis or dissertation for up to two years before the work is available for download from the University of Miami's Scholarly Repository, <http://scholarlyrepository.miami.edu/>. The metadata for all theses and dissertations regardless of the availability option elected (i.e., open access, UM campus only, or embargo) will be immediately available for viewing in the university's Scholarly Repository after the Dissertation Editor has approved and released the thesis or dissertation to the repository. If embargo is elected by the student, the existence of the student's information page will appear in the Scholarly Repository right away displaying title, defense date, abstract, committee, keywords, etc., but the PDF of the electronic thesis or dissertation will not be downloadable until the term of embargo elected has expired. After the elected embargo period has expired the electronic thesis or dissertation will be released for open access in the Scholarly Repository. Students requesting embargo should carefully review the details of embargo election described in the ETD Availability Agreement form posted at www.miami.edu/etd (<http://www.miami.edu/etd>) to ensure they fully understand the terms of access for their embargoed work.

Research in Residence

Once a student has completed all course and required research credit hours, he or she must enroll in Research in Residence status until the degree has been granted. Research in Residence status is considered full-time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School. Research in Residence students, while not required, may purchase or receive any perquisites that are normally available to graduate students. (See **Recency of Credit** section.)

Residence

The student must spend at least two consecutive semesters beyond the first year's graduate work, wherever taken, in full-time study at the University of Miami. With program approval,

1. one summer of full-time study in two sessions can be substituted for one semester of residence, or

2. full-time study for two successive summers can be substituted for two regular semesters.

Residence requirements may be altered only by the Dean of the Graduate School. (At least 24 credit hours must be taken in residence.)

The Supervisory and Dissertation Committees

A supervisory committee is usually appointed when a student is formally admitted to a doctoral program. For the dissertation/doctoral essay/lecture recital essay committee a student needs no less than four members. The committee chair must be Regular Faculty from the student's program of concentration (this includes secondary appointments). In addition to the chair, two members must be Regular Faculty or have Graduate Faculty status in the student's program of concentration. The fourth member must be an outside member. "Regular Faculty" are faculty having tenured or tenure-earning appointments of a program or department. A thesis or dissertation committee cannot be chaired by a person unless they hold a higher or equivalent degree as the candidate for the graduate degree. Exceptions to the committee composition may be approved by the Program Director (or Chair of the department) and Dean of the Graduate School. A department, program, or school / college may require additional members.

This committee is nominated by the chairperson of the program concerned. It is appropriate for the chairperson to consult with the student regarding the membership of the committee. The supervisory committee is empowered to plan the course of study for the student; to determine deficiencies, if any; to set language and other requirements; to request applicable transfer of credit hour where appropriate and to make up and administer the qualifying examination.

When the student is admitted to candidacy, a dissertation committee is formed. This may be the supervisory committee, but it may also be a committee formed anew to undertake the duties of advising and passing upon the dissertation. The dissertation committee is nominated by the department or program concerned, and appointed by the Graduate Program Director and approved by department chair. As with the supervisory committee, it must be comprised of at least four members; this includes the committee chair, who shall be a member of the program or department of concentration, as well as a permanent member of the Graduate Faculty. Of the remaining members, it is also required that two shall be members of the program or department of concentration, as well as permanent members of the Graduate Faculty (http://www.miami.edu/gs/index.php/graduate_school/current_students/graduate_faculty_list_by_department) and one from outside the program or department of concentration. A program may require additional members. The duties of the Dissertation Committee are:

1. To consult with and to advise students on their research;
2. To meet, at regular intervals, to review progress and expected results;
3. To read and comment upon the draft dissertation;
4. To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.

The candidate is well advised to have a final, acceptable typescript of the dissertation in the hands of each member of his/her committee at a time

reasonably in advance of the final defense of the work a minimum of two weeks prior to the defense.

The dissertation may be written in a language other than English at the recommendation of the dissertation committee and with the approval of the program and the Graduate School. Graduate School approval will be determined on a case-by-case basis. The Dissertation Chair will submit a memorandum from the Department Chair to the Dissertation Editor together with the student's application for admission to candidacy explaining why it is both *relevant* and *appropriate* for the dissertation research to be written in a language other than English. Acceptable "relevant and appropriate" reasons for writing the dissertation in a language other than English include, but are not limited to: relevancy to research where presentation in a non-English language expands knowledge of that language; relevancy where the loss or weakening of the research's meaning and impact if primary data, e.g., interviews, are translated into English; or appropriateness where the majority of the bibliographic sources, references, and potential outlets for future publication are anticipated to be in that language other than English. Both the memorandum and the application for admission to candidacy form must be submitted to the Graduate School at the same time. In some cases upon review of the memorandum, the Graduate School may determine that the student will also be required to submit an English translation of the non-English dissertation. For all approved cases, an abstract in English should be included in the final dissertation.

One Dissertation Editor-approved PDF must be uploaded to the ETD database and final paperwork handed in to the Graduate School on or before the date specified in the academic calendar published each session, accompanied by one certificate of approval of doctoral dissertation defense and one ETD Availability Agreement form. It is the duty of the student to acquire a copy of the guidelines for preparing dissertations from the Graduate School or www.miami.edu/etd (<http://www.miami.edu/etd>) and to conform to the requirements therein. All dissertations are also published by ProQuest/University Microfilms, Inc.

No student gains the right to be recommended for the degree simply by fulfilling requirements. This right is reserved to the student's committee. Changes of committee members must be approved by Graduate Program Director, and sent to the Graduate School.

Qualifying Examinations

A written qualifying examination is to be taken by each doctoral degree (Ph.D., D.M.A., D.N.P., D.P.T., Ed.D.) candidate at the time that the student and the Supervisory Committee deem appropriate. The major program may specify that its students must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the supervisory committee shall notify the Graduate School and the instructional school or program that the student has passed or failed the examination. A student who fails the examination will be given one opportunity to retake it with the permission of the supervisory committee. After a comprehensive exam is failed for a second time, the student is terminated from the program. Some programs do not administer qualifying examinations during the summer months. Check with the Graduate Program Director for specific program requirements.

Admission to Candidacy

When the student has met all requirements and passed the qualifying examinations, admission to candidacy for the degree is approved.

No student may receive the degree in the same semester or summer session in which he or she is admitted to candidacy. The student must be admitted to candidacy before the defense of dissertation is scheduled.

Final Examination

A final public oral defense of the dissertation is required. Refer to the academic calendar for the deadline regarding dissertation defense for each graduation. Graduate programs set the specific requirements and format of the defense. Please contact your Graduate Program Director for details.

Transfer of Credit Hour

Transfer of graduate credit hour from another institution will not be made until the student has completed a like amount of credit hour at the University of Miami, and the transfer has been approved by the supervisory committee and the Dean of the Graduate School. Credit hour transferred is subject to the same recency rules as all other credit hour counted toward the degree, and is also subject to examination by the program. An official transcript of work to be transferred must be on file in the Graduate School. Credit hours that pertain to or have been counted toward another degree cannot be transferred.

Florida International University and University of Miami Agreement

Effective as of Fall 2007, students may take up to 6 credit hours at the host institution as long as the following requirements are met:

1. Must be Ph.D. student or Master's student in Latin American Studies.
2. Approval from both home and host institution;
3. Approval of Graduate School Deans;
4. Space at the host institution is available.
5. Approval of the Faculty member teaching the course.

Tuition and fees are to be paid at the home institution. Performance level is set at host institution. Contact the Graduate School (p. 360) for more information. The application form can be found at http://www.miami.edu/gs/index.php/graduate_school/current_students/umfiu_doctoral_exchange_program/.

Architecture

<http://www.arc.miami.edu>

Introduction

The School of Architecture at the University of Miami offers a professional Master of Architecture degree, as well as, Master degrees in Urban Design, Real Estate Development & Urbanism, and Architecture Research.

The School of Architecture's location in Coral Gables within the Miami metropolitan area provides an outstanding laboratory for research and advanced study; the challenges of conservation and development are intense in one of the nation's fastest growing urban areas. These challenges result in an increasing demand for skilled professionals.

Students have the opportunity to work with the faculty in the exploration of theoretical issues as well as in the resolution of practical problems. The School of Architecture values and sustains a creative, open and supportive environment, emphasizing personalized instruction in small classes and studio courses.

Accreditation

The school is a member of the Association of Collegiate Schools of Architecture and the Association of Collegiate Schools of Planning, and is fully accredited by the National Architectural Accreditation Board, who asks each school to include the following paragraph on professional degrees in all literature:

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, the Master of Architecture, and the Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards. Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Admission Requirements

Applications are for the fall semester only. Applications completed by February 1st will be given the highest priority. Admission to the graduate program is subject to the rules, regulations and procedures of the Graduate School as stipulated in the University Graduate Bulletin (p. 360). It is the responsibility of each student to understand these requirements and to ensure that they are met.

The minimum requirements for application to the Master of Architecture Degree program are:

1. 3.0 cumulative grade point average.

2. 300 cumulative Graduate Record Examination score on verbal and quantitative sections
3. *International applicants* and/or those whose native language is not English the TOEFL should have been taken within 2 years prior to application for admission; a minimum score of 550 (paper-based), 80 (internet-based) is required. Visit the TOEFL website, www.toefl.org (<http://www.ets.org/portal/site/ets/menuitem.fab2360b1645a1de9b3a0779f1751509/?vgnnextoid=69c0197a484f4010VgnVCM10000022f95190RCRD>), for more information.
4. For: Master of Architecture (Advanced Standing), Urban Design, and Master of Architecture: Research - a Professional Degree in Architecture (Bachelor of Architecture or Master of Architecture) is required.

Resources

The school's resources, including a state-of-the-art computer and digital fabrication laboratories, are enhanced by the interdisciplinary opportunities offered by the other schools and colleges of the University of Miami. A distinguished faculty is joined each semester by internationally renowned visiting scholars and designers.

Other programs that offer academic opportunities for graduate architecture students include:

- Historic Preservation Certificate
- Classical Architecture Certificate
- Bachelor of Science in Architectural Engineering (BSAE)/Master of Architecture (MARCH)
- Bachelor of Architecture (BARCH)/Master of Business Administration (MBA)

Master of Architecture: Professional Degree

The Master of Architecture is designed for college graduates seeking a first professional degree in architecture. It consists of the following two tracks:

- 3-year Track: A 3-year program for students holding undergraduate degrees in non-design fields. Completion of 105 credit hours required.
- Advanced Standing 2-Year Track: A program for students holding a previous non-professional degree in architecture or a closely related field. Completion of 51-60 credit hours required.

Master's degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree, which, when earned sequentially, comprise an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Master of Urban Design

This concentration consists of three semesters of directed study to explore in-depth the existing state of suburbs and cities, study precedents and propose design solutions. The faculty is dedicated to seeking alternatives to modern patterns of urban growth.

The Miami metropolitan area provides a laboratory for the identification of urban problems and for the exploration of design solutions. Each semester is comprised of a design studio and a seminar in parallel, studying both the real and ideal solutions for three aspects of town

planning: new town design, housing and the redesign of existing situations. The School of Architecture faculty teaches the curriculum with field condition input from visiting faculty and other experts such as developers, marketing experts and bankers.

Master in Real Estate Development and Urbanism

An intensive one-year graduate program for students with degrees and experience in business, architecture and related fields blending the fundamentals of real estate development (finance, law, market analysis, development process) with the School's strengths in livable community design.

Master of Science in Architecture

The Master of Science in Architecture (M.S.Arch) degree programs is structured across a 36-credit system of advanced study, typically beyond a first professional degree in architecture, engineering or closely allied profession. It is flexible to enable a student to take a core group of courses within a specialized track, as well as electives. The program may be initiated during the final semesters of the first professional degree in architecture and engineering. After foundational core coursework and electives, each student develops an individually focused thesis or a capstone project on a topic of their interest, with a faculty adviser. The M.S.Arch. program is designed to provide a skills and knowledge base for professional application as well as future advanced doctoral study.

Awards and Scholarships

All students admitted full time to the Master of Architecture program may be eligible for partial tuition scholarships and/or graduate Assistantships, based on academic record.

Scholarships may vary in amounts and are intended to assist the recipient pursue studies as required by the program. Scholarships will be awarded on a competitive basis. Graduate Assistantships require service in the form of teaching, research assistance, or other appropriate educational activities as designated by the director of the graduate program.

American Institute of Architects Henry Adams Medal awarded by the American Institute of Architects to the highest ranking graduating student for scholarship and excellence in architecture. American Institute of Architects Henry Adams Certificate awarded to the second highest ranking graduating student for scholarship and excellence in architecture.

Other honors, distinctions, and awards are presented annually for excellent student performance.

Masters

Masters Degrees in Architecture

- M.Arch. Professional Degree (p. 378)
- M.S in Architecture (Post Professional) (p. 379)
- M.U.D. Master of Urban Design (p. 383)
- Master in Real Estate Development and Urbanism (p. 383)

M.Arch Professional Degree

3-Year Track - For students with Prior Non-Architecture Degrees

Fall Semester I		Credit Hours
ARC 604	Architecture Design and Theory I	6
ARC 611	Drawing	3
ARC 630	Building Technology: Materials Methods	3
ARC 667	History of Architecture I: Ancient, Medieval and Renaissance	3
Term Credit Hours:		15
Spring Semester II		
ARC 605	Architecture Design and Theory II	6
ARC 613	Computing	3
ARC 631	Building Technology II: Structural Systems	3
ARC 668	History of Architecture II: Baroque through Contemporary	3
Term Credit Hours:		15
Summer Semester III		
ARC 606	Architectural Design and Theory III	6
ARC 632	Building Structures I	3
ARC 662	Environmental Building Systems I	3
Term Credit Hours:		12
Fall Semester IV		
ARC 607	Architecture Design. (Comprehensive)	6
ARC 633	Building Structures II	3
ARC 663	Environmental Building Systems II	3
ARC 620	Architecture Theory	3
Term Credit Hours:		15
Spring Semester V		
ARC 608	Architecture Design (Rome or Miami)	6
Electives		6
History of Architecture Elective		3
Term Credit Hours:		15
Fall Semester VI		
ARC 609	Architecture Design	6
ARC 699	Directed Research	3
ARC 652	Management of Professional Practice, Environmental Building Systems I	3
Elective		3
Term Credit Hours:		15
Spring Semester VII		
ARC 610	Architecture Design Degree Project	6
Professional Elective		3

Electives	9
Term Credit Hours:	18
Total Credit Hours:	105

NOTE: 3 credit hours must be taken at the student’s preference during Intersession, Spring Break, or Summer II

Curriculum notes: this program assumes that the student has completed college level mathematics and physics.

Advanced Standing 2-Year Track - For Students with Non-Professional Degrees in Architecture

Fall Semester I		Credit Hours
ARC 607	Architecture Design. (Comprehensive)	6
ARC 620	Architecture Theory	3
Elective		6
Term Credit Hours:		15
Spring Semester II		
ARC 608	Architecture Design (Rome or Miami)	6
	History of Architecture Elective	3
Elective		6
Term Credit Hours:		15
Fall Semester IV		
ARC 609	Architecture Design	6
ARC 699	Directed Research	3
ARC 652	Management of Professional Practice, Environmental Building Systems I	3
Elective		3
Term Credit Hours:		15
Spring Semester V		
ARC 610	Architecture Design Degree Project	6
Elective		9
Term Credit Hours:		15
Total Credit Hours:		60

Architecture and professional courses completed in a pre-professional bachelor’s degree program will be evaluated to identify courses that may be waived in the Master of Architecture Professional Degree Program.

A maximum of 54 credit hours, including three design studios, may be waived; generally architecture and professional courses with a grade of B- or higher will be accepted.

Requirements/Recommendations for additional coursework will be contingent on the evaluation of the student’s prior work at the time of admission.

M.S. Architecture Post Professional Degree

The Master of Science in Architecture (M.S.Arch) degree programs is structured across a 36-credit system of advanced study, typically beyond

a first professional degree in architecture, engineering or closely allied profession. It is flexible to enable a student to take a core group of courses within a specialized track, as well as electives. The program may be initiated during the final semesters of the first professional degree in architecture and engineering. After foundational core coursework and electives, each student develops an individually focused thesis or a capstone project on a topic of their interest, with a faculty adviser. The M.S.Arch. program is designed to provide a skills and knowledge base for professional application as well as future advanced doctoral study.

There are five tracks of concentration possible within the Master of Science in Architecture degree program:

- **Classical and Traditional Architecture**
- **Computational and Embedded Technology;**
- **Healthcare Design**
- **Historical Preservation**
- **Resilient Sustainable Building Technology**

1. Classical and Traditional Architecture

The Master of Science in Architecture: Classical and Traditional Architecture program consists of five courses (21 credits), and five electives (15 credits). The program focuses on the theory and practice of Classical and Traditional Architecture with an emphasis on contemporary vernacular trends in the building arts, emerging urbanisms, the economies of preservation of built patrimonies and sustainable practices of classical and traditional architecture worldwide.

The program includes an option of a semester in Rome as well as a summer option. The program explores the Western Classical Architecture tradition, its sources in ancient Egypt, Greece and Rome, and development through Medieval, Renaissance and Enlightenment periods, as well as the Elements and Principles of Classical Architecture, History of Rome, Urban Elements and Principles, Architectural Treatises, Italian Classicism, and Architectural History of Rome.

2. Computation and Embedded Technology

The Master of Science in Architecture: Computation and Embedded Technology program consist of five courses (21 credits), and five elective courses (15 credits) from School of Architecture and other schools/ departments by arrangement and approval of the coordinator of the track. The program is dedicated to the research and education of digital design thinking in architecture focusing on computational design and digital fabrication.

The program focuses on training innovative professionals rather than on innovative technology. The goals are to integrate analytical approaches and creative problem-defining processes to solve challenging issues in design with applications in art, architecture, education, business and healthcare. Making is at the center of the program’s pedagogy and the iterative and incremental developments of design and fabrication enable students to internalize and personalize these concepts. The research areas for making include, but are not limited to, parametric and algorithmic design, physical computing (sensors and actuators), bio-mimicry, robotic fabrication, machine learning, and computer-vision.

Fall Semester I		Credit Hours
ARC 686	Special Problems	1-3
ARC 663	Environmental Building Systems II	3
Elective (Theory of Computation)		3
Elective (Computational Design)		3
Term Credit Hours:		10-12
Spring Semester II		
ARC 608	Architecture Design	6
ARC 629	Research in Design-Methods and Procedures	3
Elective (Research Methodology)		3
Term Credit Hours:		12
Summer Semester III		
ARC 610	Architecture Design Degree Project	6
Elective (Database)		3
Elective (Adv. Comp. Algorithms and Applications)		3
Term Credit Hours:		12
Total Credit Hours:		34-36

Electives List

Theory and Computation Electives

CSC120 - Computer Programming I (4 credits) History of computing. Fundamental programming constructs. Algorithms and problem solving. Object-oriented programming. Recursion. Lecture 3 hours, laboratory 2 hours. *Prerequisites: Corequisite: MTH108 or MTH140 or MAS110*

CSC540 - Algorithm Design and Analysis (3 credits) Design techniques, including divide-and-conquer, greedy method, dynamic programming, backtracking. Time and space complexity. Sorting and searching. Combinatorial and graph algorithms. *Prerequisites: CSC317* (<http://www.cs.miami.edu/courses/course-formal-pages/csc317>) or *CSC517*

CEM Intro to Systems: Designing Interactivity (3 credits) In this course you will learn to apply systems thinking to the design of interactive systems ranging from physical games to screen-based applications. Designers must understand how to create interactivity through meaningful choice and how to design interfaces that visually communicate desired human interaction as part of an integrated system. Students will learn design principles for creating interactive systems as well as techniques for conducting design research, rapidly prototyping and evaluating multiple design solutions. The first half of the semester will be dedicated to looking at systems thinking through the lens of games. Students will first play games and then design and test their own games in small groups as a method for understanding interactivity and choice. The second half of the semester, students will address interactivity through the design of a screen-based application and/or real-life intervention.

CEM Programming for Designers (3 credits) This course will teach students the basics of programming using Processing. Processing is a language created by Ben Fry and Casey Reas of MIT. It was created to make computer programming accessible to people who

might imagine it but do not always have the skills to execute it, thus making it an excellent tool to teach programming concepts to designers. Processing gives students immediate results allowing them to easily create beautiful, interactive graphics. Read about processing at: <http://processing.org/about/> (<http://processing.org/about>)

ARC Computer Programming 1 - C & C++ (3 credits) This course provides a fast-paced introduction to the C and C++ programming languages, the basis of building energy analysis and modeling. Students will learn the required background knowledge, including memory management, pointers, preprocessor macros, object-oriented programming, and how to find bugs when you inevitably use any of those incorrectly. Moreover, students will learn how to apply the C and C++ in building technology and sustainable design via exercises each week. It is a fundamental class that will provide a basis for the in-depth modeling classes in the second semester.

ARC Computer Programming II - Python (3 credits) This course will provide a gentle introduction to programming using Python for highly motivated students with little or no prior experience in programming computers. The course will focus on planning and organizing programs, as well as the grammar of the Python programming language. The focuses and exercises of the class will be on how to model the building energy performance and visualize the building and its relationship with surrounding environment using Python. Moreover, to prepare students a strong foundation to use BIM software such as Revit or ArchiCAD.

Research Method Electives

EPS670 Introduction to Research Methods (3 credits) The nature of disciplined inquiry in behavioral and social sciences. Includes philosophy of science, quantitative and qualitative research, basic concepts in sampling and measurement, and systematic searches of the research literature. Students are required to complete literature search on a topic of their interest and submit a report of their findings.

EPS351 Introduction to Statistics and Research Design (3 credits) The course will cover basic statistics relevant to the social sciences (e.g., central tendency, variation, t-tests, correlations), with emphasis on real world applications employing commonly used research designs. Students will acquire the tools necessary to interpret elementary statistical analyses and a foundation in the basic analytic methods used in conducting quantitative research in the behavioral sciences.

EPS675 Qualitative Research Methods I (3 credits) An overview of the history, nature, characteristics, strategies, and ethics of qualitative research methods. Critical analysis and evaluation of various types of qualitative studies, including design, sampling, processes of data collection and analysis, and reporting results.

Advanced Algorithm and Application Electives

CSC220 - Computer Programming II (4 credits) Common APIs including list, priority queue, set, and map, and their efficient implementations in an object-oriented language using fundamental data structures. Sorting and other applications of recursion. Combining asymptotic analysis and experiments to extrapolate

running times. Using APIs in a software project. Lecture 3 hours, laboratory 2 hours. *Prerequisites:* CSC120 (<http://www.cs.miami.edu/courses/course-formal-pages/csc120>), MTH108 or MTH140 or MAS110

CSC317 - Data Structures and Algorithm Analysis (3 credits) Basic algorithmic analysis. Algorithmic strategies. Fundamental computing algorithms. Distributed algorithms. Cryptographic algorithms. Geometric algorithms. *Prerequisites:* CSC220 (<http://www.cs.miami.edu/courses/course-formal-pages/csc220>) or EEN318, MTH309

CSC547 - Computational Geometry (3 credits) Algorithms for solving geometric problems arising from application domains including graphics, robotics, and GIS. *Prerequisites:* CSC317 (<http://www.cs.miami.edu/courses/course-formal-pages/csc317>) or CSC517

CSC548 - Bioinformatics Algorithms (3 credits) The complexity of bioinformatics computations. Introduction to perl and bioperl. Pattern matching and sequence homology. Genome assembly. Transcription Factor Binding Site recognition and motif finding. Gene prediction. Phylogeny. Microarray analysis. RNA folding. Gene design and synthesis. *Prerequisites:* CSC120 (<http://www.cs.miami.edu/courses/course-formal-pages/csc120>) or CSC210 (<http://www.cs.miami.edu/courses/course-formal-pages/csc210>), BIL104 or BIL150 or BIL352 or BIL552 or CSC552

CEM Mobile Application Development (3 credits) The rapid global growth and evolution of smart phones, tablets, mobile computing and applications are impacting virtually all aspects of societies, economies and the media, requiring new leadership and expertise in these areas. This introductory course gives communication students valuable understanding and experience designing, developing and distributing a mobile application of their choosing as their course end product. Students can target any mobile platform and distribution system, including Apple's iOS and App Store, or Android Apps on Google Play, for example. No programming experience is required. Student will learn by example and collaboration to use Apple's Xcode or Appcelerator Titanium Studio, for example, among others that may help students to more easily and effectively complete their mobile application for smart phones, tablets, or both.

CEM Dynamic Data (3 credits) This course focuses on speaking through computer programming and data. Students will learn to build stories using numerical data or databases as a primary material and explore data as content. For this course students will be required to build custom software solutions through web programming languages that utilize third party APIs to interpret, analyze and manipulate data.

CEM Information Graphics and Visualization (3 credits) Humans are a visual species. Therefore, designing charts, graphs, maps, diagrams, and explanatory illustrations is a key skill to communicate ideas and improve public understanding of relevant issues. In this course you will learn the conceptual basics of information graphics and visualization, how to transform raw data

into functional and beautiful displays that will not only attract users' attention, but that will also enlighten them.

CEM Web Applications (3 credits) With the evolution of technology there has been an exponential adoption of cloud computing technologies and an increasing number of applications are being pushed on the Web. Software will be consumed through the browser and the implications for software development are significant. In this course students will learn the concept of interoperability of applications: server-side scripting, web server configuration, caching servers, and data stores.

ARC Digital Simulation - Space Syntax (3 credits) In this course students will learn how to analyze and generate spatial configurations with advanced computational methods. In a series of theory lectures we explore how designing and planning of a site, neighborhood or city could become evidence based by using scientific methods. Various exercises will provide training for your skills in working with state-of-the-art yet office proven design tools (Depthmap, Ecotect, and Rhino/Grasshopper).

LAW785 Health Rights Clinic (3 credits, Departmental Approval Required) The Health Rights Clinic is a medical legal partnership operated in collaboration with the UM Miller School of Medicine. Students participating in the Health Rights Clinic represent multiple clients in different legal matters related to health. Under the guidance of Director JoNel Newman (<http://law.miami.edu/faculty-administration/jonel-newman.php?op=1>) and Associate Director Melissa Swain (<http://law.miami.edu/faculty-administration/melissa-gibson-swain.php?op=1>), clinic students spend the academic year representing low income patients of the South Florida AIDS Network, Jackson Hospital and other medical partners.

MDR550 CMC Introduction to the Medical Profession (3 credits) This course provides the foundation of the MD/MPH curriculum areas of emphasis. The course covers the role and responsibilities of physicians, concepts of population medicine and professionalism. Along with didactic sessions, the course utilizes communication skills laboratories designed to equip students for the community physician practice settings. CMC stands for Continuity Medicine Curriculum.

MDR616 Intro. Dermatology and Ophthalmology (2 credits) The Dermatology and Ophthalmology module is an introductory course that covers the basic pathophysiology and clinical aspects of dermatology and ophthalmology that are essential for a general physician. The module covers the normal structure and function of skin, and eye. Common disease diseases of the skin and eye are discussed.

MDR630 Intro. To Epidemiology (2 credits) The principles of epidemiology including the distribution, determinants of disease frequency and their investigation. There is a review of biostatistics to help with the evaluation of scientific investigations

NUR314 Health Assessment (3 credits) Introduction to health assessment using a lifespan approach. Emphasis is on the development of data collection and basic decision-making using health assessment findings.

3. HealthCare Design

The Master of Science in Architecture: Healthcare Design program consist of five courses (21 credits), and five electives (15 credits). Students may plan a course of study within one of three topics:

People— Built Environment and Health Impacts focuses on the understanding of the interrelationships of health and the built environment with the potential for a research-based practice. The program draws on faculty engaged in research through the University of Miami’s Built Environment Behavior and Health Team, which includes faculty in Architecture and the Miller School of Medicine Department of Public Health Sciences.

Places—Healthcare Campuses & Buildings focuses on healthcare buildings and site planning through active engagement with evidence-based design, working with healthcare providers in specific locations. The students will engage in research, participatory planning processes, and the development of design proposals based on research-validated strategies significant to health and well-being.

Potentials—Healthcare and the Internet of Things (IoT) ecosystem explores the capabilities and potential of the IoT to transform healthcare systems and delivery. The student will engage in discovery and design to create new elements of care as well as the design of supportive environments.

4. Historical Preservation

The Master of Science in Architecture: Historic Preservation emphasizes planning and the stewardship of cultural heritage. The program consists of five core courses (21 credits), three elective courses (9 credits), concluding with a 6-credit thesis.

The program builds upon the classic tenets of professional knowledge in preservation while fostering a critical assessment of that body of thought to address the challenges that face natural and cultural conservation. The program draws upon the expertise of University faculty to foster cross-disciplinary dialogs in the service of stewardship. The teaching consists of lectures, seminars, field and lab work, travel study, design studios and the aula magna of Miami, a diverse and emergent 21st Century city that provides the instructional settings and experiences of the program. The pedagogy advances the position that: addressing climate-change; promoting a balanced micro-macro cultural currency; housing global urban population growth; and championing the social-ethical dimension of heritage, represent forces integral to planning and indispensable to stewardship of the natural and cultural environment.

5. Resilient Sustainable Building Technology

The Master of Science in Architecture: Resilient Sustainable Building Technology program consists of six core courses (18 credits), and four elective courses (12 credits) selected from the Department of Architectural Engineering, School of Education and School of Architecture, concluding with a 6-credit thesis.

The program focuses on the challenges of a low-carbon economy, climate change, sustainability and resiliency. The courses will address

the ways new and renewable energy can be harnessed in buildings, develop skills in simulation and modeling essential for performance analysis, and the ability to contribute effectively within a multidisciplinary design team.

First Semester		Credit Hours
ARC 694	Geographic Information Systems in Urban Design	3
ARC 699	Directed Research	3
ARC 696	Advanced Topics	3
ARC 683	Special Problems	3
Term Credit Hours:		12
Second Semester		Credit Hours
ARC 629	Research in Design-Methods and Procedures	3
ARC 683	Special Problems	3
Sustainable Design in Context		3
Building Energy Modeling		3
Elective		3
Term Credit Hours:		15
Third Semester		Credit Hours
ARC 610 or 810	Architecture Design Degree Project or Master's Thesis	6
Elective (Optional)		3
Term Credit Hours:		9
Total Credit Hours:		36

Elective List		
CAE 681	Energy-Efficient Building Design	3
CAE 680	Hospital and Health Care Facility Design	3
ARC 663	Environmental Building Systems II	3
ECE 602	Engineering Acoustics	3
MAF 510	Environmental Planning and the Environmental Impact Statement	3
CAE 560	Sustainable Construction	3
ARC 684	Special Problems (RAD LAB-UM)	3
ECS 310	Sustainable Living	3
MAE 303	Thermodynamics I	3
Natural Ventilation in Buildings		3
Digital Fabrication		3
Teaching Seminar		

M.S.Arch. Thesis Preparation and Thesis Schedule

Faculty advisers work with students to select a thesis or capstone project Advisory Committee that is directed by a School of Architecture faculty member. The Committee may include professionals as well as a faculty member from another institution.

M.U.D. Master of Urban Design Post-Professional Degree

Fall I		Credit Hours
ARC 601	Urban Design I: Urban Form and Types/Form-Based Codes	6
ARC 621	History-Theory II: Housing, Transportation and Infrastructure.	3
ARC 690	History of Cities	3
ARC 615	Visualization Techniques	1
RED 601	Introduction to Real Estate Development and Urbanism.	2
Term Credit Hours:		15
Spring I		
ARC 602	Urban Design II: General Urban to Urban Core.	6
ARC 622	History-Theory III: Urban Design Theory.	3
ARC 616	Architectural Watercolor Renderings	1
ARC 617	Construction Documents	1
Elective		3
Term Credit Hours:		14
Summer I		
ARC 603	Urban Design III: Regional/Informal Urbanism.	6
ARC 623	Public Participation Methods - Charrette with MRED+U Program.	3
Term Credit Hours:		9
Fall II		
ARC 604	Architecture Design and Theory I (Optional Thesis Track)	6
Term Credit Hours:		6
Summer (Rome - Miami 2nd Summer Session)		
Semester 1		
ARC 601	Urban Design I: Urban Form and Types/Form-Based Codes	6
ARC 615	Visualization Techniques	1
Term Credit Hours:		7
Fall		
Semester 2		
ARC 602	Urban Design II: General Urban to Urban Core.	6
ARC 590	History of Cities	3
ARC 621	History-Theory II: Housing, Transportation and Infrastructure.	3

RED 601	Introduction to Real Estate Development and Urbanism.	3
Term Credit Hours:		15
Spring		
Semester 2		
ARC 603	Urban Design III: Regional/Informal Urbanism.	6
ARC 541	Seminar on Town Design	3
ARC 622	History-Theory III: Urban Design Theory.	3
ARC 623	Public Participation Methods - Charrette with MRED+U Program.	2
Term Credit Hours:		14
Total Credit Hours:		80

NOTES: The 6 credit hour Urban Design I Studio takes place at the University of Miami Rome Center. Travel electives can be taken during Intersession or Spring Break.

Master in Real Estate Development and Urbanism

Master in Real Estate Development and Urbanism

Fall		Credit Hours
RED 601	Introduction to Real Estate Development and Urbanism.	3
RED 610	Financing Urban Real Estate Development	3
BSL 694	Real Estate Law	2
RED 630	Market Analysis for Urban Markets	3
ARC 690	History of Cities	3
Term Credit Hours:		14
Spring		
RED 650	Complex Urban Real Estate Transactions	3
RED 660	Urban infill, Preservation Mixed Use Development.	3
RED 670	construction and Project Management	3
RED 680	Entrepreneurship: Building A Real Estate Development Company	3
Elective		3
Term Credit Hours:		15
Winter Session I		
RED 640	National Charrette Institute (NCI)	1
Term Credit Hours:		1
Summer Session I		
RED 690	Integrated Real Estate Development Case Studies Practicum	3

RED 699	Capstone: Real Estate Development and Urbanism Charrette	3
	Term Credit Hours:	6
	Total Credit Hours:	36

Arts and Sciences

<http://www.as.miami.edu>

Departments

- Anthropology
- Art and Art History
- Biology
- Chemistry
- Computer Science
- Creative Writing
- English
- Geography and Regional Studies
- Geological Sciences (Master's degree available from RSMAS)
- History
- International Administration
- International Studies
- Latin American Studies
- Liberal Studies
- Mathematics
- Modern Languages and Literatures
- Philosophy
- Physics
- Political Science
- Psychology
- Sociology

Admission Requirements

Please consult the general section of the Graduate Bulletin (p. 360) for the Graduate School admission requirements, and the specific program description for additional, department specific admission requirements.

Degree Programs

- Master of Arts
- Master of Fine Arts
- Master of Public Administration
- Master of Science
- Doctor of Philosophy

Degree Requirements

Please consult the specific department section for information related to degree requirements in addition to general degree requirements for the various degrees as listed by the Graduate School.

Other

The Max and Peggy Kriloff Fund is a fund that provides travel support for students earning degrees from the College of Arts and Sciences. The fund provides support for students to present papers, or posters at professional conferences worldwide. Students will need to fill out an application form available at the following link; <http://www.as.miami.edu/academics/graduate-studies/> and submit it, along with the necessary supporting documentation to the Office of Graduate and Administrative Services.

Anthropology

The University of Miami offers a Professional Practice in Anthropology. The program will provide an academic foundation of best practices, current theory, grantsmanship, government regulations, and ethical standards of working with living peoples, dynamic cultural systems, forensics, and cultural heritage materials within the U.S. and abroad. It is designed to prepare graduates for careers in the private sector, government and nongovernmental organizations, nonprofit organizations, and education, including medical and research settings.

Students in these programs are expected to design their mandatory field/research experience in concert with a faculty advisor and external site supervisor as a means of acquiring practical experience in workplace setting. These students will present a professional paper, submit a grant proposal, and/or produce a manuscript for publication as part of the requirements for graduation. They may elect to pursue a degree with or without a written thesis. A total of 36 semester credit hours of graduate coursework (600-level or above) is required to complete the degree.

Masters

- Master of Arts in Anthropology (p. 385)

M.A. in Anthropology

The Department of Anthropology offers a Master of Arts degree in the Professional Practice of Anthropology. The program offers students the opportunity to specialize in three concentrations, 1- Applied Archaeology; 2- Applied Forensic and Biological anthropology; and 3- Applied Cultural Anthropology.

Track 1: Applied archaeology – cultural heritage management (cultural resource management), including museum management for archaeological collections, graduates will be in compliance with regulations and requirements from the U.S. Secretary of the Interior;

Track 2: Applied forensic and biological anthropology – recovery, analysis and identification of human remains, legal interpretation thereof, and museum management of human skeletal/dental remains; applied primatology;

Track 3: Applied cultural anthropology – medical anthropology, anthropology in public health and allied fields, and applied ethnography for industrial/private/government sectors.

Graduate students have two degree options– Option 1 with no written thesis, and Option 2 with a written master's thesis. The aim of the curriculum is to give graduates the skill sets needed to design, conduct, and analyze anthropological fieldwork for their employers or as a component of independent research-driven careers.

Option 1. The nonthesis option is designed for applicants whose ultimate career will be in employment for which practical application of bench skills and a master's degree are the gold standard. Nonthesis students require a minimum of 36 credits beyond the baccalaureate degree with a minimum of 18 months in residency.

This option is designed to prepare students to compete successfully for employment in mid-level careers immediately upon graduation.

We have designed this degree program so that it can be completed in two years.

Option 2. The thesis option requires a minimum of 36 credits beyond the baccalaureate degree and a written thesis with an open defense guided by a thesis advisor and thesis committee of the student's choice. The committee for the thesis must include at least three faculty members, including one from outside anthropology. Additional credits for thesis research and writing may be added to the minimum of 36 if the student wishes. A minimum of 18 months in residency is also required for this option.

This option is designed for individuals who wish to pursue career employment with increased potential for professional advancement based an emphasis on advanced analytical and writing skills used in management. With the thesis track, graduates would have the option of eventually pursuing admission to a doctoral program.

The thesis option may require an additional year in the program to accommodate thesis research and writing. The thesis research and writing credits may serve as part of the residency requirement if the student is in residence during the course.

ADMISSION REQUIREMENTS

Applicants for the program will be selected for admission based on submission of the following materials and standards:

1. Official copy of undergraduate transcripts showing the date the bachelor's degree was awarded. Transcripts must show a 3.0 GPA in anthropology and no less than 3.0 for the overall GPA. Students with lower averages may be admitted provisionally with higher than minimum GRE scores and supporting materials from referees on a case-by-case basis.

2. A personal statement of intent in which the applicant details reasons for pursuing the degree and for pursuing the degree in our program specifically. A cogent written statement will be used in evaluating the applicants' ability for written expression, as well as their fit with our strengths and offerings.

3. A GRE score of 1100 (or combined 297 on the revised General Test). Applicants with lower scores may be considered for admission with supporting documentation from referees of active and successful involvement in research and/or transcripts showing an established record of scholarly achievement as an undergraduate.

We will also consider the admission of part time students, especially in the case of returning students or practicing professional anthropologists who are seeking continuing education to better their skill set while enhancing their opportunities for advancement in the field. Nondegree-seeking students and/or part time students will be considered by the Admissions Committee on a case-by-case basis.

Basic Coursework Requirements

1. Seminars in two of the four core graduate seminars in professional practice and theoretical foundations (see below) (3 credits; total of 6 credits);
2. One course or seminar in analytical skills for qualitative and/or quantitative data (3 credits); and

3. One course or seminar in professional writing (e.g., scientific writing for publication, federal compliance reporting, grants writing) (3 credits).

Additional Requirements for the Degree

1. One semester of hands-on field work or internship (usually over the summer), with the option of a second as thesis research; and
2. One paper for presentation at professional organization or one paper for publication in a journal/proceedings/book chapter or other professional venue. The presentation may be poster, podium or multimedia.

The Professional Practice Core Courses

The MA in Anthropology consists of the following courses.

APY 601	Advanced Seminar in Archaeology, Theory and Practice	3
APY 602	Advanced Seminar in Cultural Anthropology	3
APY 603	Advanced Seminar in Biological Anthropology	3
APY 604	Advanced Seminar in Linguistic Anthropology	3
APY 612	Advanced Medical Anthropology	3
APY 690	Teaching Practicum In Anthropology	3
APY 805	Graduate Internship: Professional Practice of Anthropology	1-9
APY 810	Master's Degree Thesis Preparation and Writing	1-9
Total Credit Hours		20-36

APY 611 – Methods of Anthropological Research (3-6 credits), may be offered as a seminar or independent study.

APY 702 – Field Studies in Anthropology (3-6 credits), may be offered as a seminar or independent study.

APY 615 – Museum Internship (3 credits), may be offered as a seminar or independent study.

APY 616 – Workshop in Anthropology (3-6 credits), may be offered as a seminar or independent study.

APY 622 – Advanced Medical Anthropology (3 credits), may be offered as a seminar or independent study.

APY 628 – Advanced Seminar in Anthropology (3 credits), may be offered as a seminar or independent study.

Other Competencies Required for the M.A.

Foreign language (mandatory) – demonstrated competency in the language of the country in which the applicant will work is expected.

The language requirement may be met by analysis and translation of historical documents in a language other than English, or translation into English of three scientific articles from peer-reviewed journals pertaining to the professional practice of anthropology published originally in a foreign language.

Nine graduate-level credits outside of Anthropology (mandatory) – These may be from a suggested list of electives and/or may be designed as a graduate cognate by the student with guidance from the advisor.

Professional Certification of Competency

Certificates of Proficiency (optional) – These may be gained in professional competency courses offered in conjunction with institutions in the student's area of professional specialization. Credit hours may be earned if the student completes the certification as an independent study, part of an internship program, or fieldwork course.

Thesis Option

Written Master's Thesis (optional) - The thesis option will require the production of a written document as part of the minimum requirements in this track. The thesis research and writing credits may serve as part of the residency requirement if the student is in residence during the course.

Thesis requirements will conform to the University of Miami's standards and format.

ACADEMIC STANDING

Graduate students are expected to maintain an overall GPA of 3.0 in all coursework. Should the average fall below that mark in a semester, the student will be notified and work with his/her advisor to rectify the performance problems. If the student has a second consecutive semester with an average GPA below the 3.0 standard, he/she will be placed on academic probation. Three semesters of below average performance may result in suspension from the program at the discretion of the Chair and in discussion with the student and his/her departmental advisor in accordance with guidelines for the University's Graduate College.

For additional program information, please visit <http://www.as.miami.edu/anthropology/>.

Art and Art History

<http://www.as.miami.edu/art>

Degree Programs

One program serves the needs of graduate students in Art and Art History.

- Master of Fine Arts program in the studio areas of
 - Painting
 - Sculpture
 - Ceramics/Glass
 - Printmaking
 - Photography/Digital Imaging

Master of Fine Arts

The Master of Fine Arts degree is the terminal degree for students interested in the creation of art who plan to pursue careers as practicing artists/teachers.

The students will take a minimum requirement of 60 credit hours in approved graduate courses (at the 600 level or above).

Teaching assistants should take 10 credit hours each semester.

A Supervisory Committee will be assigned when the student is formally admitted to the program.

- It will be comprised of at least four members.
- The Supervisory Committee chair will be from the student's area of concentration and be a tenure track faculty member.
- The head of the Supervisory Committee will select the membership of the Committee after conferring with the student.
- The Supervisory Committee will formally review the student's progress; the student may be put on probation at the end of any semester, and given one semester to improve or be removed from the program.

Application for candidacy may be made any time after the completion of 30 credit hours, but must be attained prior to registration for the final semester.

- The Supervisory Committee will determine whether the student should be admitted to candidacy.
- When the student is admitted to candidacy, a Thesis Committee is formed with at least four members, who need not be the same as the Supervisory Committee.
- The Chair should be from the student's area of concentration and be a tenure track faculty member .
- Two others should be department faculty, and the fourth person must be from outside the studio faculty.
- This committee will consult with and advise the student on his or her work, meet twice a semester to review progress, read and comment on the thesis document, and conduct a final oral exam during the thesis exhibition.
- The thesis exhibition will be scheduled after the successful completion of ART 699; the show will be installed after the candidate has submitted an accepted written document. All incompletes must be cleared before the exhibition can be scheduled.
- No student gains the right to be recommended for the degree simply by completing the course requirements. This right is reserved to the students Thesis Committee in coordination with the Graduate Program Director.

Applicants for admission to the Master of Fine Arts program are responsible for the submission of the following materials to the Graduate Secretary in Art and Art History:

1. All transcripts of college-level academic work
2. 20 images of studio work; Instructions for submitting the portfolio are on the department website www.miami.edu/art (<http://www.miami.edu/art>)
3. Three letters of recommendation
4. Application form
5. A letter of intent
6. The GRE test is not required for being considered for admission to the MFA program or for a teaching assistantship; however there are other possible fellowships offered by the University that might require the GRE. For more information contact the department or the Graduate School.
7. Applicants for MFA degrees are considered in the Spring for the upcoming Fall semester. February 15 is the deadline for receipt

of applications. The deadline for international applications for the upcoming Fall semester is January 15.

Masters

Masters Program in Art and Art History

- M.F.A. in Studio Art (p. 388)

M.F.A. in Studio Art

ARH 698	Seminar in Contemporary Art	3
ART 604	Seminar in Studio Art (2 seminars)	6
Area of studio concentration		24
Art History at 600 level		9
Electives, not restricted to courses in Art or Art History		12
Thesis, consisting of a body of studio work accompanied by a written document		6
ART 699	Exhibition Preparation	3
Total Credit Hours		63

Biology

<http://www.bio.miami.edu>

Dept. Code: BIL

Degree Programs

Application for Admission

Applications are due December 1.

In applying for admission, applicants must select either the *Master's* or the *Ph.D.* track.

Students with an appropriate B.S. degree may seek direct entry to either the M.S. track or the Ph.D. track.

Applicants who were admitted on the Master's track, but wish to change to a Ph.D. track without completing the Master's may apply for admission to the Ph.D. program before the end of their second semester. Letters of support from three UM Biology faculty, including a major advisor, should be added to the applicant's file. The file must be current. Such applicants will be judged by the same criteria that are applied to other Ph.D. applicants.

Applicants to the Ph.D. track who were admitted on the Master's track and wish to complete the M.S. degree, should follow the same procedures as all other applicants, but they must include letters of support from three UM Biology faculty. Such applicants will be judged by the same criteria that are applied to other Ph.D. applicants.

Applicants must:

1. Apply online (<https://www.applyweb.com/miamigrd>) at the UM Graduate School. Application fee of \$65.
2. Send hardcopies of the following to the Coordinator of Graduate Studies in Biology, Department of Biology, 1301 Memorial Drive, Coral Gables, FL 33146 USA.
 - a. Originals of all undergraduate and graduate official transcripts (photocopies are not accepted)

- b. Official scores from recent Graduate Record Examinations (within five years), including the aptitude portion; the Biology subject matter test also is recommended (photocopies of scores are not accepted)
 - c. International applicants whose native language is not English must additionally submit the TOEFL (Test of English as a Foreign Language) and the TSE (Test of Spoken English) official scores (photocopies of scores are not accepted)
3. Send digital copies of the following to the Coordinator of Graduate Studies in Biology (gradcoord@bio.miami.edu)
 - a. A cover letter that identifies interests, suggests possible research projects, states career goals and identifies a UM Biology faculty sponsor
 - b. Copies of any research papers (e.g., publications, manuscripts, senior reports, etc.)
 4. Letters of recommendation from **three** science instructors/supervisors that address: nature and duration of relationship to applicant; motivation; ability to conceptualize and deal quantitatively with biological problems, and research potential should be sent by email to the Coordinator of Graduate Studies in Biology at gradcoord@bio.miami.edu
 5. Request UM Biology faculty sponsor submit a memo of support by email to the Coordinator of Graduate Studies in Biology (gradcoord@bio.miami.edu). Applicants **MUST** secure the sponsorship of a faculty member as a condition for admission; the research interests of the applicant and the faculty sponsor should be well-matched; the sponsor will be the major advisor

A limited number of applicants to the Ph.D. program may be invited to interview at departmental expense in early January of the year of admission.

Materials submitted in support of an application cannot be released for other purposes or returned to the applicant.

Degree Requirements

All students are required to satisfy the **general requirements** for the appropriate degree that are listed in the **Graduate Studies Bulletin**, whether or not they are listed among the Biology requirements.

Implementation

All Graduate students will be reviewed each spring semester by GAAC.

1. The advisor will review the student's progress to date.
2. The student will provide updates for a student progress database every February.
3. The student will provide written evidence that the advisor and committee have reviewed her/his progress and plans.
4. Each student will receive a letter summarizing the results of the discussion concerning his/her progress.
5. All graduate students shall have the right to respond to GAAC, and, if necessary, the graduate faculty in matters pertaining to the review.
6. Possible outcomes of the review:
 - a. Student making satisfactory progress
 - b. Student not making satisfactory progress; recommendations for improvement

- c. Student not making satisfactory progress; his/her tenure terminated.

Financial Support

1. The Department intends to support all doctoral students in good standing for up to 10 semesters. Support beyond 10 semesters is contingent upon GAAC approval.
2. Master's degree students usually are not eligible for departmental stipends or tuition remission.
3. Students who do not provide annual updates for the student progress database will not be eligible for continued funding. Students who will be off-campus are still responsible for making sure that GAAC receives the data. Students who choose not to present at the annual departmental graduate student symposium may be considered as not in good standing.
4. Students holding full fellowships or research assistantships will not normally be given teaching assignments, nor will students be permitted to hold fellowships and research assistantships simultaneously. Exceptions require GAAC approval.

Masters

Masters Programs in Biology

- M.S. in Biology with Thesis (Three Year Program) (p. 389)
- M.S. in Biology without Thesis (Two Year Program) (p. 390)

Doctoral

Doctoral Program in Biology

- Ph.D. in Biology (p. 391)

M.S. in Biology with Thesis (Three Year Program)

1. Credit hours: a total of 30 credit hours are required:
 - 24 course credit hours, including the two semester departmental core courses for graduate students and at least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area; they are encouraged to select courses and independent studies that will prepare them for research, as listed under the Ph.D. requirements. No more than 9 credit hours from the independent study series may be used to fulfill the 24 course credit hours.:

BIL 675	Advanced Study in Plant or Animal Sciences	1-6
BIL 678	Current Topics in Biological Research	1

At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credit hours can be counted as a non-independent study credit hour. Course selection requires committee approval.

- 6 research credit hours (BIL 810); no more than 6 M.S. research credit hours are allowed.
 - The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."
2. Research Proposal: public presentation and successful defense to the committee of a written research proposal. The public presentation must be given during regular sessions of the Fall or Spring semesters,

not during summer sessions, intersessions, reading days or finals weeks.

3. Admission to candidacy is made by recommendation of the committee.
4. Thesis: A well-written and successfully defended thesis of publishable quality; a defense is successful if all members of the committee sign the grad school form and the signature page of the dissertation.
5. Other requirements described under "The Master's Degree," including but not limited to:
 - a total of at least 30 credit hours (course credit hours plus research credit hours). The Graduate School and the Department concur in requiring at least 24 course credit hours and exactly 6 research credit hours (BIL 810) for a thesis M.S.
 - once a student has completed all required credit hours, she/he must enroll in "Research in Residence" (BIL 820) status until the degree is granted. This course carries 0 credit hours, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to 1 course credit hour normally applies to this course.
6. About the committee:
 - A single committee will combine the responsibilities of the supervisory and thesis committees.
 - The supervisory committee will be determined by the student in consultation with his or her advisor. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
 - The thesis committee is formed officially when the student is admitted to candidacy. It may comprise the same individuals as the supervisory committee, or it may be formed anew. The student in consultation with the advisor suggests the membership of the committee to the graduate school. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
 - The thesis committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.
 - Committee meetings are required at least once a year (recommended at least once a semester); the student is responsible for arranging meetings; the student should consult with the committee about major changes in research goals and about problems. Memos summarizing each meeting should be in the student's file and emailed to the Graduate Director (graddirector@bio.miami.edu).
7. About the time table:
 - A **written thesis proposal** is due no later than the **middle of the second semester. Please take note of this deadline. The scope of the M.S. thesis should be in line with the timetable.**
 - **Admission to candidacy** normally occurs after completion of one year or 12 credit hours of graduate work and successful defense of the thesis proposal.

- Analysis of data and a **polished draft of the thesis** should be completed and in the hands of the committee by the **middle of the sixth semester. Please take note of this deadline. The scope of the M.S. thesis should be in line with the timetable.**
 - **Defense of the thesis and its submission to the Graduate School** must meet or precede the deadline for graduation immediately **following the sixth semester** unless an extension has been approved by the Graduate Admissions and Advisement Committee (GAAC) upon recommendation of the thesis committee. Notice of the defense must be submitted on a special form to the graduate school in advance of the defense and must be posted publicly in the department.
 - The oral defense of the thesis **must** be given during regular sessions of the Fall or Spring semesters, not during summer sessions, intersessions, reading days or finals weeks.
 - **No student may receive the degree in the same semester in which she/he is admitted to candidacy.**
 - The indicated dates form **firm deadlines**. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. **An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.**
 - Proposals to change the schedule for any reason should be preceded by a study of the **graduate bulletin** sections on **leaves of absence, full time student status** and **recency of credit hour** and explicitly address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the **proposed financial support**.
8. Completed SACS evaluation forms are required at two points during the course of study. One following the research proposal defense and the final following defense of the thesis. The student is responsible for providing blank forms to the committee at each milestone. The graduate advisor is responsible for forwarding completed forms to the Graduate Director. The student is responsible for ensuring the Graduate Director receives these forms.

M.S. in Biology without Thesis (Two Year Program)

1. Credit hours:

- A total of 36 course credit hours are required by the Biology Department, including the two semester departmental core courses for graduate students and at least one graduate course in statistics. Students are encouraged to take courses from more than one conceptual area, listed under the Ph.D. requirements. No more than 9 credit hours from the independent study series may be used to fulfill the 36 course credit hours.:

BIL 675	Advanced Study in Plant or Animal Sciences	1-6
BIL 678	Current Topics in Biological Research	1

At times these course numbers are used by professors to teach a new course or a special topics course, in which case the corresponding credit hours can be counted as a non-independent study credit hour. Course selection requires committee approval.

- The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."

2. Admission to candidacy is made by recommendation of the committee.
3. Passing a written comprehensive exam given by the committee.
4. About the committee:
 - A single committee will combine the responsibilities of the initial supervisory and the comprehensive examination committees. The committee will be determined by the student in consultation with her/his advisor. The committee will consist of a minimum of three faculty, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
 - The examination committee is formed officially when the student is admitted to candidacy. It may comprise the same individuals as the supervisory committee, or it may be formed anew. The student in consultation with the advisor suggests the membership of the committee to the graduate school. The committee will consist of a minimum of three faculty including the student's advisor, one of whom must be from outside the department, and one of whom must be a member of the graduate faculty. There is no sub-disciplinary representation requirement.
 - The examination committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.
 - Committee meetings are required at least once a year (recommended at least once a semester); the student is responsible for arranging meetings; the student should keep the committee advised of major changes in the graduate program plan; memos summarizing each meeting should be in the student's file.
5. Other requirements described under "The Master's Degree."
 - Note that although the Graduate School requires only 30 credit hours for an M.S. degree, the Department requires 36 course credit hours for a non-thesis M.S.
6. About the time table:
 - **Admission to candidacy** normally occurs after completion of one year or 12 credit hours of graduate work.
 - The **comprehensive exam** must be passed by the **end of the fourth semester**.
 - **No student may receive the degree in the same semester in which she/he is admitted to candidacy.**
 - The indicated dates form **firm deadlines**. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. **An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.**
 - Proposals to change the schedule for any reason should be preceded by a study of the **graduate bulletin** sections on **leaves of absence, full time student status** and **recency of credit hour** and explicitly address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the **proposed financial support**.
7. Completed SACS evaluation forms are required following the comprehensive exam. The student is responsible for providing blank forms to the committee. The graduate advisor is responsible for

forwarding completed forms to the Graduate Director. The student is responsible for ensuring the Graduate Director receives these forms.

Ph.D. in Biology

1. Credit hours: a total of 60 credit hours (including both course and research credit hours) beyond the Bachelor's degree are required:

- At least 18 course credit hours that are not from the independent study series, including the two semester departmental core courses for graduate students and at least one graduate course in statistics. The independent study series is:

BIL 675	Advanced Study in Plant or Animal Sciences	1-6
BIL 678	Current Topics in Biological Research	1

At times these course numbers are used by professors to teach a new course or a special topics course, however, in which case the corresponding credit hours can be counted as a non-independent study credit hour. Course selection requires committee approval.

- At least 12 research credit hours (BIL 830 and/or BIL 840). Once the overall number of required credit hours (see below #8) has been reached, there is no need to take additional research credit hours.
- An additional 30 credit hours from any combination of graduate courses (600 level regular courses and independent study courses) and research credit hours (800 level) to bring the total number of credit hours beyond the Bachelor's Degree to 60 credit hours. (One example: 18 required course credit hours + 12 required research credit hours + 15 **additional** course credit hours + 15 **additional** research credit hours = 60 total; another example would be 18 **additional** course credit hours and only 12 **additional** dissertation credit hours, etc.)
- Students who already have a Master's Degree in the same field may not need as many course credit hours (consult Graduate School rules on transfer credit hours), but at least 24 credit hours must be taken in residence at UM.
- The committee may decide that students with previous graduate level courses may be exempt from some of the course requirements.
- The minimum acceptable grade average in all coursework towards the degree is a "B (3.0)" and no grade may be below a "C."
- CONCEPTUAL AREAS:** Students are encouraged to take courses and independent studies from at least 3 main conceptual areas, and are urged to take courses and independent studies that will prepare them for research and for the comprehensive qualifying exam. Students also are encouraged to participate in seminars and study groups and to take special courses in other departments of UM, at our Coalition for Excellence in Tropical Biology partner institutions, from the Organization for Tropical Studies, or other special interdisciplinary courses. Such courses should be appropriate to their course of study and research area as determined by their committee. Conceptual areas offered in our department include: EVOLUTION (graduate level evolution courses are in the 620's series); ECOLOGY (graduate level ecology courses are in the 630's series), BEHAVIOR (graduate level behavior courses are in the 640's series); GENETICS AND MOLECULAR BIOLOGY (graduate level genetics and molecular biology courses are in the 650's series); and PHYSIOLOGY AND

CELL BIOLOGY (graduate level physiology courses are in the 660's series). Special concentrations in our department and/or in collaboration with other departments include: Tropical Biology, Mathematical Ecology, Neuroscience, and Behavior.

2. Comprehensive qualifying exam should be passed by the end of the third semester.

- A single committee (see number 9 below about committee membership) will advise the student on both comprehensive and research training. To fulfill the **comprehensive function**, the committee will be responsible for ensuring breadth, significant background and depth in at least 3 conceptual areas (examples include but are not limited to the areas listed above).
- To establish intellectual communication between the committee members and students early on, the committee will begin to work with the student in the **first semester**. Faculty will suggest reading lists, courses and/or independent study, as needed, to prepare the student with sufficient background for the comprehensive examination which will include 3 areas, one of which is the research area. The committee and student will interactively define the scope of comprehensive training and thus of the comprehensive examination in these 3 areas.
- The comprehensive examination will be held in the third semester. The committee will designate a chair to administer the examination. The chair of the comprehensive examination will not be the graduate advisor. The written part of the exam will not be open book and it will be administered on campus for a discrete period of time (up to 4 hours within each of two consecutive days) by the examination chair. All members of the committee will grade all the questions. With committee approval, an alternative is to present to the committee a first-authored, publishable, full-length article manuscript concerning research conducted since matriculation at UM. Before the end of the third semester, the manuscript must be submitted to a journal approved by the committee (refer to the Department of Biology Graduate Student Handbook for additional details concerning the alternative qualifying exam). After the committee has read the written answers or manuscript, about one week later there will be an oral exam for the purpose of further exploring the student's grasp of the subject matter.
- Each committee member will decide on a pass/fail grade based on the total performance (written plus oral). For the student to pass the examination, 3 of the 4 examiners must vote a grade of pass. An oral and written summary of the committee's evaluation must be prepared by the chair of the **examination committee** and given to the student and to GAAC. If the student does not pass the examination, there will be a chance to retake it the following semester. In the case of failure a second time, he/she will be terminated from the program.
- At time of completion of the oral examination the examination committee must provide the Graduate Director with a completed SACS evaluation form, the student is responsible for ensuring the Graduate Director receives this form.

3. Research proposal: public presentation of a research proposal and defense of a written research proposal to the **complete research committee** (see below) should be completed by the middle of the fourth semester. Students are encouraged to follow the format of a grant proposal to a major funding agency. At the proposal defense, the student will receive either a pass or a fail. A grade of pass will

be recorded if no more than one member of the **complete research committee** (see below) votes to fail the student. If the student fails the proposal defense, she/he will be given a **second chance** to defend no later than the **sixth week of the fifth semester**. If the defense is failed a second time, the student will be terminated from the program.

At time of completion of the proposal defense the complete research committee must provide the Graduate Director with a completed SACS evaluation form, the student is responsible for ensuring the Graduate Director receives this form.

4. Admission to candidacy: (application is made on a form available in the grad school and in the department). This normally will occur at the end of the fourth semester. Requirements are to pass the comprehensive examination and to successfully defend a written research proposal and to have complete SACS evaluation forms from both the qualifying exam and the proposal defense on file.
5. Teaching: All students on the Ph.D. track in Biology are required to serve satisfactorily at least one semester as a teaching assistant in one of the courses offered as part of the Department's training program.
6. Grants: Submission of a grant proposal to a major funding agency (e.g., NSF, NIH, National Geographic, World Wildlife Fund, etc.) is required. All students are required to seek outside funding for their research. This must be a research project proposal. Application for an NSF pre-doctoral fellowship does not meet this requirement, but application for an NSF dissertation improvement grant does qualify.
7. Ph.D. Dissertation: A well-written and successfully defended dissertation containing an original contribution to the field and of quality appropriate for publication in a scientific journal; a defense is successful if all members of the committee sign the grad school form and the signature page of the dissertation. A public dissertation seminar also is presented at the time of the defense. Following the defense the committee is required to provide the Graduate Director with a completed SACS evaluation form.
8. Other requirements described under "Doctor of Philosophy," including but not limited to:
 - a total of at least 60 credit hours (course credit hours plus research credit hours).
 - once a student has completed all required credit hours, she/he must enroll in "Research in Residence" (BIL 850) status until the degree is granted. This course carries 0 credit hours, but is considered full-time enrollment. Even though no credit is earned, a tuition charge equivalent to 1 course credit hours normally applies to this course.
9. A single committee will advise the student on both comprehensive and research training. The committee will be responsible for ensuring breadth, significant background and depth in at least 3 conceptual areas (examples include but are not limited to the areas listed above). The research function of the committee is to advise the student on research, including preparation, training, project choice, project design, implementation and evaluation of the research. The committee will go through several phases and its membership will be determined by the advisor and student together, contingent upon approval of GAAC and/or the Graduate School, as appropriate at each phase:
 - The **initial committee** will consist of at least **4 faculty**, 2 appointed to ensure breadth of training (from two areas outside the research area) and 2 from the research area. It will be formed to help the student choose courses during the first few weeks of

the first semester. This committee will decide whether students having a M.S. in biology (botany, zoology, etc.) from another institution can substitute a graduate level course taken elsewhere for a departmental course requirement; it also will decide which additional courses should be taken for both research and breadth. The choice of areas briefly will be outlined in a memo to GAAC.

- The **initial committee of at least 4 faculty** will be responsible for preparing and administering the comprehensive examination.
 - The **complete committee of at least 4 faculty** including one from outside the department, should be formed by the end of the third semester; all four members should participate in the proposal evaluation which will take place in the fourth semester. The committee will consist of a minimum of four faculty, which includes the committee chair, who must be a member of the Graduate Faculty. Of the remaining members, it is also required that two shall be from the Graduate Faculty.
 - The **dissertation committee (of four)** is formed officially when the student is admitted to candidacy. It usually will comprise the same individuals as the complete research committee, or it may be formed anew. The student and advisor consult on the membership of the committee, and the department nominates the committee to the graduate school. The committee will consist of a minimum of four faculty, which includes the committee chair who is the advisor, who must be a member of the Graduate Faculty. Of the remaining members, it also is required that two shall be from the Graduate Faculty and one from outside the department of concentration. The dissertation committee is nominated by the department, but it must be approved and appointed by the Dean of the Graduate School. There is a special form that must be filed with the graduate school.
 - Committee meetings are **required at least once a year** (recommended at least once a semester in the early phases). The student is responsible for arranging meetings; the student should consult with the committee about any major changes in research goals and any problems; memos summarizing each meeting should be in the student's file.
10. About the time table:
 - The written **comprehensive qualifying examination** must be passed by the **end of the third semester**.
 - A **polished, written dissertation proposal** must be **defended to the committee in the fourth semester** together with a **public presentation of the proposal**. This must take place by mid-April of the spring semester or mid-November of the fall semester.
 - **Admission to candidacy** normally occurs **after the comprehensive qualifying exam and proposal defense are passed upon the recommendation of the committee and the approval of the Graduate School**. Application for admission to candidacy is made to the graduate school on a special form.
 - Analysis of data and a **polished draft of the dissertation** should be completed and in the hands of the dissertation committee **no later than the middle of the tenth semester**.
 - **Defense of the dissertation and its submission to the Graduate School** must meet or precede the deadline for graduation immediately following **the tenth semester** unless an extension has been approved by GAAC upon recommendation of the dissertation committee. Notice of the defense and of the public seminar must be submitted on a special form to the graduate

school in advance of the defense and must be posted publicly in the department.

- The oral **defense of the dissertation** must be given during **regular sessions** of the Fall or Spring semesters, **not during** summer sessions, intersessions, reading days or finals weeks.
- **No student may receive the degree in the same semester in which she/he is admitted to candidacy.**
- The indicated dates form **firm deadlines**. A student's committee, however, may submit a written petition to GAAC for an extension of time detailing reasons for the request. **An extension will be granted only under extraordinary circumstances and will be effective upon written approval by GAAC.**
- Proposals to change the schedule for any reason should be preceded by a study of the **graduate bulletin** sections on **leaves of absence, full time student status and recency of credit hour**, and explicitly should address how the proposed change of schedule relates to these matters. The memo requesting the change also should address the **proposed financial support** of the student beyond the 10 semesters of normal departmental support.

11. **Public presentations must be during regular semesters.** The public presentation associated with the defense of the proposal and the public seminar associated with the defense of the dissertation must be given during regular sessions of Fall or Spring semesters, not during summer sessions, inter-sessions, reading days, or finals weeks.
12. Completed SACS evaluation forms are required at three points during the course of study. One following the qualifying exam, one following the proposal defense and the final following defense of the dissertation. The student is responsible for providing blank forms to the committee at each milestone. The graduate advisor is responsible for forwarding completed forms to the Graduate Director. The student is responsible for ensuring the Graduate Director receives these forms.

Chemistry

<http://www.as.miami.edu/chemistry>

Dept. Code: CHM

Degree Programs

Prospective graduate students are expected to have completed, during their undergraduate training:

The candidate must hold a B.S./B.A. degree from an accredited institution. Consideration is given to applicants who have successfully completed general chemistry (two semesters), organic chemistry (two semesters), physical chemistry (two semesters), and the related laboratories. A course in advanced inorganic chemistry is strongly recommended, and remedial work in this area may be required of students who have not taken such a course. The mathematics and physics courses that are normally included in a B.S. program in chemistry are also required.

Undergraduate deficiencies are treated as such and must be overcome during the first year of graduate study.

Masters

Masters Program in Chemistry

- M.S. in Chemistry (p. 393)

Doctoral

Doctoral Program in Chemistry

- Ph.D. in Chemistry (p. 393)

M.S. in Chemistry

The *MS degree* requires a minimum of 30 credit hours.

Formal Lecture Courses	18
Chemistry Seminar (Total of 2 credits required for CHM 779)	1
CHM 779 Chemistry Seminar	1
CHM 785 Introduction to Research	2
Master's Thesis (Total of 8 credits required for CHM 810)	7
CHM 810 Master's Thesis	1
Total Credit Hours	30

Students must take 18 credits of formal lecture courses by the end of the spring semester of their first year. Of the 18 credit hours, 4 core courses totaling 12 credit hours should be taken by all graduate students.

- The required number of credit hours in the *chemistry seminars* (CHM 779) and *Introduction to Research* (CHM 785) must be taken in the first and second year.
- The required number of credit hours in *research* (CHM 810) must be taken in the second year.
- A *dissertation* based on research of a quality acceptable for publication in a recognized scientific journal must be completed before the end of the second year.

The M.S. degree may be earned with or without a thesis.

In order to complete a MS degree without thesis, an advanced comprehensive exam must be passed.

The exam is administered at the end of the second year in the program.

Ph.D. in Chemistry

The general requirements for the **doctorate** in Chemistry are set forth in this *Bulletin* under the heading Doctor of Philosophy. The Department of Chemistry has the following specific requirements:

The PhD degree requires a minimum of 60 credit hours. The department will cover tuition costs up to 60 credit hours for students on assistantships and fellowships.

Formal Lecture Courses	18
Chemistry Seminar (Total of 4 credits required for CHM 779)	3
CHM 779 Chemistry Seminar	1
Chemistry Seminar (Total of 2 credits required for CHM 780)	1
CHM 780 Chemistry Seminar	1
CHM 785 Introduction to Research	2
CHM 788 Problems in Research Planning	2
Pre-candidacy (Total of 26 credits required for CHM 830)	25
CHM 830 Doctoral Dissertation	1

CHM 840	Post-candidacy Dissertation	6
Total Credit Hours		60

Students must take 18 credits of formal lecture courses by the end of the spring semester of their first year. Of the 18 credit hours, 4 core courses totaling 12 credit hours should be taken by all graduate students.

- The required number of credit hours in the *chemistry seminar* (CHM 779) must be taken in the first and second year.
- The required number of credit hours in Introduction to Research (CHM 785) must be taken in the first year.
- The required number of credit hours in the *chemistry seminar* (CHM 780) must be taken in the fall semester of the third year.
- The required number of credit hours in *Pre-candidacy Doctoral Dissertation* (CHM 830) must be taken in the first, second, third and fourth year.
- The required number of credit hours edits in *Post-candidacy Doctoral Dissertation* (CHM 840) must be taken in the fourth year.
- An *Oral Comprehensive Exam* must be passed before the end of the spring semester of the second year.
- An original *research proposal in Problems in Research Planning* (CHM 788) must be presented and defended before the end of the spring semester of the third year.
- A *Doctoral Dissertation* (CHM 780) based on research of a quality acceptable for publication in a recognized scientific journal must be completed before the end of the fifth year.

Computer Science

<http://www.cs.miami.edu>

Dept. Code: CSC

Degree Programs

The department of Computer Science offers a Master of Science in Computer Science and a Doctor of Philosophy in Computer Science.

Note

All Computer Science graduate TAs and RAs must complete RCR training during their first semester in the department. All other Computer Science graduate students must complete Responsible Conduct of Research (RCR) training before starting research work. Information about RCR training can be found from UM ethics programs: <http://www.miami.edu/index.php/ethics/projects/rcr/>.

Masters

Masters Programs in Computer Science

- M.S. in Computer Science (p. 395)
- Five-Year B.S. and M.S. in Computer Science (p. 394)

Doctoral

Doctoral Program in Computer Science

- Ph.D. in Computer Science (p. 395)

Five-Year B.S. and M.S. in Computer Science

This program is open only to currently enrolled Computer Science undergraduates.

The 5-year Bachelor of Science + Master of Science program in Computer Science provides research training for students who wish to work in a computing research lab, or possibly continue to PhD studies.

Students must complete the requirements for a Bachelor of Science in Computer Science (p. 82), and the requirements for a 30 credit hour Master of Science in Computer Science with thesis (p. 395). No credits may be counted towards both requirements.

Students enter the "MS-phase" of the program when they have met the following requirements:

- They have achieved senior status, i.e., earned 89 credit hours towards their Bachelor of Science in Computer Science.
- Within the requirements for a Bachelor of Science in Computer Science, they have completed the prerequisites for entry into the regular Master of Science program, i.e.:

CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures And Algorithm Analysis	3
CSC 427	Theory Of Computing	3
MTH 161	Calculus I	4
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Total Credit Hours		27

- They have completed 3 credit hours of CSC 410/CSC 411 in a research-oriented project.
- They have a GPA of at least 3.0 in the CSC courses taken towards their BS in Computer Science.
- They have advised the Director of Graduate Studies of their eligibility for the MS-phase.
- Students in the MS-phase must complete 3 further credit hours of CSC 410/CSC 411 in a research-oriented project, as part of their Bachelor of Science in Computer Science (this project will normally be the starting point for the Master of Science research). Students in the MS-phase may take 600/700 level courses that count towards completing the requirements for the Master of Science in Computer Science. When students have completed the requirements for a Bachelor of Science in Computer Science they will be awarded that degree, and when they have completed the requirements for the Master of Science in Computer Science they will be awarded that degree. Students in the MS-phase must submit their GRE scores before they are admitted to graduate student status.
- Incoming students can be admitted to the program if their mathematics placement is MTH 108 or higher. Existing Bachelor of Science in Computer Science students can switch into the program when they have met the requirements for entering the MS-phase of the program. Students can be removed from the program if they have not met the prerequisites for admission to the MS-phase by the time

they have achieved senior status. If a student is removed or decides to withdraw from the program, any 600 level courses taken may be used to fulfill the requirements for a Bachelor of Science in Computer Science.

M.S. in Computer Science

The Master of Science program in Computer Science is overseen by the Computer Science Graduate Committee (CSGC). The basic guidelines for approval of a student’s program are recommendations appearing in the Communications of the Association for Computing Machinery (ACM), the professional society in Computer Science.

Prerequisites for Admission

Completion of the following courses, or their equivalents, is prerequisite to entry into the program:

CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures And Algorithm Analysis	3
CSC 427	Theory Of Computing	3
MTH 161	Calculus I	4
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Total Credit Hours		27

Students may be admitted with deficiencies; these must be completed in addition to the degree requirements.

Requirements for Graduation

Students must complete the Graduate School requirements, and the Departmental requirements described here.

Select either the Thesis Option or the Coursework Option ¹	30-36
Thesis Option	
CSC 810 Master’s Thesis	1-6
Select a minimum of 9 credit hours from approved CSC7XX courses	
Select 15 credit hours of approved courses	
Coursework Option	
Select a minimum of 18 credit hours from approved 700 level courses	
Select 18 credit hours from approved courses	
Total Credit Hours	31-42

¹ For both options, at least 18 credit hours must be from CSC 6XX and CSC 7XX courses, and may not include more than 6 credit hours from CSC 670.

Each program must include both theoretical and experimental topics. By graduation students will have knowledge in the areas of Programming Languages, Algorithm Design and Analysis, Theory of Computing, Operating Systems, Computer Networks, and Software Engineering. Each program is approved by the CSGC and the Department Chairman or designate. Programs may be individually tailored to meet varied backgrounds and objectives. It is recognized that there are individuals

with undergraduate degrees in other fields wishing to pursue graduate work in Computer Science, and individuals with work experience in the field wishing to advance their formal training in Computer Science.

Ph.D. in Computer Science

The Doctor of Philosophy program in Computer Science is overseen by the Computer Science Graduate Committee (CSGC). The basic guidelines for approval of a student’s program are recommendations appearing in the Communications of the Association for Computing Machinery (ACM), the professional society in Computer Science.

Prerequisites for Admission

Completion of the following courses, or their equivalents, is prerequisite to entry into the program:

CSC 120	Computer Programming I	4
CSC 220	Computer Programming II	4
CSC 314	Computer Organization and Architecture	3
CSC 317	Data Structures And Algorithm Analysis	3
CSC 427	Theory Of Computing	3
MTH 161	Calculus I	4
MTH 224	Introduction to Probability and Statistics	3
MTH 309	Discrete Mathematics I	3
Total Credit Hours		27

Students may be admitted with deficiencies; these must be completed in addition to the degree requirements.

Requirements for Graduation

Students must complete the Graduate School requirements, and the Departmental requirements described here.

Written Qualifying Exam

The student must pass a three-hour written exam of general knowledge of Computer Science at the end of the first year. Upon failure, the student may petition the CSGC to allow a second attempt at the end of the second year. The exam will be administered once a year in the early weeks of the summer session. It will cover expected knowledge of all first-year graduate students. Included in this material are a fundamental understanding of algorithm analysis and design, advanced skills in programming, basic knowledge of computer architecture, and a general understanding of computer systems.

Classroom Courses

In the first two years, the student must take eight CSGC-approved classroom courses, for a total of 24 credit hours. At least four of these courses (12 credit hours) must be CSC 7XX courses. The eight courses must include two courses from each of the areas of Analysis, Applications, and Systems. The student must work with the Director of Graduate Studies to select a cohesive set of courses as approved by the CSGC. The CSGC will have sole authority in designating the areas to which each course belongs. In the case that a course is designated in more than one area, a student may apply the course to only one area. The designation of current CSGC-approved courses appears at the end of this description.

Selecting an Advisor

By the end of the second semester, the student must find a research supervisor. By the end of the third semester, the student must have made significant progress on a research project under the supervision of a faculty member. The student must write a detailed progress report that will become a public document and shall be kept on file by the Department. The student must present the report to a quorum of the CSGC at a time to be approved by the chairman of the Department. The supervisor and CSGC must approve the project as applicable toward candidacy for a Ph.D.

Annual Presentations

After passing the written comprehensive exam, the student must make a public oral presentation to the Department at least once per year. These presentations include the thesis proposal and the thesis defense. The goals are to develop the student's oral and presentation skills, to provide a means for the Department to check the research and progress of the student, and to present the opportunity for feedback to improve the student's research.

Teaching Experience

Each student must teach a lab-based course for a minimum of one semester. Lab-based courses typically require the student to present material in a relaxed lecture format, re-emphasizing material learned in the general lecture as well as introducing new material to the students.

Approved Courses for Doctor of Philosophy

Analysis		
CSC 506	Logic	3
CSC 518	Interpreters and Compiler Theory	3
CSC 528	Introduction to Parallel Computing	3
CSC 540	Algorithm Design and Analysis	3
CSC 547	Computational Geometry	3
CSC 609	Data Security and Cryptography	3
CSC 623	Theory of Relational Databases	3
CSC 645	Introduction to Artificial Intelligence	3
MTH 505	Theory of Numbers	3
ECE 534	Communication Networks	3
ECE 756	Information Theory	3
Applications		
CSC 529	Introduction to Computer Graphics	3
CSC 545	Introduction to Artificial Intelligence	3
CSC 548	Bioinformatics Algorithms	3
CSC 555	Multimedia Systems	3
CSC 645	Introduction to Artificial Intelligence	3
CSC 649	Bioinformatics Algorithms	3
CSC 651	Autonomous Robotic Systems	3
CSC 656	Multimedia Systems	3
CSC 732	Parallel Algorithms	3
MTH 520	Numerical Linear Algebra	3
MTH 521	Numerical Methods In Differential Equations	3
ECE 677	Data Mining	3
ECE 738	Computer Vision	3

ECE 753	Pattern Recognition and Neural Networks	3
Systems		
CSC 518	Interpreters and Compiler Theory	3
CSC 555	Multimedia Systems	3
CSC 645	Introduction to Artificial Intelligence	3
ECE 514	Computer Architecture	3
Approved Graduate Courses		
CSC 540	Algorithm Design and Analysis	3
CSC 629	Introduction to Computer Graphics	3
CSC 632	Introduction to Parallel Computing	3
CSC 640	Algorithm Design and Analysis	3
CSC 647	Computational Geometry	3
CSC 685	Topics in Computer Science	1-3
CSC 686	Topics in Computer Science	1-3
CSC 687	Topics in Computer Science	1-3
CSC 688	Topics in Computer Science	1-3
CSC 689	Topics in Computer Science	1-3
CSC 707	Logic Programming	3
CSC 711	Theory of Computation	3
CSC 712	Complexity Theory	3
CSC 724	Mobile Wireless Systems	3
CSC 746	Neural Computing	3
CSC 751	Semantic Web	3
CSC 756	Advanced Multimedia Systems	3
CSC 785	Advanced Topics in Computer Science	1-3
CSC 786	Advanced Topics in Computer Science	1-3
CSC 787	Advanced Topics in Computer Science	1-3
CSC 788	Advanced Topics in Computer Science	1-3
CSC 789	Advanced Topics in Computer Science	1-3
CSC 749	Automated Reasoning	3
CSC 618	Interpreters and Compiler Theory	3
CSC 548	Bioinformatics Algorithms	3
CSC 555	Multimedia Systems	3
CSC 595	Topics in Computer Science	1-3
CSC 596	Topics in Computer Science	1-3
CSC 597	Topics in Computer Science	1-3
CSC 598	Topics in Computer Science	1-3
CSC 599	Topics in Computer Science	1-3
CSC 609	Data Security and Cryptography	3
CSC 623	Theory of Relational Databases	3
CSC 645	Introduction to Artificial Intelligence	3
CSC 647	Computational Geometry	3
CSC 670	Directed Reading	2-4
CSC 690	Seminar for Beginning Graduate Students	1-3
CSC 692	Seminar	1-2
MTH 520	Numerical Linear Algebra	3
MTH 521	Numerical Methods In Differential Equations	3
MTH 524	Introduction to Probability Theory	3
MTH 525	Introduction to Mathematical Statistics	3
MTH 621	Numerical Methods In Differential Equations	3

Creative Writing

<http://www.as.miami.edu/english>

Degree Programs

The Department of English offers a two-year program in fiction- or poetry-writing leading to the Master of Fine Arts degree. The program provides an opportunity for students of superior ability in imaginative writing to develop their skills and critical judgment through the practice of writing and the study of literature.

The Creative Writing Program is a member of the Associated Writing Programs.

For further information, please consult the description of the M.F.A. in English, which may be found on the English Department Web site under Creative Writing.

English

<http://www.as.miami.edu/english>

Dept. Code: ENG

Degree Programs

The Ph.D. program in English (p. 397) is an innovative scholarly course of study offering substantial work in all areas of English, American, and Transnational literature, including Anglo-Irish literature, with some opportunities for advanced work in comparative literature.

Doctoral

Doctoral Program in English

- Ph.D. in English (p. 397)

Ph.D. in English

<http://www.as.miami.edu/english>

1. Courses

Ph.D. students must complete 54 credit hours (if entering with a B.A.) or 36 credit hours (if entering with an M.A.) of 600-level courses in literature and literary theory.

2. Language Requirements

A basic reading knowledge of two foreign languages or an advanced reading knowledge of one foreign language is required.

3. Qualifying Examination

All Ph.D. students are required to pass a qualifying examination. Students may not take the qualifying examination until they have:

- completed the required Ph.D. coursework,
- satisfied the foreign language requirement
- enrolled for ENG 697.

4. Dissertation

Students may proceed with the dissertation after the dissertation committee has been appointed and the dissertation proposal has been accepted by the committee and approved by the department.

The dissertation itself must be an investigation of a substantial critical or scholarly topic. A final oral defense of the dissertation is required.

Further information on the department's graduate programs is contained in the Guide to Graduate Study available from the Department of English and posted on the department Web site in the Graduate section.

Students must complete their work within one year of the schedule set out in the Guide to Graduate Study.

Geography and Regional Studies

<http://www.as.miami.edu/geography>

Dept. Code: GEG

Introduction

Geography is the science of place and space. Geographers ask where things are located on the surface of the earth, why they are located where they are, how places differ from one another, and how people interact with the environment. There are two main branches of geography: human geography and physical geography. Human geography is concerned with the spatial aspects of human existence. Physical geographers study patterns of climates, land forms, vegetation, soils, and water. Thus, Geography links the social sciences and natural sciences.

Geographers use many tools and techniques in their work, and geographic technologies are increasingly among the most important emerging fields for understanding our complex world. They include Geographic Information Systems (GIS), Remote Sensing, Global Positioning Systems (GPS), online mapping such as Google Earth, statistics, and others.

Geographers work in many different areas, such as environmental management, education, disaster response, city and county planning, community development, and more. Geography is an interdisciplinary field that offers diverse career opportunities.

The relevance and prestige of Geography as a discipline was helped enormously during the past 20 years by four key developments:

1. the emergence of "globalization" as a phenomenon requiring analysis and explanation;
2. the increasing recognition of space and place in cognate social and physical sciences;
3. deepening concern for nature-society interactions and issues of environmental sustainability and development; and,
4. the development of geographic information systems (GIS and GIScience) and remote sensing technologies and their widespread adoption by organizations in both the public and private sectors.

In recognition of the importance of these developments, UM Geography emphasizes three major orientations in its M.A. program:

1. environmental analysis,
2. globalization and urban change, and
3. developmental studies

This program provides students with an understanding of the main streams of geographical thought and familiarizes them with research design issues, including quantitative and qualitative research

methodologies, survey research, remote sensing, and computer mapping and GIScience. Students also are provided with a range of Geography courses at the 500 and 600 levels, and are able to take two courses, if they so choose, in cognate disciplines outside Geography

Educational Objectives

The MA Program in Geography offers specializations in areas such as:

- Geographic Information Systems and Remote Sensing
- Global Health and Medical Geography
- Urban Geography and International urbanization
- Environmental Studies
- International and Regional Development

Geography offers courses on the Middle East, Africa, South America and other areas

Geography offers courses that provide training in indispensable skills for everyone entering the present-day labor market:

- Research Methodology
- Statistics
- Computer Cartography
- Geographic Information Systems (GIS)
- Remote Sensing of the Environment

Degree Programs

The Department of Geography offers a Master's program and a Graduate Certificate in Geospatial Technology. For more information on the M.A. program, please contact Dr. Richard Grant at rgrant@miami.edu or visit the Geography Department's web page at www.as.miami.edu/geography (<http://www.as.miami.edu/geography>). For more information on the Certificate Program, please contact terghazar@miami.edu.

Other

Internship Credit Hour

Students are encouraged to find a suitable internship experience with the Career Planning and Placement Center. Upon approval, 3 to 4 credit hours may be earned with an internship. These credit hours will be included in the fulfillment of major requirements (GEG 535).

Certificates

Certificate in Geography and Regional Studies

- Graduate Certificate in Geospatial Technology (p. 398)

Graduate Certificate in Geospatial Technology

This Certificate Program is designed to benefit students who seek to enhance their skills in geospatial technologies, especially Geographic Information Systems (GIS) and satellite remote sensing. Students will be exposed to standard software tools used in the industry, as well as satellite image data. Students who earn the Certificate will enhance their employment prospects and/or advance their careers in geospatial technology, particularly in job settings that stress the use of satellite remote sensing and vector-based GIS.

The Certificate requires a minimum of 15 credit hours, including three core courses and two or more electives completed with at least a C grade in each course. Students may also receive up to 6 credit hours toward the certificate for past course work completed at UM or other accredited colleges and universities within the past 3 years.

GIS Certificate Program Core Courses		
GEG 691	Introduction to GIS (Geographic Information Systems) for graduate students	3.00
GEG 692	Advanced Environmental Remote Sensing	3
GIS Certificate Program Electives		
Select 6 credit hours of the following:		6
GEG 280	Introduction to Cartography and Computer Mapping	
GEG 301	Topics in Geography (when offered as a GIS topic)	
GEG 491	GIS and Environmental Modeling	
GEG 680	Introductory Quantitative Methods for Geographical Analysis.	3
GEG 635	Internship in Geography	1-4
GEG 625	Advance independent study in geography I	1-6
GEG 645	Advanced Independent Study in Geography II	1-6
GEG 685	Advanced Cartography	3
GEG 695	Web Gis	3
GEG 681	Advanced Spatial Statistics	
Total Credit Hours		24-37

Note that all courses from the Certificate Program can be double counted toward the MA degree.

Students are encouraged to find a suitable internship experience with the Career Planning and Placement Center or with the GIS Program Director. Upon approval by the GIS Program Director, 3 to 4 credit hours may be earned with an internship (GEG 635).

For more information e-mail terghazar@miami.edu to make an appointment.

Geological Sciences

<http://www.as.miami.edu/geology>

Dept. Code: GSC

Degree Programs

A 5-year B.S./M.S. degree allows qualified entering freshmen to complete a B.S. in Geological Science and a M.S. in Marine Geology and Geophysics within 5 years.

The B.S. degree in Geological Sciences is offered through the Department of Geological Sciences in the College of Arts and Sciences.

The Master of Science (M.S.) degree in Marine Geology and Geophysics is offered through the Division of Marine Geology and Geophysics in the Rosenstiel School of Marine and Atmospheric Science (RSMAS).

Undergraduate requirements are listed under the B.S. degree.

By the spring of their Junior year students should have obtained a graduate faculty advisor, selected an approved topic for research, and begun work on their senior thesis as preparation for the M.S. In the senior year, students will increase their focus on graduate courses and work closely with their graduate faculty advisor.

Contact Dr. Harold Wanless at the departmental office (305-284-4253) for more information.

History

<http://www.as.miami.edu/history>

Dept. Code: HIS

Degree Programs

Requirements for the M.A. Degree in History

Admissions

We are looking for applicants with a record of outstanding achievement and evidence of potential success in graduate studies, attributes which can be measured in various ways such as grades, recommendations, written work, and test scores. Students with a master's degree from an accredited institution may apply for admission to the doctoral program. Students with a bachelor's degree only and with very strong credentials may be admitted into the doctoral program. Applicants must meet the admissions requirements set by both the graduate school, which are listed in its materials, and the department of history.

Because one of the strengths of our program is a close working relationship between faculty members and students, we cannot always accept qualified applicants when no one in the department can provide the guidance they need in their area of interest. Applicants should explore the listing of faculty on our website and contact the DGS or relevant faculty members if they have any questions.

The complete application contains:

1. A completed application form.
2. A completed financial aid application, if seeking aid.
3. Three letters of recommendation, preferably from applicant's former professors.
4. Recent Graduate Record Examination scores on the General Test.
5. TOEFL scores (for international students).
6. Official transcripts.
7. A detailed statement from the student indicating:
 - a. the student's background and education;
 - b. the student's interests (field, topic, etc.);
 - c. why the student wants to pursue a graduate degree in history at the University of Miami;
 - d. what the student plans to do with the degree upon completion. This statement constitutes a very important part of the application review process and should indicate the student's understanding of the professional nature of the training that the student is about to begin.
8. A representative writing sample.

Deadlines

January 5: Applications for admission and aid for Fall semester.

Committee

Upon admission to the master's program in history, the student is assigned a provisional major advisor. An advisory committee of three, including the major advisor and a faculty member representing the student's secondary field, must be formed no later than the student's second semester in the program. There are then two options for completing the masters. One requires 27 credit hours of coursework and an exam. The other requires 21 credit hours of coursework, a master's thesis (6 thesis credit hours), and an exam. In the case of both options, one member of the committee may be from a cognate discipline, but this is not required. It is the responsibility of the student and the advisor to form the committee and to notify the DGS of its composition. The major advisor chairs the advisory committee and oversees the student's course of study and progress in the program. The advisory committee also administers the oral comprehensive exam that is given in the case of either option. In the case of the second (thesis) option, the advisory committee and the thesis committee are usually, but not necessarily, composed of the same faculty members.

Requirements

- 27 credit hours at the 600 level or above, of which at least 18 must be at the 700 level or above.
- Passage of an oral exam in two fields.
- Completion of HIS 721 (Historiography). This course is normally given in the fall semester. All students are required to take the Historiography course in their first year.
- Students may, if they wish, write an M.A. thesis. Students who elect this option should consult with their advisor. Any student writing a thesis should register for 6 credit hours of HIS 810, which count toward the 27 required credit hours.
- Language Requirements: Students must demonstrate a reading knowledge in at least one foreign language. Reading knowledge in additional languages may be required by the major advisor. See under Ph.D. requirements for more information on fulfilling language requirements.
- The student must apply for graduation in his or her penultimate semester (i.e. fall semester for spring semester).
- The comprehensive examination for the M.A. degree in history is an oral examination in two fields that will normally not exceed two hours. Though the exam is in two fields, all members of the advisory committee will participate. Students selecting the thesis examination should expect questioning on the thesis as well as their fields during the examination. For such students the comprehensive will also act as a thesis defense.

Fields

See Requirements for the Ph.D.

Doctoral

Doctoral Program in History

- Ph.D. in History (p. 399)

Ph.D. in History

Admissions

We are looking for applicants with a record of outstanding academic achievement and evidence of potential success in graduate studies, attributes which can be measured in various ways such as grades, recommendations, written work, and test scores. Students with a master's

from an accredited institution may apply for admission to the doctoral program. Students with a bachelor's degree only and with very strong credentials may be admitted into the doctoral program. Applicants must meet the admissions requirements set by both the graduate school, which are listed in its materials, and the department of history.

Because one of the strengths of our program is a close working relationship between faculty members and students, we cannot always accept qualified applicants when no one in the department can provide the guidance they need in their area of interest. Applicants should explore the listing of faculty on our website and contact the DGS or relevant faculty members if they have any questions.

The complete application contains:

1. A completed application form.
2. A completed financial aid application, if seeking aid.
3. Three letters of recommendation, preferably from the applicant's former professors.
4. Recent Graduate Record Examination scores.
5. For international students, TOEFL scores.
6. Official transcripts.
7. A detailed statement from the student indicating:
 - a. the student's background and education;
 - b. the student's interests (field, topic, etc.);
 - c. why the student wants to pursue a graduate degree in history at the University of Miami; and
 - d. what the student plans to do with the degree upon completion. This statement constitutes a very important part of the application review process and should indicate the student's understanding of the professional nature of the training that the student is about to begin.
8. A representative writing sample.

Admission from M.A. to Ph.D. Status

Students admitted at the master's level who are performing well in their studies are encouraged to proceed to Ph.D. status. Advisors who believe that a student should be admitted to the Ph.D. program, and have the consent of the student, inform the DGS of this desire early in the spring semester and at least before the annual departmental meeting reviewing graduate students' progress. The request is then reviewed by the department at its annual meeting for recommendation to the graduate committee. Students who move from the M.A. to the Ph.D. program are eligible for the same number of years' aid as students entering the Ph.D. program directly from the B.A., minus the years of aid they have already received. For course requirements, see below.

Deadlines

January 5: Applications for admissions and aid for Fall semester.

Committee

Upon admission to the program, the student is assigned a provisional major advisor. As noted above, students should then concur or select a different advisor by the beginning of the second semester in the program. An advisory committee of four or five, including the major advisor and faculty members representing the second and third fields, must be formed no later than the student's third semester in the program. It is the

responsibility of the student and the advisor to form this committee and notify the DGS of its composition. The major advisor chairs the advisory committee and oversees the student's course of study and progress in the program. The advisory committee will also administer the oral and written comprehensive examinations. Students may change advisor and other committee members throughout the program provided that the faculty member(s) selected agree(s).

Requirements

1. Requirements:
 - a. For students entering the Ph.D. program with a B.A., 45 credit hours (5 semesters) of graduate coursework at the university of Miami.
 - b. For students entering the Ph.D. program with a masters from another university, at least 27 credit hours (3 semesters) of graduate coursework at the University of Miami.
 - c. For students entering the Ph.D. program with a Masters from another program at the University of Miami, at least 27 additional credit hours (3 semesters) of graduate coursework at the University of Miami.
 - d. For students entering the Ph.D. program with a Masters from the History department at the University of Miami, 24 additional credit hours of graduate coursework (to conform to a Graduate School requirement) at the University of Miami.
 - e. All doctoral students are expected to take their comprehensive exams no later than their 6th semester in the History Graduate Program at the University of Miami.
2. Completion of HIS 721, included in the above number of credit hours. All students are required to take the Historiography course in their first year.
3. Completion of HIS 701 and HIS 702(the two-semester Research Seminar), included in the above number of credit, at least once. Typically, students take HIS 701 and HIS 702 in their 2nd and 3rd semesters in the program.
4. Passage:
 - a. Passage of a major field in written and oral exams.
 - b. Passage of a 2nd field in written and oral exams.
 - c. Passage of a 3rd field in written and oral exams.
5. Following completion of course credit hours, students will need to take sufficient dissertation research credit (HIS 830 if before the comprehensives have passed; HIS 840 after the comprehensives have been passed) to reach a total of 60 credit hours beyond the B.A. in order to receive the doctorate. Graduate School rules require that students take a minimum of 12 dissertation credit hours. Students who enter the Ph.D. program with an M.A. from another university or from another program at the U. of M. receive 30 credit hours towards the 60 credit hour requirement.

The required credit hours of coursework are only the formal minimum. Although course work is necessary preparation for the comprehensive examination, students are examined on the mastery of fields of knowledge rather than courses. The number of courses taken depends on the student's background, choice of fields, nature of related work, language skills, etc. Courses should be selected only after consultation with the Major Advisor.

Incompletes

All incompletes from the fall semester must be made up by the official end of the following spring semester. All incompletes from the spring semester must be made up before the official start of the subsequent fall semester. No student will be allowed to proceed to exams until all incompletes have been made up.

Languages Requirement

Reading knowledge of at least one foreign language is required. More than one foreign language may be required if the major advisor deems it necessary. The Modern Languages and Literatures Department administers examinations in the languages that it teaches and offers preparation courses in a handful of languages. Students may contact the DGS for the various options for taking courses in foreign languages. Students must, in conjunction with their advisor, prepare a plan that specifies how they will demonstrate language proficiency. The language requirement must be completed before a student can take the comprehensive examinations (see below).

Comprehensive Examinations

It is the responsibility of the student and major advisor to organize the comprehensive examinations. Students may take them at any time of the year that classes are in session. Arrangements for the exams, including selection of their dates and a final list of committee members, should be made by the end of the first month of the semester in question, with notification to the Department Chair and DGS.

The student takes the written part of the examinations in three history fields, which are normally administered over a period of two successive weeks. The portion for each field is four hours in duration. Only after the advisory committee deems that the student has successfully passed the written portions for each field is the student permitted to take the oral part of the examination.

The oral section covers the three history fields and is approximately two hours in duration. The prospectus may form part of the discussion, but the examination will focus on coverage of the fields. The committee consists of at least three faculty members.

The student advances to candidate status after passing the comprehensive examinations and submitting an acceptable dissertation prospectus.

Students who have not already received a master's degree from the University of Miami will be awarded an M.A. upon successful completion of their doctoral comprehensive exams.

Dissertation

After passing the examinations, students form a dissertation committee. This may be the original advisory committee, but it may also be revised to meet the needs of the dissertation work. The students, in consultation with the Major Advisor, put forward the names of individuals suggested to serve on the dissertation committee. The committee must be comprised of at least three members within the department and one outside the department. The committee is then approved and appointed by the dean of the graduate school.

The dissertation must make a significant contribution to the candidate's field of specialization. It must meet the highest standards of research,

substance, and form, and demonstrate an ability to conduct and report independent and original scholarly investigation.

The student must apply for graduation in his or her penultimate semester (i.e. fall for spring semester).

Upon completion of the dissertation and its tentative approval by the dissertation committee, the student takes a final oral examination that is a "defense" of the dissertation and that lasts for approximately two hours. It is open to the university community. Following the defense of the dissertation, the dissertation committee will render its decision to accept or reject the dissertation. Approval of the dissertation must be indicated by the signature of all members of the dissertation committee.

Fields

Chronological/Geographical fields:

- Medieval Europe
- Early Modern Europe
- Modern Europe
- Early American History
- Modern U.S. History
- Colonial Latin America
- Modern Latin America
- East Asia
- Russia
- Africa
- Caribbean

Topical Fields. These must cover either two of the geographic or two of the temporal fields listed above.:

- African Diaspora
- Race and Ethnicity
- Gender and Sexuality
- History of Religion
- History of Science and Medicine
- History of Crime and Law
- Political History
- Diplomatic History
- Urban and Environmental History
- Economic History
- Business History
- Labor History
- History of Sport
- Military History
- Cultural and Intellectual History
- Public History
- Atlantic World

Customized Fields:

Students may create their own fields in consultation with their advisory committee. The student opting for this approach must file a plan of study listing relevant courses, the faculty member(s) involved, and the rationale.

To pursue the individualized concentration, the student must obtain written approval of the plan by the major advisor, DGS, and the Department Chair.

The plan and signed approvals are placed in the student's file. With rare exceptions, a customized field may not be the major field of study.

International Administration

<http://www.miami.edu/maia>

The Master of Arts in International Administration (MAIA) program offers a comprehensive graduate degree designed to prepare students for careers in the administration of International public and private organizations. Career options include government, multinational corporations (MNCs), non-governmental organizations (NGOs), as well as the for-profit sector. Unlike conventional "international affairs" programs, MAIA equips graduates with both operational skills and a solid conceptual background to produce theoretically capable practitioners. The degree is awarded by the College of Arts and Sciences.

MAIA is an interdisciplinary program which collaborates with faculty members from twelve (12) University departments. Drawing from the best academic resources of the University of Miami and from highly skilled professionals, students receive instruction in areas such as diplomacy, geopolitics, economics, finance, religion, communication, political science, management, public health, and international studies. The program allows students to select an area of specialization to complement their professional goals. Concentration options include International Business, Public Health, Strategic Communications, Geographical Information Systems, Security Management, and a General Track. Together with a thorough co-curricular professional development itinerary and an internship component students emerge with the expertise needed to further their career in a vast array of exciting fields.

For additional program information and a complete list of MAIA faculty and staff, please visit us at www.miami.edu/maia (<http://www.miami.edu/maia>).

Dual Degree Program: MAIA/MPH

The Master of Arts in International Administration/Master of Public Health (M.A.I.A./M.P.H.) degree is offered jointly by the University of Miami College of Arts and Sciences and University of Miami Miller School of Medicine's Department of Public Health Sciences. The MAIA degree with a second master's degree in public health is designed for students who seek an in-depth knowledge of public health with a broader emphasis in globalization and health, international health, international health policy and international development. Students enrolled in this joint program can expect to complete both degree requirements within two and a half (2.5) years.

Masters

Masters Program in International Administration

- M.A. in International Administration (p. 402)

M.A. in International Administration

Core Requirements

- Six (6) core courses are required of all MAIA students.
- Students then complete the degree with three (3) graduate-level electives/nine (9) credit hours, which may be chosen from among other UM graduate offerings.
- Finally, all MAIA students must enroll in and complete a practicum, details of which are described below.

The core courses are taught in an integrated fashion, designed to give students the maximum learning experience.

In the core courses, students will

1. **develop skills in writing, speaking, and numerical and historical analysis**
2. **learn how to collect, interpret and report social, political, and economic data**
3. **increase skills in methods of research and communications**
4. **master strategic and tactical thinking and negotiation**
5. **build practical and theoretical knowledge in international relations, international economics, intercultural communication, and administration in an international context**

Core Courses		
IGS 612	International Administration	3
IGS 614	World Affairs	3
IGS 613	World Cultures, Religions and Communications	3
IGS 616	Administration of Organizations	3
IGS 615	International Economics for MAIA	3
IGS 611	International Organizations	3
IGS 617	Practicum in International Administration ¹	3
Total Credit Hours		21

¹ The purpose of the practicum is to give students the opportunity to apply academic theory and acquired skills in international administration under real world conditions. Students are expected to complete the practicum with a minimum time commitment of at least two-hundred (200) hours. Participation in the spring clinics with topics ranging from public speaking to human resources are an integral component of the course. A final report/case study analysis is required as part of successful completion of the practicum. A fuller guide to the practicum and the requirements for the practicum is provided to students by the MAIA Office.

Other Requirements for Graduation

In addition to completing thirty (30) credit hours at the graduate level, which must include the six (6) required core courses, the practicum course and nine (9) elective credit hours, students must satisfy the following additional program requirements.:

- Co-curricular Seminars in information technology (IT) which includes training in the statistical software SPSS as an introduction to program evaluation/assessment methodology, as well as seminars in diplomatic protocol, media relations, budgeting for non-profits, public speaking, and public policy analysis.

- The accounting and taxation seminars are a two (2) day, non-credit hour workshop that covers key subjects essential to successful budgeting and financial control for nongovernmental organizations and other not-for-profit companies. It is taught by a professional financial manager and is offered once a year.
- MAIA students must demonstrate proficiency in a second language prior to graduation. They are tested by staff and faculty with the Intensive Language Institute of the Division of Continuing and International Education. If students need additional language training after the testing result, they will be recommended to enroll in non-credit hour language courses to attain the necessary proficiency.

All MAIA students must complete their degree with three (3) graduate level elective courses or nine (9) elective credit hours. Electives must be approved by MAIA directors and students are encouraged to use the electives to create a specialization in either a function or regional area.

International Studies

<http://www.as.miami.edu/international-studies/>

Dept. Code: INS

Degree Programs

The Department of International Studies offers interdisciplinary social science programs leading to the Ph.D. and MA degrees. Ph.D. and MA programs offer advanced students the opportunity to study issues such as globalization, democratic governance, comparative and international political economy, post-Cold War conflicts and security threats, and new forms of civil society mobilization in world politics. To organize the study of these debates in the social sciences, the Department offers three fields of specialization:

- **International Relations:** international relations theory; globalization; social movements beyond the nation-state; security studies; peace and conflict studies; international law and organization; international political economy; foreign policy analysis, global public health, and related fields.
- **Comparative Politics:** theory and methods of comparative analysis; authoritarian and democratic political regimes; democratic governance and citizenship, comparative political economy; contentious politics and social movements; civil-military relations; and appropriate courses on selected regions, such as the European Union, Latin America, or the Post-Soviet countries.
- **International and Comparative Political Economy:** the politics and institutions regulating the global trade, investment, and financial regimes; comparative international development; the politics and economics of international environmental regimes; democracy, partisan politics, and global governance, the domestic and international distributive impacts of globalization; and international economic theory.

Masters

Masters Program in International Studies

- M.A. in International Studies (p. 403)

Doctoral

Doctoral Program in International Studies

- Ph.D. in International Studies (p. 403)

M.A. in International Studies

The Department's MA program prepares students for careers in international diplomacy, business, trade and finance, for service in government and non-governmental organizations and international institutions, and with the necessary degree and academic training to enter a doctoral program. The requirements include:

- Complete ten semester courses (30 credit hours).
- Complete two graduate courses on social science methodology.
- Complete one core seminar in one of the Program's fields of study, including:
 - International Relations;
 - Comparative Politics;
 - International and Comparative Political Economy.
- Pass a foreign language examination.
- Thesis and Non-thesis options: MA candidates with a cumulative grade point average of at least 3.5 may opt to write a thesis; all students have the option of completing the degree by writing two research papers in lieu of the thesis.

See the *INS Graduate Student Handbook* for a complete description of the requirements for the MA degree.

Ph.D. in International Studies

The Department's Ph.D. program's primary objective is to prepare a select group of highly qualified doctoral students for careers in academic teaching and research. The requirements include:

- Complete a total of 66 degree credit hours (12 semester courses) to obtain the Ph.D. degree (i.e., 36 credit hours at the doctoral level beyond the MA degree).
- Complete one seminar on quantitative methods and one seminar on qualitative methods in the social sciences.
- Complete a sequence of two core seminars in two of the Program's three major fields of study:
 - International Relations;
 - Comparative Politics; and
 - International and Comparative Political Economy.
- Pass
 - a. written MA exam in one of the Program's three fields of study and
 - b. written and oral examinations in two of the Program's three fields of study.
- Complete at least one of the basic core seminars in the third (non-examination) field.
- Complete the Doctoral Workshop.
- Successfully defend a dissertation proposal/prospectus.
- Pass a foreign language examination.
- Complete 12 dissertation credit hours.
- Research, write and orally defend a dissertation that makes an original contribution to knowledge.

See the *INS Graduate Student Handbook* (<http://www.as.miami.edu/international-studies/the-academic-program/graduate/doctorate-phd/#d.en.30372>) for a complete description of the requirements for the Ph.D. degree.

Latin American Studies

<http://www.as.miami.edu/las/graduate/master-of-arts-program/>

Dept. Code: LAS

MA in Latin American Studies

- The Master of Arts in Latin American Studies is a 30 credit hour interdisciplinary degree characterized by a high degree of flexibility in allowing students to create a course of study focused on Latin American and the Caribbean that serves the interests of the student. Combining core courses offered by the program with a large variety of courses combined with departments, programs, and units throughout the University of Miami, the program offers tremendous diversity in courses available for credit hour towards this degree. This encourages students to combine course offerings from around the university into a cohesive course of study that enables specialization in an area, topic, country, theme, or issue of their choosing and thus to tap into the many resources available at the University of Miami for students with a passion for Latin America and the Caribbean.
- The program consists of two core Latin American and Caribbean seminars, two regional fundamentals, and a minimum of three additional seminars to be taken as electives. Students will also be required to take one research methods course at the 600-level.

LAS 601	Interdisciplinary In Latin American And Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Two Regional Fundamentals courses		6
Three electives from the list of LAS designated or combined courses (600-level or above)		9
One research methods course in the discipline of the student's specialization		3
LAS 810	Pre-candidacy thesis credits ((students must enroll in two semesters of this 3-credit course))	6
Total Credit Hours		30

- Regional Fundamentals are those courses that have a clear regional or sub-regional focus (e.g. Andean Region; the Caribbean; South America; Central America; Southern Cone; Brazil; South Florida) rather than a specific country focus.
- Electives may be taken from any pre-approved combined or core LAS courses at the 600-level or above, or from other courses approved by the academic director.
- A Research Methods course may be chosen from any available and accessible Research Methods courses available at the University of Miami, but must be appropriate to the course of study chosen by the student and requires approval of the academic director. Under special circumstances, the research methods requirement may be waived with the prior approval of the academic director.
- Students are required to write a master's thesis, create an equivalent capstone project, or pass a comprehensive exam. The latter two options require the approval of the academic director. For each of

these options, a committee consisting of at least three members is required. Students who opt for the comprehensive exam will take one more elective in the place of the Research Methods course and enroll in 6 credit hours of LAS 697, rather than LAS 810.

- **Students must demonstrate advanced language competence in Spanish, Portuguese, Haitian Creole, or French by passing a course taught in the target language at the 600-level or above, or by passing a language competency exam.**
- With approval from the academic director, students may also take their elective credit hours with Latin Americanists in other Schools such as Communication, Law, Business, or Marine Sciences.
- Students who are simultaneously enrolled in a certificate program (other than GIS) at the University of Miami may double-count courses between the certificate program and the Master of Arts in Latin American Studies, with approval of the academic director. In select cases (such as methods courses), seminars and courses at the 600-level that do not specifically target Latin America or the Caribbean, but for which the final project or paper produced by the student is focused on Latin America may be counted towards the Master of Arts in Latin American Studies, subject to the approval of the academic director.

Requests for Information

Latin American Studies Program
University of Miami
1111 Memorial Drive
Coral Gables, FL 33146
Ph: 305.284.3034
Fax: 305.284.2796
lasgrad@miami.edu

Masters

Masters Programs in Latin American Studies

- B.A./M.A. in Latin American Studies (p. 404)
- M.A. in Latin American Studies with GIS Certificate (p. 407)

Joint

Joint Program in Latin American Studies

- M.A./JMM Dual Degree in Latin American Studies and Journalism (p. 405)
- M.A./M.P.H Dual Degree in Latin American Studies and Public Health (p. 406)

B.A./ M.A. in Latin American Studies

FILAS (Fellows in Latin American Studies)

In this highly selective Honors Program, students follow a rigorous, accelerated curriculum to complete a dual degree (B.A./M.A.) in Latin American and Caribbean Studies in five years. The program provides exciting collaborative research, travel, and work opportunities.

Working with UM's world-class faculty in various academic disciplines, *FILAS* participants design individualized curricula. In addition to the regular general education course requirements of the College of Arts and Sciences, *FILAS* students choose one focus track for their most advanced courses: Social Sciences, Literature & Culture, Communication,

Environmental Studies, Public Health, or History. For broad-based, multi-disciplinary preparation, students choose courses that focus on Latin America and the Caribbean from the following categories (at least ten of these courses must be taken at the Master’s level):

CAS GENERAL EDUCATION REQUIREMENTS		
English Composition ¹		6
ENG 105	English Composition I	
ENG 106	English Composition II	
Mathematics, Computing & Statistics ²		3
Second Language ³		
Writing Across the Curriculum ⁴		
Cognates ⁵		9
Advanced Language Proficiency in Spanish, French, Portuguese, or Haitian Creole		3
Select one of the following:		
FRE 203	Advanced French	
HAI 201	Intermediate Haitian Creole I	
POR 202	Intermediate Portuguese II	
SPA 203	Advanced Spanish	
Secondary Language Competence in another Latin American or Caribbean Language		3
Select one of the following:		
FRE 105	Accelerated Elementary French	
HAI 102	Elementary Haitian Creole II ((or equivalent))	
POR 105	Beginning Portuguese for Spanish Speakers	
SPA 105	Accelerated Elementary Spanish	
FILAS Specific Requirements		
Select one gateway seminar in Latin American Studies		3
Select two History courses		6
Select two International Studies courses		6
Select two Economics courses		6
Select two advanced Languages and Literatures courses (SPA, POR, FRE, or HAI)		6
Select seven courses in Study Abroad		21
Select one course as Internship in Latin America		3
Select five courses above the 300-level (third-year) in a range of disciplines		15
Select ten courses in one focus track		30
MA Phase Requirements		
GRE Exam in Semester 7 or 8		
LAS 601	Interdisciplinary In Latin American And Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Select two Regional Fundamentals courses		6
Select four electives from approved LAS or combined courses		12
LAS 810	Pre-candidacy thesis credits (students must enroll in two semesters of this 3-credit course to fulfill this requirement.)	6
Total Credit Hours		150

- ¹ Certain AP/IB scores may be used to fulfill the Composition requirement as credit. If Transfer students transfer one of the two above, but not both, they may take ENG 208 to complete the requirement. ENG 105 must be taken unless exempted by SAT/V or ACT/V scores (does not include credits).
- ² MTH 108 or higher. Unless exempted by AP/IB, or UM placement test. UM placement test does not include credits. Prerequisites must be met before enrolling in MTH courses.
- ³ Students must take at least three credits in a language other than English at the 200-level or higher. Prerequisites may be required. Courses taken in order to meet this requirement, including necessary prerequisite courses to the 200 level courses, cannot be used in cognates seen below. **FILAS students already fulfill this requirement when completing the language requirements cited below.**
- ⁴ Degree candidates must complete at least four writing courses, and at least one such course must be in the student’s major discipline.
- ⁵ Typically, students must complete a minimum of three cognates, one from each of the three areas of the University curriculum: Arts & Humanities; People & Society; and Science, Technology, Engineering & Mathematics. A cognate is a minimum of 9 credit hours, however it can be more. Each major/minor fulfills the cognate requirement in one Area of Knowledge. **However, FILAS students must complete only the STEM Cognate as the FILAS program fulfills the Arts & Humanities and People & Society cognates. To avoid additional course credits, please select a STEM Cognate that includes a Natural Science course to concurrently fulfill this CAS general education requirement. According to the Collage of Arts & Sciences, "three credits must be earned from one of the following departments: Biology, Chemistry, Ecosystem Science & Policy (only ECS 111, 112, or 202), Geological Sciences, Marine Science (except MSC 313 and 314), Physical Science, or Physics. APY 203 and GEG 120 may also count. These credits may double count with any other requirement, e.g., courses in the STEM cognate."**

FILAS students also write a Master’s Thesis based on an original research project. In addition, they must defend the thesis and present their findings at the LAS Annual Student Symposium.

FILAS Admission Requirements

- SAT1 composite score of 1360 or ACT 31.
- Top 10% of high school graduating class.
- Regular Application for Admission to the University of Miami. We recommend students submit their applications by November 15.
- Recommendations from three high school teachers.
- Statement of interest in *FILAS*, emphasizing prior language or area study
- To continue through the graduate level (MA Phase), students must maintain at least a 3.4 GPA and take the GRE Exam.

M.A. Dual Degree in Latin American Studies and Journalism

<http://www.as.miami.edu/las/graduate/joint-master-of-arts-programs/journalism/>

Offered in the multicultural setting of Miami, a focal point for Caribbean Basin economic, political, immigration and communication flows,

the School of Communication and College of Arts and Sciences have designed this joint degree program focusing on cross-cultural and international journalism. Students leave the university after four semesters and a summer with two M.A. degrees in hand, one in Journalism and the other in Latin American and Caribbean Studies. This specialized course of study is for students who wish to enter careers in journalism and communication specializing on the issues, economies, and peoples of Latin America and the Caribbean region. Sustainable economic development, immigration, social justice and human rights, the environment, international business, and U.S.-Latin American relations are just some of the areas in which students may specialize in an individually tailored course of study anchored by a core of fundamentals. Because this is a joint offering, 18 credit hours are shared between the two M.A. programs.

MA in Journalism Required Courses

First Year		Credit Hours
Fall		
Select one of the following (based on availability)		3
JMM 611	Newswriting and Reporting Seminar	
JMM 615	Writing and Reporting Across Platforms	
LAS 601	Interdisciplinary In Latin American And Caribbean	3
LAS 603	Program Seminar in Latin American Studies and Caribbean Studies	3
JMM 610	Comparative Media Systems	3
Term Credit Hours:		12
Spring		
JMM 625	Advanced Newsgathering and Writing Seminar	3
JMM 699	Advanced Projects and Directed Research	1-6
LAS 602	Research Design in Latin American Studies	3
LAS 604	Interdisciplinary Topics in Latin American and Caribbean Studies - Travel Course.	3
Term Credit Hours:		10-15
Summer		
LAS 605	Internship in Latin American and Caribbean Studies	5
Term Credit Hours:		5
Second Year		
Fall		
COM 601	Theories of Communication	3
COS 645	Intercultural Communication: International Perspectives	3
LAS 640	Special Topics in Latin American and Caribbean Media and Communication	3
JMM 654	Writing for Publication	1-3
LAS 810	Pre-candidacy thesis credits	3
Term Credit Hours:		13-15
Spring		

JMM 614	Media Law and Ethics Seminar	3
JMM 654	Writing for Publication	1-3
LAS 603	Program Seminar in Latin American Studies and Caribbean Studies	3
LAS 810	Pre-candidacy thesis credits	3
Term Credit Hours:		10-12
Total Credit Hours:		50-59

M.A. Dual Degree in Latin American Studies and Public Health

<http://www.as.miami.edu/las/graduate/joint-master-of-arts-programs/medicine-and-public-health/>

Miami is the gateway to Latin America. As such we recognize an urgent need for public health professionals with the training and expertise needed to meet the growing public health challenges both in Latin America and the Caribbean. This program is designed to train students for a career in public health with a focus on social policy, health management and health care in Latin America and the Caribbean, as well as expatriate communities in the United States.

Average Program Duration: 2 years, 5 semesters
Number of required credits: 54 (+6 for non-native speakers)

The Curriculum

The total requirements for the MPH/MALAS program are 60 credits. These requirements include 30 MPH credits, 12 MA in LAS credits, 6 elective credits, 6 culminating/capstone credits and 6 language credits (for non-native speakers):

Language Requirements (6 credits)

Students must demonstrate advanced language competency in Spanish, French, Portuguese, or Haitian Creole. Students may establish proficiency by passing two courses taught in the target language at the 500-level or above, or by passing a language competency exam. A major indigenous language of Latin America may be substituted for either Spanish or Portuguese. Students may petition for a waiver of examination if they have gained language competency in another manner (i.e. native speaker, upper division coursework in target language, Peace Corps service, IB credits or Defense Language Proficiency Test).

MPH Core Courses (18 credits)

EPH 600	Introduction to Public Health	3
EPH 601	Medical Biostatistics I	3
EPH 620	Health Education and Behavior	3
EPH 621	Fundamentals of Epidemiology	3
EPH 631	Public Health Administration	3
EPH 641	Integrated Aspects of Environmental Health	3

MPH Electives (12 credits)

Select 4 from the following:		
EPH 612	Global Health	3
EPH 614	Global Outbreak	3

EPH 639	Ecology and Control of Vector-Borne Diseases	3
EPH 640	Urban Environment and Public Health	3
EPH 644	Fundamentals of Program Evaluation	3
EPH 647	Community-based Participatory Research	3
EPH 650	Health Economics for Evaluation and Policy	3
EPH 671	Maternal and Child Health	3
EPH 651	Research Methods	3

LAS Core Courses (12 credits)

LAS 601	Interdisciplinary In Latin American And Caribbean	3
LAS 602	Research Design in Latin American Studies	3
Select two other LAS courses in consultation with the Academic Director.		6

Regional Fundamentals in Latin America Electives (6 credits)

Six credits worth of Regional Fundamentals in Latin America must be taken. These electives may be chosen from appropriate offerings in LAS, INS, POL, HIS, APY, or GEG. Regional Fundamentals are those courses that have a clear regional or sub-regional focus (e.g. Andean Region; the Caribbean; South America; Central America; Southern Cone; Brazil; South Florida) rather than a specific country focus. For this joint degree, we will require that the six credits of electives in POL, LAS, INS, APY, GEG, or HIS be used to meet this requirement. The LAS Academic Director may approve courses from other departments.

Culminating Experience (6 credits)

EPH 680	Practical Field Experience	3
LAS 810	Pre-candidacy thesis credits	3
OR		
LAS 697	Readings for the Comprehensive Exam	3

M.A. in Latin American Studies with GIS Certificate

<http://www.as.miami.edu/las/graduate/joint-master-of-arts-programs/gis/>

- The Master of Arts in Latin American Studies with GIS certificate is a 30 credit hours interdisciplinary degree characterized by a high degree of flexibility in allowing students to create course of study focused on Latin American and the Caribbean that serves the interests of the student, while allowing students to focus on obtaining specific skills in geographic Information Systems (GIS). Combining core courses offered by the program with a large variety of combined courses offered by departments, programs, and units throughout the University of Miami, the program offers a tremendous diversity in courses available for credit hour towards this degree. This enables students to combine course offerings from around the university into a cohesive course of study that allows specialization in an area, topic, country, theme, or issue of their choosing and thus to tap into the many resources available at the University of Miami for students with a passion for Latin America and the Caribbean.

- The GIS option allows students to work towards a graduate certificate in GIS through the department of Geographic and Regional Studies while working towards their Master of Arts in Latin American Studies.

- Required courses for this program are:

LAS 601	Interdisciplinary In Latin American And Caribbean	3
LAS 602	Research Design in Latin American Studies	3
GEG 691	Introduction to GIS (Geographic Information Systems) for graduate students	3.00
GEG 692	Advanced Environmental Remote Sensing	3
GEG 693	Intermediate GIS	3.00
Select three electives in LAS		9
LAS 810	Pre-candidacy thesis credits ((Students must enroll in two semester of this 3-credit course))	6
Total Credit Hours		30

- The 6 credit hours in LAS 810 will consist of a GIS capstone project with a focus on Latin America, the Caribbean, or South Florida. Students will require a three-member committee to oversee the capstone project. A group project may be allowed with approval of the academic director.

Liberal Studies

<http://www.as.miami.edu/mals>

Dept. Code: MLS

Degree Programs

The Liberal Studies program is founded on an interdisciplinary approach to issues and questions central to the history and development of human culture. It is designed to provide a broad understanding of these issues and questions through a focused and systematic program of study drawing upon faculty from various disciplines in the humanities, the social sciences, and the basic sciences.

For further information regarding this program, please write to:

Master of Arts in Liberal Studies Program
125-G Memorial Classroom Building
Coral Gables, FL 33124-2302
Call 305-284-6731 and/or email mals@miami.edu

Masters

Masters Program in Liberal Studies

- M.A. in Liberal Studies (p. 407)

M.A. in Liberal Studies

The Master of Arts in Liberal Studies degree requires 24 credit hours, plus a 6 credit hour thesis **OR** an additional 6 credit hours of coursework and a representative portfolio. In addition all students are required to participate in the MALS Writing Seminar. The curriculum is drawn from three core courses as well as additional courses designed for MALS students. Students may select from other graduate level courses with the approval of the director.

For the program with a thesis, a candidate must complete a minimum of 30 credit hours on the graduate level which includes:

- Three 3 credit hour core courses.
- 15 approved graduate credit hours.
- 6 credit hours for thesis.

For the program without a thesis, a candidate must complete a minimum of 30 credit hours on the graduate level which includes:

- Three 3 credit hour core courses.
- 21 approved graduate credit hours.
- A portfolio representative of works completed.

Mathematics

<http://www.math.miami.edu>

Dept. Code: MTH

Degree Programs

The Mathematics Department offers graduate degree programs leading to the:

- Master of Arts (p. 408)
- Master of Science (p. 408)
- Doctor of Philosophy (p. 408)

Prerequisites and requirements for these degrees are described on the program pages:

Masters

Masters Programs in Mathematics

- M.A. in Mathematics (p. 408)
- M.S. in Mathematics (p. 408)

Doctoral

Doctoral Program in Mathematics

- Ph.D. in Mathematics (p. 408)

M.A. in Mathematics

<http://www.math.miami.edu/>

1. Prerequisite:

- A minimum of 9 credit hours in mathematics courses numbered 200 and above is required.

2. Requirements:

- A total of 30 credit hours must be earned; at least 18 credit hours of which are in mathematical courses numbered 600 or above. These courses must include at least one of the following year-long sequences:

MTH 613 & MTH 614	Partial Differential Equations I and Partial Differential Equations II	6
MTH 615 & MTH 616	Ordinary Differential Equations and Dynamics and Bifurcations	6

MTH 624 & MTH 625	Introduction to Probability Theory and Introduction to Mathematical Statistics	6
MTH 631 & MTH 632	Topology I and Topology II	6
MTH 633 & MTH 634	Introduction to Real Analysis I and Introduction to Real Analysis II	6
MTH 661 & MTH 662	Abstract Algebra I and Abstract Algebra II	6

All courses from other departments must be numbered 700 or above, be pertinent to the teaching of secondary school mathematics, and be approved by the graduate committee.

- A three-hour written examination covering the material in one of the year-long sequences listed above.

M.S. in Mathematics

<http://www.math.miami.edu/>

1. Prerequisite:

- A minimum of 15 credit hours in mathematics courses numbered 200 and above is required.

2. Requirements:

- A total of 30, 33, or 36 credit hours in approved courses must be earned, depending on whether at least 15, 12-14, or 9-11 credit hours, respectively, are in mathematics courses numbered 700 and above.
- A minimum of 24 credit hours must be earned in mathematics courses.
- At least two of the following basic sequences are required.:

MTH 631 & MTH 632	Topology I and Topology II	6
MTH 633 & MTH 634	Introduction to Real Analysis I and Introduction to Real Analysis II	6
MTH 661 & MTH 662	Abstract Algebra I and Abstract Algebra II	6

- Three written exams, at least two of which are on the basic sequences of the above list, must be passed.

Ph.D. in Mathematics

<http://www.math.miami.edu/>

The following requirements are in addition to the general requirements for the Doctor of Philosophy Degree as described by the Graduate School (see section on Doctor of Philosophy elsewhere in this Bulletin).

- A minimum of 36 credit hours must be earned in mathematics courses numbered 700 and above.
- All four basic sequences or their equivalents are required.:

MTH 733 & MTH 734	Real Variables and Real Variables	6
MTH 735 & MTH 736	Complex Variables and Complex Variables	6
MTH 741 & MTH 742	Algebraic Topology and Algebraic Topology	6

MTH 761 Abstract Algebra & MTH 762 and Abstract Algebra	6
Total Credit Hours	24

3. Preliminary and three written qualifying exams must be passed. Of these written exams, two must be from the above basic sequences; the other may be another from the basic sequences or in the candidate's area of specialty.
4. A proficiency in one of the languages French, German, or Russian must be demonstrated.

Modern Languages and Literatures

<http://www.as.miami.edu/ml>

Dept. Codes: ARB, CHI, FRE, GER, ITA, MLL, POR, SPA

Degree Programs

The Ph.D. in Romance Studies offers concentrations in French (<http://www.as.miami.edu/ml/graduate/french-graduate-studies>) and Spanish (<http://www.as.miami.edu/ml/graduate/spanish-graduate-studies>) with emphases on literary and cultural production, and the critical study of language. The program is designed primarily to prepare students for careers as university professors and research scholars. Students develop advanced language, teaching, and research skills that lend themselves to other professions, as well. A variety of geographic, temporal, and theoretical concentrations allow students to carry out innovative and interdisciplinary research projects, often with a transnational focus.

While developing professional competency in their major research fields through an intensive study of canonical works in French and/or Spanish, students also engage in comparative Africana Studies, Arabic Studies, Brazilian Studies, Caribbean Studies, Francophone Studies, German Studies, Iberian Studies, Italian Studies, Latin American Studies, and combinations thereof.

The program's strong theoretical component grounds student research in a range of areas, including: aesthetics, bilingualism, digital humanities, early modern studies, film studies, gender studies, (im)migration studies, indigenous studies, performance studies, postcolonial studies, queer studies, subaltern studies, sociolinguistics, theatre studies, and women's studies.

Students are required to develop competency in a cognate field related to their intellectual pursuits, leading to the dissertation topic. Recent examples of cognate specialization include anthropology, communication studies, film studies, history, philosophy, musicology, and sociology.

The department offers two graduate certificates to prepare students beyond their specialization, which may be fulfilled with course electives:

- Graduate Certificate in Second Language Acquisition and Teaching (<http://www.as.miami.edu/ml/graduate/pedagogical-training>)
- Early Modern Studies Concentration (<http://www.as.miami.edu/media/college-of-arts-and-sciences/content-assets/modern-languages/documents/EarlyModernStudiesConcentration.pdf>), an interdisciplinary certificate offered in conjunction with English and History

For additional information on teaching and research opportunities, faculty, program policies and application requirements, visit <http://www.as.miami.edu/ml/graduate/>.

Admission Requirements

The Department of Modern Languages and Literatures accepts applications to the Ph.D. program for Fall admission only from students holding (or completing at the time of application) B.A. or M.A. degrees in a related discipline. Please note that the Department does not admit students who seek terminal M.A. degrees.

The deadline to apply for the 2016-17 academic year is December 15, 2015. All applicants will be considered for Departmental TAs and University-wide fellowships.

Applications must include the following materials:

1. A completed application form, including a detailed statement of purpose. (Applications are only accepted through this link: http://www.miami.edu/gs/index.php/graduate_school/apply/apply_online/).
2. A Graduate Assistantship application.
3. Three **substantial** letters of recommendation (typically, 1-2 pages). Be sure to provide each recommender with this PDF cover sheet: <http://www.as.miami.edu/media/college-of-arts-and-sciences/style-assets/images/ml/RecommFormGradAdmission.pdf>. Alternatively, applicants may use the CollegeNet interface to have recommenders submit their letters online.
4. GRE scores mailed directly from ETS testing agency to the Department of Modern Languages and Literatures at the address below (optional if you hold an M.A. degree and **do not wish** to be considered for fellowships. We strongly recommend that you submit GRE scores. Domestic and international students can send GRE and TOEFL scores to our Department with these codes:
 - a) 5815 (University of Miami);
 - b) 2603 (Department of Modern Languages and Literatures/French);
 - c) 2608 (Department of Modern Languages and Literatures/Spanish).
5. International students without BA or MA degrees from a U.S. Institution should have TOEFL (<http://www.toefl.org>) scores mailed directly from the testing agency to the Department of Modern Languages.
6. Official transcripts from all colleges/universities attended and listed in the application. Transcripts from international institutions should be accompanied by an official translation to English.
7. A research paper (typically 15-20 pages) in English.
8. A research paper (typically 15-20 pages) in the proposed language of study.
9. Application fee of \$65.00.

Printed materials should be sent to:

Graduate Program Admissions
Department of Modern Languages & Literatures
University of Miami
P. O. Box 248093
Coral Gables, Florida 33124-4650
FAX: 305-284-2068

For questions, consult the Graduate Program website (<http://www.as.miami.edu/ml/graduate/>) or contact the Department at: grad.mll@mail.as.miami.edu.

MLL encourages African American and Hispanic applicants to pursue McKnight Doctoral Fellowships, which are supplemented by the UM College of Arts and Sciences to match the Departmental stipend amount. (Applicants must be U.S. citizens). Applications are due on 15 January of each year and are available online at: www.fefonline.org (<http://www.fefonline.org>). In case of any difficulty submitting the online application, applicants should contact the FEF webmaster at webmaster@fefonline.org or call 813-943-7578 for assistance. For additional information, please contact the Florida Education Fund at (813) 272-2772.

Doctoral

Doctoral Program in Modern Languages and Literatures

- Ph.D. in Romance Studies (p. 410)

Ph.D. in Romance Studies

Basic Program Requirements:

The requirements set out below for the Ph.D. in Romance Studies are minimum requirements. The Graduate Studies Committee, Director of Graduate Studies, and individual advisors may set additional requirements.

- The requirements:
 - for students entering on the "five - year plan" (with a B.A. or M.A., see below), passing satisfactorily a minimum of 45 credit hours in approved courses;
 - for students entering on the "four - year plan" (with an M.A., see below) passing satisfactorily a minimum of 36 credit hours in approved courses;
- Passing MLL 611, MLL 601, and a minimum of 3 graded credit hours in each of the following areas:

French
Middle Ages and/or 16th Century
17th and/or 18th Century
19th and/or 20 - 21st Century
Francophone Studies
Spanish
Middle Ages and/or Golden Age
18th-19th-Century Spain and/or 20 - 21 st Century Spain
Colonial Latin America
19th-Century Latin America
20th and 21st -Century Latin America

For students whose focus in the program is on critical sociolinguistics, a minimum of nine graded credit hours in courses focused on topics of language analysis, and 9 graded credit hours from any of the areas of literature indicated above, all chosen in consultation with the faculty advisor (18 credit hours total).

Note: Ordinarily, students will take **at least** two graduate courses in the department each semester.

- In addition to proficiency in English and the major language of study, demonstrating the following:
 - reading knowledge of two other languages, or
 - holistic knowledge of one other language (for example, by passing the equivalent of a course at the 300-level;

Note: Appropriate languages of study will be determined in collaboration with the student's advisors (e.g. Latin American literature students may be encouraged to study Portuguese; students of Early Modern literature may be encouraged to study Italian, etc.)
 - if areas of specialization include Medieval Early Modern and/or Colonial Latin America. students must demonstrate reading knowledge of Latin.
- Passing a breadth exam. Depending on the student's interests, the exam shall consist of three parts, according to one of the following configurations:
 - one geographic region over three periods;
 - two geographic regions over two or three periods;
 - two geographic regions over one or two periods AND one area of critical sociolinguistics;
 - two areas of critical sociolinguistics AND one geographic region over one period.
- Passing a qualifying exam, on an approved topic. The exam includes three general approaches that focus on literature, or sociolinguistics, theory, and a cognate discipline (e.g. history, sociology, art, film, etc.).
- Successfully defending a dissertation prospectus.
- Completing and defending satisfactorily a dissertation.
- Satisfying the requirements of the Graduate School as stated in the *Bulletin*.

Philosophy

<http://www.as.miami.edu/phi>

The Department offers a program of graduate study leading to the Doctor of Philosophy (Ph.D.) degree. Students who enter without an M.A. and who fulfill the relevant requirements are awarded the M.A. degree as they work towards the Ph.D., but we have no stand-alone M.A. program. The Ph.D. program is specifically designed to prepare students for careers as professional teachers and researchers in philosophy, not only by way of coursework and research supervision, but also through professional mentoring and opportunities for philosophical development both inside and outside the classroom. Further information about the program and how to apply can be found on our web page.

Each entering student is assigned a mentor from among the faculty, and faculty members lead professional development seminars on such topics as teaching, preparing work for publication, and preparing for the job market. A dedicated placement director work with each student to maximize their success at securing good post-graduation employment.

The Department prides itself on providing an inclusive, friendly and congenial atmosphere for doing philosophy, with many opportunities for informal interaction among students and faculty including workshops, conferences, colloquia and post-colloquium dinners and the Miami Forum. (These are described in detail under "Departmental life".)

Masters

Masters Degree in Philosophy

- M.A. in Philosophy (p. 411)

Doctoral

Doctoral Program in Philosophy

- Ph.D. in Philosophy (p. 411)

M.A. in Philosophy

1. Course requirements

Satisfactory completion of a minimum of 45 course credit hours in philosophy, at least 21 of which must be at the 700 level (not including the Proseminar). Students are required to pass the following courses:

Proseminar	
PHI 701	Proseminar (First Semester)
PHI 702	Proseminar (Second Semester)
Logic Requirement	
PHI 611	Formal Logic
Ethics Requirement	
Select one of the following:	
PHI 631	Ethical Theory
PHI 634	Political Philosophy
Epistemology and Metaphysics	
Select one of the following:	
PHI 642	Epistemology
PHI 646	Evidence and Knowledge in Medicine
PHI 647	Mind and Language
PHI 648	Induction, Probability, and Scientific Method
PHI 649	Metaphysics
History	
Select one of the following:	
PHI 660	History of Logic
PHI 662	History of Ethics
PHI 670	Presocratics and Plato
PHI 672	Aristotle and Hellenistic Philosophy
PHI 673	Medieval Philosophy
PHI 674	Early Modern Philosophy
PHI 677	Kant
PHI 681	Pragmatism
PHI 683	The Phenomenological Tradition

In some cases certain course requirements may (with the approval of the director of graduate studies) be waived for students who have completed equivalent work as part of a prior M.A. degree in philosophy.

2. Qualifying examination

A comprehensive qualifying exam must be taken. Exams are given the grade of 0, 1 or 2. A grade of 1 or 2 is sufficient for the student to be awarded the MA. The student is provided with a reading list in their intended area of specialization. The student studies the material on the reading list, writes a paper of 7,000–10,000 words on a topic

central to this material, and participates in an oral defense of the paper as it relates to the reading list.

- Satisfying the requirements of the Graduate School as stated in this Bulletin.

Ph.D. in Philosophy

1. Course requirements

Satisfactory completion of a minimum of 45 course credit hours in philosophy, at least 21 of which must be at the 700 level (not including Proseminar). Students are required to pass the following courses:

Proseminar	
PHI 701	Proseminar (First Semester)
PHI 702	Proseminar (Second Semester)
Logic Requirement	
PHI 611	Formal Logic
Ethics Requirement	
Select one of the following:	
PHI 631	Ethical Theory
PHI 634	Political Philosophy
Epistemology and Metaphysics	
Select one of the following:	
PHI 642	Epistemology
PHI 646	Evidence and Knowledge in Medicine
PHI 647	Mind and Language
PHI 648	Induction, Probability, and Scientific Method
PHI 649	Metaphysics
History	
Select one of the following:	
PHI 660	History of Logic
PHI 662	History of Ethics
PHI 670	Presocratics and Plato
PHI 672	Aristotle and Hellenistic Philosophy
PHI 673	Medieval Philosophy
PHI 674	Early Modern Philosophy
PHI 677	Kant
PHI 681	Pragmatism
PHI 683	The Phenomenological Tradition

In some cases certain course requirements may (with the approval of the director of graduate studies) be waived for students who have completed equivalent work as part of a prior M.A. degree in philosophy.

Research Requirement: In addition, students are required to enroll in and complete 15 credit hours of PHI 830.

2. Qualifying examination

A comprehensive qualifying exam must be taken. Exams are given the grade of 0, 1 or 2. A grade of 0 or 1 is considered a failing grade with respect to qualifying to continue in the PhD program. A student must receive a grade of 2 in order to proceed to the dissertation stage. The student is provided with a reading list in their intended area of specialization. The student studies the material on the reading list, writes a paper of 7,000–10,000 words on a topic central

to this material, and participates in an oral defense of the paper as it relates to the reading list.

Students can apply for Ph.D. candidacy after they have completed their coursework, received a mark of high pass on the qualifying examination and had their dissertation proposal approved.

3. The language requirement

A student who submits a dissertation proposal must possess the linguistic proficiency required by the proposed dissertation topic. This is determined by the dissertation proposal committee on the basis of examinations or coursework.

4. Ph.D. dissertation

Presentation and oral defense of an acceptable dissertation.

5. The requirements of the Graduate School as stated in this Bulletin

Physics

<http://www.physics.miami.edu>

Dept. Code: PHY

Degree Programs

All graduate students in physics must plan their entire program with the advice and approval of a departmental advisor.

The program of graduate studies in physics emphasizes research work, but also includes teaching experience as an essential element. Research and thesis opportunities are at present available in the fields of astrophysics and cosmology, atmospheric and ocean optics, biological physics, complexity, condensed matter physics, elementary particle theory, plasma physics.

Doctoral

Doctoral Program in Physics

- Ph.D. in Physics (p. 412)

Ph.D. in Physics

In addition to the general requirements for graduate degrees, the Physics Department makes the following specific requirements.

1. Submission of scores on the Graduate Record Examination (Aptitude Test and Advanced Test in Physics) with the application for admission.
2. A minimum of 24 physics course credit hours at the 500-600 level are required for the PhD.
3. The following specific courses, or their equivalent, are required for the PhD degree:

PHY 640	Classical Mechanics II	3
PHY 660	Quantum Mechanics and Modern Physics I	3
PHY 661	Quantum Mechanics and Modern Physics II	3
PHY 723	Statistical Mechanics I	3
PHY 752	Electromagnetic Theory I	3
PHY 753	Electromagnetic Theory II	3
PHY 770	Quantum Theory I	3
PHY 771	Quantum Theory II	3

Select three additional physics lecture courses at the 600 or 700 level	9
Total Credit Hours	33

4. For the M.S. degree no more than 3 credit hours for reading courses may be counted, and no more than 2 credit hours of seminars. Up to 6 credit hours may be earned in thesis work for this degree.
5. The physics department offers a comprehensive graduate examination each year. A passing grade at an appropriate level is required for either the M.S. or the Ph.D. A student is required to take the exam each year and is allowed two attempts toward a passing grade.
6. Courses taken outside the department should be relevant to the students' program and approved by the graduate advisor.
7. Students are required to participate in research at the earliest opportunity. Specifically, upon passing the written graduate examination and before the end of the following semester, the student is required to select a faculty member who consents to serve as the student's Ph.D. thesis advisor. Student and thesis advisor are to form, in a timely fashion, a dissertation committee to review an oral presentation of the student's initial research activities and future plans. Should a student need to select a new thesis advisor, this selection must be made without delay, and the review process must be repeated.
8. Renewal of financial support from the department is contingent, each semester, upon satisfactory performance of teaching duties and research activities, and upon timely progress towards completion of all requirements for the Ph.D. degree.

Political Science

<http://www.as.miami.edu/mpa>

The MPA program is designed to prepare students for a career of public service. Students will be exposed to the essential components of public service professionalism—excellence in technique, ethics and leadership—to help meet the challenges in the years ahead. Our award-winning, student-oriented faculty is dedicated to helping you achieve this “professional edge” in small, stimulating seminars, convenient evening courses, super-modern facilities and we have an excellent record in placing graduates.

Masters

Masters Program in Political Science

- M.P.A. Masters in Public Administration (p. 413)
- M.P.A./M.P.H. Second Master's Degree in Public Health (p. 413)

Joint

Joint Program in Political Science

- J.D./M.P.A. Joint Degree Program (p. 412)
- MPH/MPA Joint Program (<http://www.as.miami.edu/mpa/about-the-program/dual-mpamph-program>)

J.D./M.P.A. Joint Degree Program

The joint program allows students to obtain both JD and MPA degrees in four years. The program is designed to prepare law school students for

government, political and nonprofit legal positions. The first year is spent in the Law School and years two through four are spent taking both Law and MPA courses.

To be admitted to this program, students must apply separately to both programs. Students may apply to the MPA program prior to beginning law school or anytime during the first or second year of law school. Students may begin the MPA program in the fall, spring or summer semesters. For further information contact the Department of Political Science at 305-284-2401 or the Law School at 305-284-5535.

M.P.A. Masters in Public Administration

The requirements for the Masters in Public Administration degree are:

1. 36 to 48 credit hours at the graduate level, depending on government management experience and academic preparation.
2. Completion of core and specialized track course requirements as specified by the POL Department in consultation with the student's career goals and interests.
3. An option exists for those students who wish to complete in five years their Bachelor's degree and a Master of Public Administration. Contact POL Department for details.
4. All other requirements as stated in sections Requirements for the Master of Arts Degree and General Information.

M.P.A./M.P.H. Second Master's Degree in Public Health

The Master of Public Administration/Master of Public Health combines programs from the College of Arts and Sciences and the School of Medicine and is designed for students who seek an in-depth knowledge of management and public policy administration with training in public health.

It is possible for full-time students to complete the requirements for both degrees requirements within two and one-half years.

Interested students must apply and be accepted by both Departments. For further information, contact the Department of Political Science at 305-284-2401 or the Department of Epidemiology and Public Health at 305-243-6759.

Online M.P.A

Information on the Online M.P.A. degree program and the admission requirements can be obtained at <http://info-online.miami.edu> or by calling 1 888 988-5983.

Psychology

<http://www.psy.miami.edu>

Dept. Code: PSY

Complete details about the Psychology Graduate Program, including description of our three graduate divisions (Adult, Child, and Health), faculty research interests, and admission requirements, can be found at our website listed above.

Doctoral

Doctoral Program in Psychology

- Ph.D. in Psychology (p. 413)

Ph.D. in Psychology

1. The principal goal of the graduate program in Psychology is that of preparing the student for a career contributing to the growth of scientific knowledge in psychology.
2. Applicants for admission to graduate status in psychology shall have
 - a. a minimum average of B over-all
 - b. at least 18 credit hours of psychology that must include courses in Introductory Psychology, Statistics, and Experimental Psychology or Research Methods.
 - c. Students lacking the necessary preparation must ordinarily make up deficiencies prior to admission to the Graduate School.
3. All applicants must present the Graduate Record Examination (Aptitude Tests; Advanced Test in Psychology preferred). In all cases admission to graduate degree programs in Psychology is competitive, since available resources do not permit admission of all qualified applicants.
4. The Ph.D. programs are categorized into three Divisions: > *Health Psychology* (including Health Clinical Psychology, Behavioral Medicine and Behavioral Neurosciences) *Child Psychology* (including Clinical Child Psychology, Pediatric Health Psychology Applied Developmental Psychology) *Adult Psychology* (including Adult Clinical Psychology) All Ph.D. programs in Psychology require a minimum of 72 credit hours, including thesis and dissertation credit hours.
5. PSY 680 and PSY 681 will not be counted toward the 72 credit hour minimum.
6. A Master of Science in Psychology based upon 24 credit hours of course work and 6 credit hours of Master's thesis research is required in all programs.
7. In cases in which a student has a prior graduate degree, the number of credit hours required for the Ph.D. may be reduced at the discretion of the Department.
8. All programs in Clinical Psychology require an internship.

- All students must successfully complete:

Foundation Courses		
PSY 604	Cognition and Emotion	3
PSY 605	Cognitive Neuroscience	3
PSY 614	Diversity issues in psychology	3
PSY 620	Developmental Psychology	3
PSY 625	Social Psychology	3
PSY 640	Adult Psychopathology	3
or PSY 641	Child and Adolescent Psychopathology	
Methodological Courses		
PSY 631	Psychological Statistics, Research Methods, and Design	3
PSY 632	Multiple Regression and Multivariate Statistics	3
Select one of the following:		3
PSY 633	structural equation modeling	
PSY 634	Hierarchical Linear Evaluation	

PSY 698 Seminar in Quantitative Psychology	
Total Credit Hours	27

- A minimum grade average of B is required for all students.
- All students seeking an advanced degree in Psychology must participate substantially in the teaching of course offerings in the Psychology Department as an essential part of their education.

Sociology

<http://www.as.miami.edu/sociology>

Dept. Code: SOC

Graduate Program Overview

The Graduate Program in Sociology at the University of Miami is designed to equip students with the theoretical, methodological, and analytical tools required for research and teaching. The Graduate Program in Sociology is designed for students seeking the Doctor of Philosophy (Ph.D.) in Sociology. The Master of Arts (M.A.) degree is earned during the first portion of the program. At the doctoral level, graduate students are encouraged to choose two concentrations from three substantive areas:

- Criminology,
- Race & Ethnic Relations, and
- Medical Sociology.

Although the strengths of the department lie within these major programmatic fields, students may also develop a course of study that meets unique research interests and career objectives. Assistantships and Fellowships are awarded each academic year to cover tuition and living expenses.

For more details, consult the Guide to Graduate Study in Sociology available through the Sociology Department (www.as.miami.edu/sociology/ (<http://www.as.miami.edu/sociology/>)).

Masters

Masters Program in Sociology

- M.A. in Sociology (p. 414)

Doctoral

Doctoral Program in Sociology

- Ph.D. in Sociology (p. 414)

M.A. in Sociology

A M.A. in **SOCIOLOGY** requires:

- A minimum of 31 credit hours at the graduate level 600 of which 6 must be taken in thesis work.
- A maximum of 6 credit hours can be transferred from acceptable graduate institutions.
- 3 credit hours of course work may be earned in a related discipline. Such course selections must have prior departmental approval.
- Submission and successful defense of a thesis in accordance with current Graduate School policy.

- The completion of all other requirements stated in sections of the Bulletin that specify Requirements for the Master's Degree and General Information.
- For more details, consult the Guide to Graduate Study in Sociology available through the Sociology Department www.as.miami.edu/sociology/ (<http://www.as.miami.edu/sociology/>)
- Course work must include:

SOC 601	Classical Sociological Theory	3
SOC 604	Proseminar in Sociology	1
SOC 609	SOCIAL STATISTICS	3
SOC 610	Advanced Research Methods	3
or SOC 613	Qualitative Research Methods	
SOC 611	Advanced Sociological Statistical Analysis I	3
Select one of the following:		
SOC 615	Class Structure and Social Stratification	3
or SOC 616	Social Psychology: Sociological Perspectives	
Three additional courses ¹		9
SOC 810	Master's Thesis	6
Total Credit Hours		31

¹ These electives should include anticipated Ph.D. courses.

Ph.D. in Sociology

A Ph.D. in **SOCIOLOGY** requires:

- An M.A. or M.S. degree is required.
- A minimum of 42 credit hours beyond the M.A. or M.S. degree
- Passing two written substantive area examinations.
- The completion of a publishable-quality paper.
- Admission to candidacy.
- Written presentation and oral defense of an acceptable dissertation.
- The satisfactory completion of the requirements of the Graduate School as stated in this Bulletin.

For more details, consult the Guide to Graduate Study in Sociology available through the Sociology Department www.as.miami.edu/sociology/ (<http://www.as.miami.edu/sociology/>)

Course requirements for students **WITH** a M.A. in Sociology from UM:

SOC 602	Contemporary Sociological Theory	3
SOC 612	Sociological Statistics II	3
SOC 610	Advanced Research Methods ^{or}	3
SOC 613	Qualitative Research Methods ¹	
SOC 615	Class Structure and Social Stratification ^{or}	3
SOC 616	Social Psychology: Sociological Perspectives ¹	
SOC 622	Teaching Seminar in Sociology	3
Three courses toward a substantive area of concentration.		9
Three courses toward a second substantive area of concentration		9
Dissertation Work:		12
SOC 830	Pre-Candidacy Doctoral Dissertation ²	

SOC 840 Post-Candidacy Doctoral Dissertation	
Total Credit Hours	45

- ¹ The course taken for the Ph.D. must be different from the course taken for the M.A. degree.
- ² A maximum of 6 Pre-Candidacy Doctoral Dissertation credit hours may be taken.
- ³ In reference of the 45 total credits hours, it is anticipated that three credit hours will have been taken as electives at the M.A. level.
- ⁴ Students with an **MA** or **MS** from another institution are required to complete additional core courses as part of their program.

Business

<http://www.bus.miami.edu>

Departments

- Accounting
- Business Law
- Business Technology
- Economics
- Finance
- Health Sector Management and Policy
- Management
- Management Science
- Marketing

Research Institutes

Institute for the Study of Quality in Manufacturing and Service

The University of Miami Institute for the Study of Quality in Manufacturing and Service (UMISQ) exists to advance the theory and practice of Quality Science. Its mission is to promote the improvement and innovation of quality on local, national, and international levels through the acquisition, dissemination, and application of knowledge in the areas of science, technology, and management as related to Quality Science in general, and Lean Six Sigma Management specifically.

Objectives

1. To conduct research in Quality Science and to publish its results through appropriate professional and academic outlets.
2. To educate and train management, labor, UM students, and others in the theories and practices of Quality Science in general, and Lean Six Sigma Management specifically.
3. To create internships for M.B.A. students in which they can solve real world problems using Quality Science theory and practice in general, and Lean Six Sigma management theory and practice in particular.
4. To provide a vehicle for Lean Six Sigma certifications.

The Institute pursues its objectives through involvement of faculty, students, and client organizations in all sectors of the economy.

Intelligent Computer Systems Research Institute

The Intelligent Computer Systems Research Institute is a center for research and information dissemination within the field of information business technology. The institute focuses on multi-disciplinary topics such as Big Data, Analytics, Cloud Computing, Artificial Intelligence, Machine Learning, Agent technology, 'The Internet of Things', Health and Legal Informatics, Business Intelligence, and embedded systems.

Objectives

1. To encourage partnerships between academia and industry. Corporate partners can provide data, field studies, test environments, and other resources through which leading theoretical work can be developed tested in an applied environment.
2. To conduct research for publication in leading academic and industry related journals, as well as working papers.
3. To encourage industry partners to work with students through the creation of internship positions. These internships provide students

the opportunity to act as a link between the teaching and research of the institute's members and the field based applied environment.

The Graduate Business Student Association

The Graduate Business Student Association (GBSA) is a professional and social student-run organization. All graduate business students become members once enrolled in a business master's program and are encouraged to attend meetings and events. The GBSA organizes activities and events aimed at strengthening networking within the graduate business student body and the business community and enriching the academic and social experience of its members. The GBSA is governed by a committee that consists of a president, vice president, speaker of senate, treasurer/executive secretary, director of community service, social director, and director of athletics.

Financial Assistance

Graduate Business Scholarships and Fellowships

There are a limited number of merit-based graduate business scholarships which are awarded at the time of admission to qualified full-time MBA students entering in the fall semester only. A graduate business scholarship covers a portion of tuition for the MBA degree. Graduate business scholarships are not automatically renewed.

In addition to graduate business scholarships, there are a limited number of Emery Means Findley, Jr. Fellowships and scholarships which are awarded by Graduate Business Programs to applicants with outstanding academic credentials. Any applicant who wishes to be considered for a graduate business scholarship or a fellowship, must indicate this in the space provided on the application. Awards are available to both domestic and international students.

There may be a limited number of merit/need-based scholarships which are awarded following admission to Professional and Executive programs. Details on how to apply for these scholarships are provided at the time of admission.

Donor Scholarships

Several endowed scholarships are made available to incoming graduate business students through the generosity of alumni and friends of the University of Miami School of Business Administration. These donor scholarships are for the purpose of recruiting students of high academic merit. The total number and amount of scholarship awards vary from year to year.

Scholarships will be awarded based on the recommendations of the Faculty Admissions Committee on a first come, first served basis. Since the number of scholarships is limited, students who meet the minimum criteria are not guaranteed a donor scholarship award.

We regret that a student may be ineligible for financial awards if he/she receives tuition benefits from the University of Miami or accepts any assistantship, scholarship, grant or fellowship from the University of Miami, in addition to our offer. This includes employees, their spouses, and dependents.

BANK OF AMERICA - ENDOWED BUSINESS SCHOLARSHIPS¹

Criteria: A graduate business school student based on a combination of scholarship and financial need, who will preferably specialize in Finance, Accounting, or Management.

JACK R. BORSTING - GRADUATE SCHOLARSHIP ENDOWMENT
Criteria: Outstanding candidate for a master's level business degree.

RYDER/PATRICK J. CESARANO – ENDOWED SCHOLARSHIP¹
Criteria: MBA student with a concentration in finance or management science/operations research. Based on academic excellence and financial need.

PAT & LON WORTH CROW - SCHOLARSHIP ENDOWMENT¹
Criteria: Graduate business student specializing in Finance, who possesses several years of work experience, preferably with an expressed interest in a career in banking or a banking-related field. U.S. citizen, preferably resident in South Florida community.

EMERY MEANS FINDLEY, JR. – ENDOWED GRADUATE FELLOWSHIPS IN BUSINESS
Criteria: Outstanding candidates for Graduate Business Programs.

DEAN M. FOGEL BUSINESS ENDOWED SCHOLARSHIP
Criteria: Graduate business student with financial need and priority is for a United States veteran.

ALBERT AND ESTHER GREEN ENDOWED SCHOLARSHIP
Criteria: Graduate business student with a health challenge, or student studying or working in Health Administration.

ALLAN M. HERBERT & PATRICIA M. HERBERT – ENDOWED GRADUATE BUSINESS SCHOLARSHIP¹
Criteria: Outstanding graduate business student, well-rounded, willing to finance his/her own education, and who appreciates the value of work and strives to combine study, work and extra-curricular activities.

JAMES W. McLAMORE – GRADUATE BUSINESS FELLOWSHIPS
Criteria: To recruit and retain outstanding graduate business students.

E. BRUCE MCLAUGHLIN & CYNTHIA M. SWOL - ENDOWED SCHOLARSHIP IN MARKETING¹
Criteria: Graduate business student with concentration in Marketing, who has significant work experience prior to entering the MBA program. U. S. citizen, with preference given to female students with unmet financial need.

MERRILL LYNCH & CO. FOUNDATION, INC. – FELLOWSHIPS IN INTERNATIONAL FINANCE
Criteria: Graduate business student preparing for a career in International Finance.

SOUTHEAST BANKING CORPORATION FOUNDATION – ENDOWED SCHOLARSHIPS¹
Criteria: Graduate student in the MBA program who is a Florida resident. Based on academic excellence and financial need.

SOUVIRON FAMILY SCHOLARSHIP - Annual MBA Scholarship
Criteria: The annual scholarship is for a MBA student with financial need with a preference for an Eagle Scout, if someone meets that criteria. If not, a qualified MBA student with need.

¹ Essay Required: In 300 words or less, please explain why you need financial assistance to complete your MBA degree. The essay must be included with your application.

Various other donor scholarships are available based upon need, merit, or other specified criteria.

Ziff Graduate Career Services Center

The Ziff Graduate Career Services Center's mission is to provide top quality resources and career guidance to School of Business graduate students and build strong partner relationships with the corporate community.

The Ziff Career Services Team is committed to providing each student with a personalized program and the resources and skills needed to be competitive in the marketplace.

The Ziff Career Services Team is the student's frontline resource to securing employment upon graduation. Students who engage with the Ziff Graduate Career Services Center will utilize the staff to assist them in developing an effective career strategy and personal branding effort that will prepare them for a successful job search at all levels of their career. The personal branding effort will equip the student with a strategic resume, improve their interview skills, generate contacts, develop networking opportunities, and prepare them for a successful career transition.

The Ziff Graduate Career Services Center is located in the School of Business complex on the first floor of the Jenkins Building.

A. Online Resources

The center's online portal where students find access to many of Ziff's career resources, access to all current job postings and upcoming events. Documents such as résumés and cover letters will be held in the student's site. Links on the portal include, among others:

1. **CareerLeader** – An assessment tool specifically developed for MBA students that provide expert analysis of a student's unique pattern of business relevant interests, values and abilities.
2. **Vault's Career Insider**- Provides inside information and advice on industries, companies, the job search and industry interview prep.
3. **GoingGlobal**- The leading provider of both country-specific and USA city-specific career and employment information. Features 30 Country Career Guides, 41 USA City Career guides, corporate profiles and more than 500,000 internship and job listings within the USA and around the world.

B. Registration

1. Graduate business students that are seeking employment post-graduation are required to register with the Ziff Graduate Career Center to commence their Career Management Plan
2. The registration process begins with the Pre-MBA OnBoarding Program. Students are required to complete key assignments prior to Orientation to have full access to the Ziff Career Center resources.

C. On Campus Interviews/Corporate Recruiting

1. The recruiting program begins in the fall semester from mid-September through mid-December and continues from mid-January through May
2. Ziff Graduate Center has established recruiting relationships with many local and national companies to increase exposure

for University of Miami School of Business Administration MBA graduates.

- MBA students must utilize the Ziff Graduate Services Center's Internet Employment system, www.ziffcareercenter.com, to sign up for on-campus interviews, monitor corporate presentation schedules, upload résumés and cover letters, and stay abreast of job opportunities offered by companies that are recruiting on campus.
- The Ziff Graduate Career Center regularly receives the career opportunities that are made available through www.ziffcareercenter.com (<https://sba-miami-csm.symplicity.com/students>) to students and alumni alike so they can review career opportunities listed with the center.

D. Internships

- The School of Business Administration encourages students to augment their classroom experience through participation in a summer internship. Internships in the Fall and Spring semesters are also encouraged if the student can accommodate one in their schedule.
- The internship is a key positioning element for the post MBA-career. The internship search should be the student's main focus from the start of the first of the year.

E. Networking Contacts

- Cane Connections is an online University of Miami database that allows students to access alumni throughout the United States about their work experiences and gather other career related information. The database is a valuable network of contacts in a variety of fields. It is accessible through www.miamialumni.net.
- Students are invited to join the School of Business MBA groups on LinkedIn and Facebook, an easy way to reach out to more contacts and build their network.

F. Student Responsibility

- Ultimately, success in securing a job is defined by the student. Together with the Ziff Graduate Career Center as a partner, the student can create a successful personal branding effort that will connect him/her to a network of contacts and networking opportunities leading to interviews and job offers.
- Students are to register online with the Ziff Graduate Career Center during the Pre-MBA OnBoarding cycle. Students need to complete all pre-MBA assignments prior to Orientation in order to utilize the Ziff Center Services. Students who do not complete the Pre-MBA assignments will be opted out of the Center's resources.
- Students are to meet with a career advisor in Term One to discuss their career goals and develop a personalized career action plan/personal branding effort that will lay out the strategy and timing sequence of their goals. The career action plan and strategy will be built through numerous advising appointments and workshop events.
- Students must regularly update and revisit their résumés in an ongoing résumé review process. A new résumé must be uploaded after a summer internship is completed.
- Students will participate in mock interviews and follow through with the suggestions for improvement.
- Students are expected to visit the Ziff Graduate Career Center regularly and access www.ziffcareercenter.com to identify and attend

on-campus recruiting activities, corporate presentations, relevant workshops and MBA club sponsored events.

- Students MUST complete the exit survey and report their employment information as soon as they secure a job or internship.

The Mentor Program

- The School of Business Mentor Program is designed to enhance the classroom experience by matching students with local professionals who have experience and expertise in the students' area of career interest, or are versed in areas of professional development.
- Through personal interaction with experienced business professionals, students gain an understanding of corporate culture, career directions, and networking. Students also have the opportunity to interact with other mentors by attending regularly scheduled roundtables, hosted by the School.
- Graduate business students are encouraged to participate.
- Applications are available on our website (<http://www.bus.miami.edu/alumni/get-involved/mentor-program>).

Doctoral

Doctoral Programs in Business

- Doctorate of Philosophy in Business (p. 419)
- Doctorate of Philosophy in Economics (p. 420)

Masters

Master of Business Administration

- Full Time MBA (p. 421)
- One Year MBA (p. 422)
- Accelerated MBA in Real Estate (p. 421)
- JD/MBA (p. 422)
- MD/MBA (p. 422)
- JD/LLM/MBA (p. 422)
- BArch/MBA (p. 421)

Executive and Professional

- Professional MBA (p. 423)
- Global Executive MBA (in Spanish) (p. 423)
- The Miami Executive MBA for the Americas (hybrid) (p. 424)
- Executive MBA in Health Sector Management and Policy (p. 423)
- The Miami Executive MBA for Artists and Athletes (hybrid) (p. 423)

Specialized Masters Degrees

- Master of Arts in Economics (p. 429)
- Master of Accounting (p. 424)
- Master of Professional Accounting (online) (p. 429)
- Master of Science in Business Analytics (p. 429)
- Master of Science in Finance (p. 429)
- Master of Science in Finance (online) (p. 430)
- Master of International Business (p. 424)
- Master of Science in Management Studies (p. 430)
- Master of Science in Taxation (p. 430)

Non-Degree

- Certificate Programs:
 - Certificate in Business Administration (p. 434)
 - Certificate in Corporate Finance (online) (p. 434)
 - Certificate in Financial Decision Making Program (online) (p. 435)
 - Certificate in Accounting Practice (online) (p. 434)
- Executive Education Programs (p. 435)

Doctoral

Doctoral

The doctoral program at the University of Miami School of Business Administration links world-class faculty with accomplished PhD candidates to prepare them for careers in academic research and teaching. The PhD in Business and PhD of Philosophy in Economics programs, combine interdisciplinary study and research with one-on-one mentoring from faculty experts in your area of interest.

Doctorate of Philosophy in Business

Doctor of Philosophy in Business

The PhD in Business program combines interdisciplinary study and research. It is designed to prepare students for careers in academic research and teaching. Students follow specialized programs of study under the guidance of faculty experts. In addition, they have the opportunity to participate in cross-disciplinary training. The curriculum will also equip students with the skills and experience necessary for academic placement in the world's top research universities.

A minimum of 60 credit hours are required to earn the PhD in Business degree. The program requires year-round, full-time study in order to maximize interaction between faculty and students. Students are expected to interact and begin research projects with the faculty upon entering the program.

The requirements for the PhD in Business degree are the same as those listed in the general section (p. 374).

Students may choose to concentrate their study in:

- **Accounting**
- **Finance**
- **Management Science**
- **Marketing**
- **Operations Management**
- **Organizational Behavior**
- **Strategy/International Business**

Required "Prerequisite" Courses

(These must be completed prior to admission or in the summer prior to commencing doctoral studies.)

- one year of college
- one course in linear algebra
- one introductory statistics course

Required "Core" Courses

(These courses can be waived by consent of the appropriate department; waiver is granted by issuing transfer credit hours for similar courses taken at the advanced graduate level at accredited institutions.)

There are two streams of "core" courses for students, each comprising of five courses.

Stream I

(Accounting, Finance, Management Science, Marketing-Quantitative, and Operations Management)

ECO 533	Advanced Microeconomic Theory	3
ECO 521	Graduate Macroeconomic Theory	3
ECO 520	Econometrics	3
ECO 620	Advanced Econometrics	3
ECO 512	Mathematical Economics (II)	3
Total Credit Hours		15

Stream II

(Marketing-Consumer Behavior, Organizational Behavior, Strategy/International Business)

PSY 631	Psychological Statistics, Research Methods, and Design	3
PSY 632	Multiple Regression and Multivariate Statistics	3
SOC 610	Advanced Research Methods	3
PSY 625	Social Psychology	3
SOC 616	Social Psychology: Sociological Perspectives	3
or ECO 533	Advanced Microeconomic Theory	
Total Credit Hours		15

Area of Concentration Courses

(These are to be decided by the student and faculty.)

In total, a minimum of 33 credit hours in concentration courses are to be taken, up to 15 of which may be satisfied by transfer-credit hours. Some Departments may require students to complete a minor field. If so, their major field must consist of a minimum of 24 credit hours (with at least 15 credit hours completed in doctoral program residence at the University of Miami). The minor field would then consist of 9-12 credit hours in an area outside of the major concentration (with a minimum of 9 credit hours taken in doctoral program residency at the University of Miami).

Dissertation Research

12 credit hours are to be taken at a minimum—two semesters of 6-9 credit hours each. No transfer credit is given for dissertation or prior research.

Total Credit Hour Requirements

In total, a minimum of 60 credit hours are required for receiving the Ph.D. degree in Business:

"Core" courses	15
"Concentration" courses	33
Dissertation research	12
Total Credit Hours	60

To this total must be added any prerequisite courses (as outlined above), with transfer- credit hours being subtracted.

Admissions Requirements

- Application Form
- Application Fee of \$65.00
- GPA of B+ or better in undergraduate and graduate (if any) coursework
- Official Transcripts, Copies of Diplomas and/or Certificates
- Strong quantitative skills, as demonstrated through GMAT/GRE scores and prior coursework
- Potential to conduct and publish high-quality original research
- Official TOEFL Score Report (international students only)
- Three Letters of Recommendation
- Statement of Purpose
- Resume

A master’s degree is not required; but an undergraduate degree (in any discipline) is required.

A stipend and tuition-waiver package will be available to qualified PhD applicants.

Doctorate of Philosophy in Economics

Doctorate of Philosophy in Economics

The Ph.D. program in Economics prepares the recipient for a variety of research-oriented career opportunities, including university research/teaching, government employment, and a host of employment opportunities in the private sector.

All Ph.D. students are required to complete 60 credit hours.

2 courses in one Major field	6
A field is comprised of either two related courses in one of the Major economic disciplines, e.g. international trade, or two courses in related disciplines, e.g. health economics and labor economics.	
1 course in a Minor field	3
1 Field/Elective course	3
Dissertation	12
Total Credit Hours	60

Applicants for admission to graduate study in Economics should have an extensive background in Economic Theory and Quantitative methods.

All Doctor of Philosophy students must take:

Core Courses		
ECO 512	Mathematical Economics (II)	3
ECO 521	Graduate Macroeconomic Theory	3
ECO 533	Advanced Microeconomic Theory	3
ECO 520	Econometrics	3
ECO 620	Advanced Econometrics	3
ECO 625	Applied Econometrics	3
MTH 533	Introduction to Real Analysis I	3
ECO 633	Advanced Micro Analysis	3
ECO 634	Advanced Micro Analysis II	3
ECO 621	Advanced Macro Analysis	3
ECO 603	Monetary Theory and Policy	3
Fields of Specialization		
Select two of the following Areas of Concentration:		6
Macroeconomics:		
ECO 603	Monetary Theory and Policy	
ECO 604	Topics in Applied Macroeconomics	
Financial Economics:		
ECO 604	Topics in Applied Macroeconomics	
ECO 625	Applied Econometrics	
Human Resource Economics:		
ECO 511	Labor Economics (II)	
ECO 611	Labor Economics (III)	
Environmental Economics:		
ECO 625	Applied Econometrics	
ECO 645	Regulations Economics	
Cognate Areas with Departmental Approval		
Electives		
Select one Elective from the graduate offerings of the Mathematics, Computer Information Systems, Management Science, and Finance departments		
Additional Requirements		
Comprehensive Examinations covering the core and the one field of specialization		
Doctoral Dissertation		12
Total Credit Hours		51

To be considered for admission, all applicants must:

1. score a minimum of 158 on the quantitative section of the Graduate Record Examination,
2. hold a baccalaureate degree from an institution of recognized standing,
3. have a GPA of B or better in undergraduate or graduate (if any) coursework,
4. submit two copies of all official undergraduate and graduate (if any) transcripts,
5. have demonstrated, by their undergraduate record, capability of completing a Ph.D. program,
6. In addition, foreign students are required to score a minimum of 94 on the internet based Test of English as a Foreign Language (TOEFL).

Required Admissions Materials

- Application Form
- Application Fee of \$65.00
- Official Transcripts, Copies of Diplomas and/or Certificates
- Official GRE scores report
- Official TOEFL Score Report (International Students only)
- Three Letters of Recommendation
- Statement of Purpose
- Resume/CV (optional)

A master's degree is not required for admissions.

Assistantships are available to qualified PhD applicants. The minimum additional requirements for consideration for an assistantship are a minimum of 150 on the verbal section and 158 on the quantitative section of the GRE and the equivalent of a cumulative "B+" GPA. The program only rarely admits students without an assistantship.

Master of Business Administration (MBA)

Full-Time MBA Programs

The University of Miami delivers full-time MBA programs that are innovative, flexible and career focused. They are designed for those who either have an undergraduate background in business, or are from other industry areas interested in a career in business. The curriculum not only prepares students for leadership in business, it adds a valuable dimension to other professions. Students become better negotiators, strategic thinkers, and more effective team players in a variety of business related situations. Programs include:

- Full-Time Two-Year MBA
- Accelerated One-Year MBA
- Accelerated MBA in Real Estate
- JD/MBA (Joint Degree)
- MD/MBA (Joint Degree)
- JD/LLM/MBA
- BArch/MBA (Joint Degree)

Accelerated MBA in Real Estate

Accelerated MBA in Real Estate

The University of Miami, School of Business Administration offers an accelerated MBA program with a concentration in real estate highlighted by two internship opportunities. Bringing together the School's strengths in management education with the strengths of the UM School of Architecture in new urbanism, the program prepares students to succeed in commercial real estate market careers. This program is designed to meet the needs of the student with an undergraduate degree in business. Applicants must demonstrate successful completion of the core business courses: Financial and Managerial Accounting, Microeconomics, Macroeconomics, Statistics, Calculus, Organizational Behavior, Operations Management, Marketing, and Finance.

To obtain detailed program curricula please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (http://bus.miami.edu/graduate-programs/full-time-mba/real-estate/index.html?utm_source=undefined&utm_medium=undefined&utm_campaign=undefined&utm_te)

BArch/MBA

The Bachelor of Architecture/Master of Business Administration is an exciting joint venture with the University's School of Business Administration, which will allow students to earn a Bachelor of Architecture as well as a Master of Business Administration. The joint degree offers students the unique opportunity to complete the two degrees in six years, saving an entire year by combining the programs.

Students will begin taking Saturday graduate level business courses during the fourth year of their architecture program. Both degrees are fully accredited by their respective accrediting bodies — the NCARB and AACSB International.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://arc.miami.edu/programs/barch-mba>).

Full Time MBA

Full-Time 2-Year MBA Program

The full-time two-year MBA Program is innovative and career focused. It is designed to meet the needs of undergraduate students who have studied in any discipline. In addition to preparing business leaders of the future, the curriculum adds a valuable dimension to those seeking to build their business acumen for a wide variety of future career opportunities.

UM's full-time MBA program is a 56 credit hour, lock-step program that is completed in less than two calendar years. Students typically enroll in elective courses during the second year of the program. Students may be able to complete a concentration based on completion of appropriate electives. In addition, students may enroll in a foreign language class, with no additional charge.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting

the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/full-time-mba/two-year-mba>).

JD/LLM/MBA

JD/LLM/MBA

Triple Degree Program: A Specialized Option for Business Majors

The University of Miami School of Law and the School of Business have created a triple degree program - a JD, an LLM in Tax or Real Property Development, and an MBA- which can be completed in just four years and two summers.

This program offers a combination of legal and business degrees to students who were undergraduate business majors. These credentials are ideal for anyone with a long-term goal of servicing top corporate clients or becoming a senior executive at a bank, real estate company, or financial institution. They also serve as significant assets in today's competitive marketplace to any attorney starting out in tax or real estate law.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/full-time-mba/jd-llm-mba>).

JD/MBA

Juris Doctor /Master of Business Administration

The University of Miami School of Law and the School of Business Administration offer a joint degree program in law and business. Upon completion of this program, a student earns the Juris Doctor degree from the School of Law and a Master of Business Administration degree from the School of Business Administration.

For students interested in this powerful, dual degree, Miami offers both a top Law School and an excellent Business School. In fact, UM's School of Business Administration not only has the world's foremost international business scholar according International Business Review, but the study also ranks the School of Business No. 20 in the world for international research, ahead of such elite institutions as Harvard University and the London Business School.

Students who apply for the joint J.D./M.B.A. program must apply to both the School of Law and the School of Business Administration. The applicant must achieve a qualifying score on the Law School Admissions Test (LSAT) and the Graduate Management Admissions Test (GMAT) for admission to the respective schools. The applicant must notify both schools that he or she is applying for the joint J.D./M.B.A. program, and in order to remain in the joint program, the student must meet minimum standards of both the School of Law and the School of Business Administration.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/>

[graduate-programs/full-time-mba/jd-mba/index.html?](http://bus.miami.edu/graduate-programs/full-time-mba/jd-mba/index.html?utm_source=undefined&utm_medium=undefined&utm_campaign=undefined&utm_te)

[utm_source=undefined&utm_medium=undefined&utm_campaign=undefined&utm_te](http://bus.miami.edu/graduate-programs/full-time-mba/jd-mba/index.html?utm_source=undefined&utm_medium=undefined&utm_campaign=undefined&utm_te)

MD/MBA

MD/MBA

The University of Miami School of Business offers a joint MD/MBA degree program in partnership with the University's Miller School of Medicine (<http://www.med.miami.edu>). The business curriculum prepares future physicians for the business complexities related to running a private medical practice or heading a group practice, and prepares medical students for careers in health sector management, leadership and policy.

The MD/MBA program adds an additional year to the four-year medical school curriculum. The MBA coursework ranges from financial reporting and corporate strategy to the legal aspects of health administration.

MD/MBA candidates have the option of choosing a Research Track (project based which provides practical hands on experience) or an Elective Track (provides business electives). Please refer to the curriculum for details.

MD students are eligible to apply to the MD/MBA program during their 3rd year of Medical School and will be required to submit a Full-Time MBA online application and the GMAT (www.mba.com (<http://www.mba.com>)) to be considered for the program.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/full-time-mba/md-mba>).

One Year MBA

Full-Time Accelerated 1-Year MBA Program

Applicants must demonstrate successful completion of the core business courses: Financial and Managerial Accounting, Microeconomics, Macroeconomics, Statistics, Calculus, Organizational Behavior, Operations Management, Marketing, and Finance. The curriculum prepares business leaders of the future, adding a valuable dimension to their education. Students beginning the program in January obtain a cross-functional MBA in lieu of a concentration.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/full-time-mba/one-year-mba>).

Executive and Professional MBA

Executive MBA and Professional MBA Programs

The University of Miami offers Executive and Professional MBA programs that are designed for accomplished professionals who are ready to take their career to the next level without interrupting their career. Participants gain insight and understanding into the business environment by gaining a more global outlook and are better equipped to meet the challenges of today's business world. They become better negotiators, strategic

thinkers, and more effective team players in a variety of business related situations. Programs include:

- Professional MBA
- Executive MBA in Health Sector Management and Policy
- Global Executive MBA in Spanish
- The Miami Executive MBA for the Americas
- The Miami Executive MBA for Artists and Athletes

Executive MBA in Health Sector Management and Policy

Executive MBA in Health Sector Management and Policy

The University of Miami Executive MBA in Health Sector Management and Policy Program prepares graduates for positions of leadership in health care and health-related organizations. The program focuses on the post-graduate educational needs of professionals already fully employed in the health care industry, as well as those aspiring to careers in the field. Combining its strengths in graduate business education and its close relationships with the South Florida health care community, the program teaches practical administrative skills as well as broad strategic and theoretical perspectives to students who wish to expand their knowledge of management and administration as applied to the health care industry.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://www.bus.miami.edu/graduate-programs/executive-mba/health-management>).

Global Executive MBA (in Spanish)

Global Executive MBA

The University of Miami's Global Executive MBA program is designed for highly experienced Spanish-speaking executives, entrepreneurs and other professionals in Latin America. The Global Executive MBA in Spanish enables participants to broaden their business knowledge, improve their management skills and strategic decision-making abilities, and expand their professional network through close interaction with a select group of business leaders from across Latin America. The UM Global Executive MBA is taught in seven, two-week sessions offering a total of 15 courses of which 13 take place on campus in Coral Gables and two abroad during a Residential Session Abroad. The courses are given in sequence; the same group of students advances together throughout the entire program. A two-week residential session abroad provides MBA students with the opportunity to gain international business perspectives, first-hand. As part of this program, students may receive lectures on pressing international business matters, meet prominent local business leaders, tour companies and manufacturing operations, and immerse themselves in a country's cultural, social, and business environment. All classes are taught entirely in Spanish, with some reading materials in English, so reading-level knowledge of English is required.

To obtain detailed program admission curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our

website (<http://www.bus.miami.edu/graduate-programs/executive-mba/global-emba>).

Professional MBA

Professional MBA

The University of Miami's Professional MBA Program is designed for professionals with three to seven years of work experience who aspire to pursue a career in business or would like to strengthen their knowledge and skills in the fundamental disciplines of business to make them successful in today's competitive environment. An international perspective is integrated into a comprehensive business curriculum exposing students to global strategic thinking and analysis. The Professional MBA Program provides professionals the opportunity to earn an MBA by attending class on Monday evenings and Saturday mornings.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bulletin.miami.edu/graduate-academic-programs/business/executive-professional-mba/professional-mba/%20http://www.bus.miami.edu/graduate-programs/professional-mba>).

The Miami Executive MBA for Artists and Athletes (hybrid)

The Miami Executive MBA for Artists and Athletes (hybrid)

The Miami Executive MBA for Artists and Athletes is an accredited track of our existing Executive MBA program which combines classroom courses and online distance learning to allow both active and retired NFL players, as well as other athletes and artists the ability to take courses while tending to their regular daily activities or business commitments. This is a very important population, many of whom are already executives familiar with branding, marketing, media and public relations. The participants in this Program would have demonstrated working in collaborative environments. They also possess a highly disciplined work ethic and perseverance to succeed. The EMBA for Artists and Athletes track builds on these daily features of life and provides a framework for participants to capitalize on their experiences and become successful managers and business leaders during and/or after their professional sports and entertainment days. These individuals have to learn to transition their playing skills into practical leadership and business skills. This EMBA track provides participants with the industry exposure and extensive network base, both key for elevating their careers and leveraging their personal brands. Similar to our other EMBA tracks, the EMBA for Artists & Athletes is lock-step in nature. Participants progress together through a sequential pattern of courses. They will obtain their MBA from UM after a successful completion of 42 credits over an 18 month period. The course curriculum is adapted from the EMBA and Professional MBA programs with some adaptations. The program structure is similar to our Global MBA Program. The EMBA track consists of 6 residencies in an 18 month period (33 credits) and the online distance learning module (9 credits) during the NFL season, for a total of 42 credits.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://www.bus.miami.edu/graduate-programs/executive-mba/emba-artists-athletes>).

The Miami Executive MBA for the Americas (hybrid)

The Miami Executive MBA for the Americas

The Miami Executive MBA for the Americas program is aimed at senior executives, primarily from Florida and Latin America, who want to further their business acumen and enhance their understanding of conducting business in the Americas. The format flexibility and length of the program will permit students to earn their MBA. The 17-month program blends face-to-face on-campus modules, which include executive presentations, case studies and group projects, with distance learning. It covers four focus areas (Global Strategy and Execution; Managing Global Operations and Decision Making; Global Multi-Cultural Leadership; and Entrepreneurship, Innovation and Technology) through eleven courses or modules, as well as an Integrated Project carried out in nine on-campus residencies and eight Inter-Residencies (distance-learning). Like our other EMBA programs, the EMBA for the Americas is lock-step in nature. Students will progress together through a sequential pattern of courses. The students will obtain their MBA after the successful completion of 45 credit hours over an 17 month period.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://www.bus.miami.edu/graduate-programs/executive-mba/emba-americas>).

Specialized Master Degrees

Specialized Master Degrees

The School of Business offers a premier catalog of master's degree programs geared toward specific career paths. Each of these full-time programs can be completed in less than one year. Students will focus on in-depth business analysis, delve into research in economics, as well as enhance their proficiency in topics like accounting, finance, and organizational leadership. A new skill-set in a specialized area will make students more valuable to their organizations and more competitive in the marketplace.

- Master of Accounting
- Master of Accounting - Accelerated
- Master of Science in Business Analytics
- Master of Arts in Economics
- Master of Science in Finance
- Master in International Business Studies
- Master of Science in Management Studies
- Master of Science in Taxation

Master in International Business

Master in International Business Studies

The University of Miami Master in International Business Studies program includes experiential learning components with a classroom curriculum focused on international business models, which expose students to the region's rich multicultural business community. The program is further distinguished by its focus on developing regional competency in each student's area of interest and the opportunity for students to participate in experiential learning activities in Miami and other locations worldwide.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/international>).

Master of Accounting

MASTER OF ACCOUNTING (MAcc) and MASTER OF SCIENCE IN TAXATION (MST)

While the programs are similar in that they offer an opportunity to concentrate in accounting, the Master of Accounting (MAcc) and the Master of Science in Taxation (MST) differ in degree of specialization and career path orientation. The MAcc offers two separate tracks in assurance and corporate accounting while the MST is designed for students interested in careers in taxation. In addition to the traditional one year of full-time study beyond the Bachelor's level, the MAcc and the MST programs are offered as accelerated programs for University of Miami undergraduates.

For admission to either the MAcc or MST, based on an undergraduate degree from an accredited U.S. institution, we consider the applicant's undergraduate grade point average, GMAT score, grades in specific accounting courses, the rigor of the undergraduate program, and other factors such as work experience. Admission decisions are made on a competitive basis from the applicant pool. Undergraduate students from the University of Miami that have a grade point average of 3.4 or higher do not have to take the GMAT exam. In addition individuals who have demonstrated their ability to do graduate work in accounting by becoming a CPA or who have earned a graduate degree from a business school accredited by the AACSB are also waved from the requirement to take the GMAT exam.

Students without an undergraduate degree in accounting will be required to take certain prerequisite courses to secure admission. These prerequisites will depend upon the undergraduate major and previous accounting courses taken. Necessary prerequisite accounting courses can be taken in the University of Miami's Accounting Summer Intensive Program, which is a seven-week program beginning in early July.

Foreign students must provide evidence of proficiency in English by supplying a TOEFL score. Additionally, foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting systems and one semester of tax at a U.S. university accredited by the AACSB before enrolling in graduate accounting

courses. Alternatively, foreign students may attend the University of Miami's Accounting Summer Intensive Program to fulfill this requirement.

SCHOLARSHIPS

University of Miami School of Business - Alumni Association Endowed Accounting Scholarships are available for students pursuing Graduate Studies in Accounting. Various other scholarships and assistantships may be available.

MASTER OF ACCOUNTING (MACC)

The MAcc program offers two tracks: Assurance (MAcc-Assurance) for students planning to go into public accounting and Corporate Accounting (MAcc-Corporate) for students planning careers as controllers, CFOs or financial analysts. The MAcc is designed for the student who has taken the accounting and related courses required for an undergraduate major in accounting or other undergraduate business majors who have successfully completed the Accounting Summer Intensive Program. These students should be able to complete the MAcc in a year or less provided they enroll as full time students.

Undergraduate Course Requirements

The courses listed below are undergraduate prerequisites that, unless already completed, must be fulfilled in order to be admitted for graduate study. For most graduate tax classes including ACC 648: Financial Reporting Implications of Income Taxes, the equivalent of ACC 404: Advanced Taxation (Corporate and Partnership Income Taxation) is also required. Students can satisfy this prerequisite by taking ACC 639: Income Taxation and Business Entities which is offered in a 9-day intersession format in August before the start of the fall semester. If a candidate does not have an undergraduate business degree, additional business prerequisites (economics, marketing, management, finance and others) will also be required.

ACC 211	Principles of Financial Accounting	3
ACC 212	Managerial Accounting	3
ACC 311	Intermediate Accounting I	3
ACC 312	Intermediate Accounting II	3
ACC 301	Cost Accounting	3
ACC 402	Auditing	3
ACC 403	Fundamentals of Taxation	3
ACC 404	Advanced Taxation	3
ACC 406	Accounting Systems	3

Master of Accounting—Assurance Track (MAcc-Assurance)

The program requires 30 semester hours consisting of nine required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution. In addition to the nine required courses, students must select four courses from the designated course list. Other courses can be selected from the list of approved electives or in consultation with the program director. Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to upper-level undergraduate students and do not count toward the MAcc degree. Unless otherwise noted, courses in the program are two semester hours (two credits).

Required courses:

ACC 603	Studies in Financial Reporting Issues	2
ACC 606	Internal Auditing	2
ACC 610	Financial Reporting Research	2
ACC 611	Auditing Seminar	2
ACC 622/522	Advanced Issues in Auditing	3
ACC 630/530	International Financial Reporting Standards	1
ACC 648	Financial Reporting Implications of Income Taxes.	2
ACC 672/572	Advanced Financial Analysis	2
ACC 677	Forensic Accounting	2

In addition to the required courses, a student must take at least four of the following accounting courses.

ACC 604	Seminar in Cost Accounting	2
ACC 624/524	Accounting for Governmental and Not-for-Profit Entities	3
ACC 620	Accounting Controls in Information Technology	2
ACC 623	International Accounting and Taxation	2
ACC 640	Corporate Taxation I	2
ACC 641	Corporate Taxation II	2
ACC 664	Global Mergers and Acquisitions: Accounting and Related Issues	2
ACC 675	Compensation, Incentives and Strategic Control	2
BSL 675	Advanced Business Law	2
BSL 691	The Public Corporation: Legal Perspectives	2

Students may select their other electives from the remaining courses above or the following courses:

ACC 642	Seminar in Taxation	2
ACC 643	Tax Research	2
ACC 645	Partnership Taxation	2
ACC 647	Estates and Gift Taxes	2
ACC 649	Issues in Tax Policy	2
ACC 662	Taxation of Multinational Corporations	2
BUS 602	Critical Thinking and Effective Writing	1
BUS 603	Critical Thinking and Effective Speaking	1
BSL 624	Negotiation: Theory & Practice	2
BSL 692	Legal Implications of International Business Transactions	2
BSL 694	Real Estate Law	2
BTE 612	Enterprise Technologies	2
BTE 613	Business Intelligence Technologies	2
BTE 617	Information Technology Project Management	2
BTE 689	Topics in Computer Information Systems	1-3
FIN 650	Financial Investment	2
FIN 651	Advanced Topics in Investments	2
FIN 660	International Finance	2
FIN 670	Corporate Finance	2
FIN 671	Advanced Topics in Corporate Finance	2

FIN 674	Financial Analysis of Mergers and Acquisitions	2
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Any other electives must be selected in consultation with the Program Director.

Master of Accounting—Corporate Accounting Track (MAcc-Corporate)

The program requires 30 semester hours consisting of eight required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution. In addition to the eight required courses, students must select five courses from the designated course list. Other courses can be selected from the list of approved electives or in consultation with the program director. Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to upper-level undergraduate students and do not count toward the MAcc degree. Unless otherwise noted, courses in the program are two semester hours (two credits).

Required courses:

ACC 603	Studies in Financial Reporting Issues	2
ACC 604	Seminar in Cost Accounting	2
ACC 606	Internal Auditing	2
ACC 610	Financial Reporting Research	2
ACC 630/530	International Financial Reporting Standards	1
ACC 648	Financial Reporting Implications of Income Taxes.	2
ACC 672/572	Advanced Financial Analysis	2
FIN 670	Corporate Finance	2

In addition to the required courses, a student must take *at least five* courses from the following:

ACC 611	Auditing Seminar	2
ACC 620	Accounting Controls in Information Technology	2
ACC 622/522	Advanced Issues in Auditing	3
ACC 623	International Accounting and Taxation	2
ACC 624/524	Accounting for Governmental and Not-for-Profit Entities	3
ACC 640	Corporate Taxation I	2
ACC 641	Corporate Taxation II	2
ACC 664	Global Mergers and Acquisitions: Accounting and Related Issues	2
ACC 675	Compensation, Incentives and Strategic Control	2
ACC 677	Forensic Accounting	2
BSL 675	Advanced Business Law	2
BSL 691	The Public Corporation: Legal Perspectives	2
FIN 650	Financial Investment	2
FIN 651	Advanced Topics in Investments	2
FIN 660	International Finance	2
FIN 671	Advanced Topics in Corporate Finance	2
FIN 674	Financial Analysis of Mergers and Acquisitions	2

Students may select their other electives from courses above or the following courses:

ACC 642	Seminar in Taxation	2
ACC 643	Tax Research	2
ACC 645	Partnership Taxation	2
ACC 649	Issues in Tax Policy	2
ACC 662	Taxation of Multinational Corporations	2
BUS 602	Critical Thinking and Effective Writing	1
BUS 603	Critical Thinking and Effective Speaking	1
BSL 624	Negotiation: Theory & Practice	2
BSL 692	Legal Implications of International Business Transactions	2
BSL 694	Real Estate Law	2
BTE 612	Enterprise Technologies	2
BTE 613	Business Intelligence Technologies	2
BTE 617	Information Technology Project Management	2
BTE 689	Topics in Computer Information Systems	1-3

Any other electives must be selected in consultation with the Program Director.

ACCELERATED MASTER'S PROGRAMS

In addition to offering the Master of Accounting (MAcc) and Master of Science in Taxation (MST) on the usual time frame involving one year of full-time study beyond the Bachelor's level, the MAcc-Assurance Track, MAcc-Corporate Track, and MST are offered as accelerated programs. These programs permit high achieving accounting students who have accelerated their education by taking advanced courses in high school, testing out of classes, taking increased class loads, or going to summer school, to start their graduate work while seniors.

The accelerated programs are available only to students who are undergraduate students at the University of Miami. The programs are designed in such a way that students can expect to complete both their Bachelor's and Master's degrees and make significant progress on the CPA exam (if not complete it entirely) within 4½ years. In addition, these programs are extremely price competitive.

Accelerated Program Timeline

1. Internship in summer after junior year.
2. Twelve credits of work in senior year will count towards the MAcc or MST degree (only students in the accelerated program are eligible to take these classes during their senior year).
3. In summer after senior year take one graduate course, CPA review course, and the CPA exam.
4. Complete remaining credits of graduate work in fall semester after senior year.

Prerequisites

The following must be completed before students begin their senior year:

- A minimum of 102 credit hours
- The following Accounting major requirements: ACC 311, ACC 312, ACC 402 ACC 403, BSL 401 and either ACC 301 or ACC404.

- All undergraduate degree requirements except for those that can be completed in the senior year. Note that MGT 401 must be taken in the final semester of the undergraduate program.
- Students that select the MAcc-Corporate track must take FIN 303 before or during their senior year.

Senior Year Curriculum

Aside from the remaining undergraduate Accounting program requirements, the program-specific curriculum for the senior year is the same for all tracks (except that students selecting the MAcc-Corporate track must complete FIN 303 in order to take the graduate finance courses required for the track) and consists of the following courses:

ACC 506	Internal Auditing	2
or ACC 572	Advanced Financial Analysis	
ACC 522	Advanced Issues in Auditing	3
ACC 530	International Financial Reporting Standards	1
ACC 648	Financial Reporting Implications of Income Taxes.	2
BSL 691	The Public Corporation: Legal Perspectives	2
BUS 602	Critical Thinking and Effective Writing	1
BUS 603	Critical Thinking and Effective Speaking	1

Students must select their track (MAcc-Assurance, MAcc-Corporate, or MST) by the spring semester of their senior year before registering for their final fall graduate classes.

Summer after Senior Year

Students must take one accounting graduate course in the summer following their senior year. Accounting courses are offered based on demand and could include ACC 620, Accounting Controls in IT (offered every summer) or ACC 649, Issues in Tax Policy.

Students are also **REQUIRED** to take an approved CPA review course during the summer following their senior year. Students who do not take a CPA review course must complete an additional six graduate credits which will likely delay graduation to May instead of graduating in December.

Students are also expected to pass part, if not all, of the CPA exam during this summer.

Final Fall Semester

In the final fall semester students will complete the remaining 15 or 16 graduate credits including the requirements for their track and electives selected in consultation with the Program Director.

Admission to the Accelerated Programs

Incoming Freshmen

- Prospective students apply to the accelerated program when they apply for admission to the University of Miami.
- SAT scores should meet or exceed 1400; high school unweighted GPA should meet or exceed 3.75.
- Students are required to have an overall and accounting GPA of 3.3 or higher by their junior year in college. Students must then maintain an overall GPA of 3.3 or higher and an accounting GPA of 3.3 or higher to remain in the program. Students who do

not maintain the expected GPA may be placed on probation or transferred out of the program.

- Students will need to have completed 102 credit hours by the start of their senior year.

Current University of Miami Undergraduate Accounting Majors

- Students should apply to the accelerated program by September 30 of their junior year.
- Admission to the program will be based on GPA, letters of recommendation, and performance in upper division (300-level or above) accounting courses in progress or completed. It is expected that the students admitted to the program will have GPAs exceeding 3.3, but students with these scores are not guaranteed admission. The decision will depend on the quality and size of the applicant pool and will be made by senior school administrators and faculty.
- After admission, to remain in the program, students must maintain an overall GPA of 3.3 or higher and an accounting GPA of 3.3 or higher. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.
- Students will need to have completed 102 credit hours by the start of their senior year including ACC 311, ACC 312, ACC 402, ACC 403, BSL 401 and either ACC 301 or ACC404.

ACCOUNTING SUMMER INTENSIVE PROGRAM

The Accounting Summer Intensive Program is designed for students who hold at least an undergraduate business degree in a field other than accounting from an accredited college or university and for foreign students.

Non-Accounting Majors

Students that have a non-accounting degree, preferably in business, can apply for admission to our Master of Accounting (MAcc) or Master of Science in Taxation (MST) and Summer Intensive Program. Applicants to the MAcc or MST program will automatically be considered applicants to the Accounting Summer Intensive Program if their undergraduate degree is not in accounting. Summer Intensive students entering the MST program must also take an advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester.

Foreign Students

The Accounting Summer Intensive Program is also designed to meet the needs of foreign students. Foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting information systems and one semester of tax at a U.S. university accredited by the AACSB or alternatively, must attend the Summer Intensive Program before enrolling in graduate accounting courses. Foreign applicants to the MAcc program will automatically also be considered applicants to the Accounting Summer Intensive Program.

Program Schedule

The Accounting Summer Intensive Program is fast-paced and requires full-time attention. As its name implies, the program is intensive and not designed for students that are working even part-time. The 7-week

program begins each year about July 1 and continues through mid-August and consists of two 3½-week modules. Three 2-credit courses are included in each module. Students who want to take any additional graduate tax classes should also plan to take the advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in a 9-day intersession format in August before the start of the fall semester.

Program Prerequisite Accounting Courses

Students entering the program are required to have previously completed introduction to financial accounting and management accounting at a US or foreign university.

Summer Intensive Program Course Offerings

The Summer Intensive Program includes the following six 2-credit upper division accounting courses that are prerequisites for graduate study.

ACC 632	Intermediate Accounting I	2
ACC 633	Intermediate Accounting II	2
ACC 634	Cost Accounting	2
ACC 636	Accounting Systems	2
ACC 673	Taxation for Business and Investment Decisions	2
ACC 635	Auditing	2

Note that the Summer Intensive Program does not include an advanced taxation course (the equivalent of ACC 404) which is a required prerequisite for most tax courses in the MST program. Accordingly, in addition to the six summer intensive courses, students entering the MST program must complete ACC 639 which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester.

Entering the MAcc or MST Program

Upon successful completion of the intensive program, students immediately enter the MAcc or MST program in the fall semester. To graduate with their MAcc or MST degree, students must complete 30 credits beyond the 12-credit intensive program and may graduate in as little as two semesters, assuming they are full-time students.

CPA LICENSURE REQUIREMENTS

Most of our students intend to become qualified as Certified Public Accountants (CPA). While the CPA exam is a national exam administered by the American Institute of Certified Public Accountants, its execution and CPA licensing practices are governed by state law. For example, some states require a certain number of credit hours in particular subjects and have overall accounting and business credit hour requirements. As such, you should check with the state in which you intend to practice to determine what the specific course requirements are for that state. Our department is unable to make a determination of your eligibility to sit for the CPA exam. This can only be done by the appropriate state board. The licensure requirements for the State of Florida can be viewed at: <http://www.myfloridalicense.com/dbpr/cpa/licensure.html>

For your convenience, the Florida rules that apply to most individuals are summarized here. Please check the State of Florida Web site noted above for updates and rules which may apply in particular circumstances.

As of July 1, 2008 the Florida State Board of Accountancy (BOA) separated the requirements to become a Certified Public Accountant (CPA) into two parts: (1) the requirements to be eligible to take the CPA exam and (2) the requirements for licensure to practice as a CPA in Florida.

Requirements to Sit for the CPA Exam: To be eligible to take the CPA exam, applicants must have completed 120 semester hours including 24 semester hours of upper division (300-level or above) accounting to include auditing, cost and managerial accounting, financial accounting, accounting information systems, and taxation. Applicants must also complete 24 semester hours of upper division general business courses with some exceptions in that one microeconomics, one macroeconomics, one statistics, one business law, and one introduction to computers course may be lower division (freshman or sophomore level). As part of the general business hours, applicants are required to have a total of six semester hours of business law courses, which must cover contracts, torts, and the Uniform Commercial Code. Note that excess upper division accounting courses may be used to meet the general business requirement; however, elementary accounting classes are never acceptable for credit nor are courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting.

The exam is offered in the following time periods: January – February, April – May, July – August and October – November. Note that applicants are not required to have a bachelor's degree in order to sit for the CPA exam.

Requirements for Licensure: In addition to passing all four parts of the CPA exam with at least a 75% within 18 month rolling period, the Florida State Board of Accountancy requires that applicants have completed a bachelor's degree plus an additional 30 hours for a total of 150 semester hours before you can become licensed as a CPA. One year of work experience under the supervision of a licensed CPA is now also required to become licensed. In addition to experience obtained in public accounting and government, Florida's 2008 legislative change also allows experience obtained in industry and academia. This experience may be obtained before or after sitting for the exam, however, all requirements to sit for the exam must be met before the work experience commences. If you fail to apply for licensure within three years of receiving the licensure package, (sent after you pass all four parts) the CPA grades expire and you have to retake the examination.

The 150 semester hours must include a minimum of 36 semester hours of upper division accounting courses and at least 39 semester hours of upper division (with some exception) general business courses. Excess upper division accounting courses may be used to meet the general business requirement. Courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting are not accepted for this requirement.

Licensed in Another State: If you are licensed in a state other than Florida you can obtain a license in Florida by a process called endorsement. You must provide evidence of meeting all of the requirements in effect at the time of your application. In addition if you passed the exam more

than two years before applying you must provide evidence of meeting continuing professional education requirements.

CPA Accreditation Requirements

The Florida State Board of Accountancy accepts degrees from schools accredited by the following associations : Middle States Association, New England Association, North Central Association, Northwest Association, Southern Association of Colleges and Schools, Western Association of Schools and Colleges, Association of Independent Schools and Colleges who have been approved by the Florida State Board of Independent Colleges and Universities, and Canadian Schools who have been approved by their provincial educational bodies. If you have graduated from a school or college which is not accredited by the above mentioned means, then you must use the provisions of F.A.C. 61H1-27.001 (5) (see below).

Applicants Who Have Graduated from Non-Accredited Schools (61H1-27.001) (5)

Applicants who have graduated from a non-accredited school may still qualify to sit for the CPA examination. The candidate must take 15 semester hours of graduate classes. Those must consist of at least nine hours of graduate level accounting courses including a minimum of three semester hours of graduate tax. THESE HOURS MUST BE TAKEN AFTER ADMISSION TO GRADUATE SCHOOL. If the courses are taken before admission to a graduate program, the classes will not be accepted, even if the school includes them as part of the graduate program. These courses cannot duplicate other courses which the applicant has taken and they cannot be used to accredit the non-accredited degree and satisfy the educational requirements. The applicant must complete the graduate school courses to validate the non-accredited degree. The applicant must also meet all other requirements for endorsement or transfer of credit. An evaluation of foreign transcripts must be completed by an evaluation service which has been approved by the Board (see Board Approval Evaluation Services).

Duplicate Courses

No credit will be given for courses which duplicate another course for which the applicant has received credit. CPA review courses are considered as duplicates.

Master of Arts in Economics

Master of Arts in Economics

The Master of Arts in Economics program provides students with the essential analytical tools and rigorous training they need to apply economic analysis to help both global corporations and government institutions achieve success. The program introduces students to several applied areas of economics and provides the required problem-solving skills to analyze economic problems.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/economics>).

Master of Professional Accounting (online)

Master of Professional Accounting (online)

The Master of Professional Accounting provides focused, accounting education meant to prepare students for a career in accounting departments of businesses/corporations. The program consists of 32 credits that will be taken over a 16-month period with start dates in August, January and May. The coursework will consist of 16 credits in basic accounting, taxation and information systems, followed by 16 credits in advanced topics including auditing and financial statement analysis and firm valuation. The courses offered in the MPrA are already taught at both the undergraduate and graduate level in accounting at the School of Business Administration. All of these courses have been taught as two-credit or three-credit courses, but will be modified, combined and packaged into four credit modules.

To obtain detailed program admission and curricula information please visit the website. (<http://www.miami.edu/online/online-degrees/masters-professional-accounting>)

Master of Science in Business Analytics

Master of Science in Business Analytics

The Master of Science in Business Analytics program is an intensive experience that develops well-trained business analysts armed with the skills necessary to understand, manage and make use of big data in a business context. Over the course of 10 months, students learn how to turn abstract data into meaningful information with which to predict consumer behavior and forecast revenue and expenses for virtually any business model and any industry sector.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/analytics>).

Master of Science in Finance

Master of Science in Finance

The Master of Science in Finance program prepares students for successful careers in corporate finance, international finance and investments, and other financial sectors. The program immerses student in a narrow course of study over the course of only 10 months. Throughout the program, students are challenged to approach real-world problems with a practical lens. When they graduate, they possess the knowledge base and sophistication to make critical financial decisions for any organization.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/finance>).

Master of Science in Finance (online)

Master of Science in Finance (online)

The Master of Science in Finance provides focused, graduate level education meant to prepare students for a professional career in finance. The program consists of 32 credits taken over a sixteen-month period beginning in August, January or May. The program includes 4 credits of fundamental coursework in accounting, finance, microeconomics and quantitative methods, 8 credits covering general business education including business analytics, operational excellence, business planning, and communications, 8 credits in more advanced finance topics, and 12 credits in the area of specialization. Currently the specializations are in Corporate Finance, including courses in financial decision making, applied corporate finance, derivatives, and financial modeling. The proposed 32-credit online curriculum waives the following 3 courses from the on-campus version of the MS in Finance, as it is geared for Working Professionals who are already expected to possess the skills covered in these courses: BUS 600/ BUS 602 Critical Thinking and Effective Writing (1 credit); BUS 603 Critical Thinking and Effective Speaking (1 credit); BUS 604 Career Development and Enrichment (1 credit). Students in the program will earn both the Certificate in Financial Decision Making and the Certificate in Corporate Finance along the way to earning their degree.

To obtain detailed program admission and curricula information, please visit the website (<http://online.miami.edu/online-degrees/masters-finance>).

Master of Science in Management Studies

Master of Science in Management Studies

The Master of Science in Management Studies program shapes students into competent, versatile and dynamic leaders ready to navigate the complex workplace of the 21st century. The program helps participants develop the interpersonal skills they need to influence others and lead effectively in today's challenging work environment. Not only does the program include coursework to provide students with a foundation of basic management skills, it includes a set of courses that focus on the skills needed to achieve performance at the highest levels possible.

To obtain detailed program admission and curricula information please reference the program brochure which can be requested by contacting the Office of Recruiting and Admissions at 305-284-2510 or visit our website (<http://bus.miami.edu/graduate-programs/specialized-masters/leadership>).

Master of Science in Taxation

MASTER OF ACCOUNTING (MAcc) and MASTER OF SCIENCE IN TAXATION (MST)

While the programs are similar in that they offer an opportunity to concentrate in accounting, they differ in degree of specialization and career path orientation. The MAcc offers two separate tracks in assurance and corporate accounting while the MST is designed for students interested in careers in taxation.

In addition to the traditional one year of full-time study beyond the Bachelor's level, the MAcc and the MST programs are offered as

accelerated programs for University of Miami undergraduates. For admission to either the MAcc or MST, based on an undergraduate degree from an accredited U.S. institution, we consider the applicant's undergraduate grade point average, GMAT score, grades in specific accounting courses, the rigor of the undergraduate program, and other factors such as work experience. Admission decisions are made on a competitive basis from the applicant pool. Undergraduate students from the University of Miami that have a grade point average of 3.4 or higher do not have to take the GMAT exam. In addition individuals who have demonstrated their ability to do graduate work in accounting by becoming a CPA or who have earned a graduate degree from a business school accredited by the AACSB are also waved from the requirement to take the GMAT exam.

Students without an undergraduate degree in accounting will be required to take certain prerequisite courses to secure admission. These prerequisites will depend upon the undergraduate major and previous accounting courses taken. Necessary prerequisite accounting courses can be taken in the University of Miami's Accounting Summer Intensive Program, which is a seven-week program beginning in early July.

Foreign students must provide evidence of proficiency in English by supplying a TOEFL score. Additionally, foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting systems and one semester of tax at a U.S. university accredited by the AACSB before enrolling in graduate accounting courses. Alternatively, foreign students may attend the University of Miami's Accounting Summer Intensive Program to fulfill this requirement.

SCHOLARSHIPS

University of Miami School of Business - Alumni Association Endowed Accounting Scholarships are available for students pursuing Graduate Studies in Accounting. Various other scholarships and assistantships may be available.

MASTER OF SCIENCE IN TAXATION (MST)

This program affords the accounting major or equivalent the opportunity to specialize in the area of taxation. Through electives, students are able to expand their areas of expertise, so that they may adequately prepare themselves for careers requiring a high degree of specialized tax knowledge in public accounting, private industry, and government. The program requires 30 semester hours consisting of six required courses and the balance of approved elective courses provided the student has an undergraduate degree in Accounting, or its equivalent, from an accredited institution and has completed ACC403: Fundamentals of Taxation and ACC404: Advanced Taxation, or their equivalents. Students who have taken only one tax course should plan to take an advanced taxation course (such as ACC 639: Income Taxation and Business Entities which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester).

In addition to the nine required courses, students must select four courses from the designated course list. Other courses can be selected from the list of approved electives or in consultation with the program director. Courses with a 600-level designation are designed for graduate students. Courses with a 500-level designation are open to upper-level undergraduate students and do not count toward the MST degree. Unless otherwise noted, courses in the program are two semester hours (two credits).

Required courses:

ACC 610	Financial Reporting Research	2
ACC 630/530	International Financial Reporting Standards	1
ACC 640	Corporate Taxation I	2
ACC 641	Corporate Taxation II	2
ACC 643	Tax Research	2
ACC 645	Partnership Taxation	2
ACC 648	Financial Reporting Implications of Income Taxes.	2
ACC 672/572	Advanced Financial Analysis	2
ACC 623	International Accounting and Taxation	2
or ACC 662	Taxation of Multinational Corporations	2

In addition to the required courses, a student must take *at least four* courses from the following:

ACC 603	Studies in Financial Reporting Issues	2
ACC 604	Seminar in Cost Accounting	2
ACC 606	Internal Auditing	2
ACC 611	Auditing Seminar	2
ACC 620	Accounting Controls in Information Technology	2
ACC 622/522	Advanced Issues in Auditing	3
ACC 624/524	Accounting for Governmental and Not-for-Profit Entities	3
ACC 642	Seminar in Taxation	2
ACC 649	Issues in Tax Policy	2
ACC 664	Global Mergers and Acquisitions: Accounting and Related Issues	2
ACC 675	Compensation, Incentives and Strategic Control	2
ACC 677	Forensic Accounting	2
BSL 675	Advanced Business Law	2
BSL 691	The Public Corporation: Legal Perspectives	2

Students may select their other electives from courses above or the following courses:

BUS 602	Critical Thinking and Effective Writing	1
BUS 603	Critical Thinking and Effective Speaking	1
BSL 624	Negotiation: Theory & Practice	2
BSL 692	Legal Implications of International Business Transactions	2
BSL 694	Real Estate Law	2
BTE 612	Enterprise Technologies	2
BTE 613	Business Intelligence Technologies	2
BTE 617	Information Technology Project Management	2
BTE 689	Topics in Computer Information Systems	1-3
FIN 650	Financial Investment	2
FIN 651	Advanced Topics in Investments	2
FIN 660	International Finance	2
FIN 670	Corporate Finance	2
FIN 671	Advanced Topics in Corporate Finance	2

FIN 674	Financial Analysis of Mergers and Acquisitions	2
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Any other electives must be selected in consultation with the Program Director.

ACCELERATED MASTER'S PROGRAMS

In addition to offering the Master of Accounting (MAcc) and Master of Science in Taxation (MST) on the usual time frame involving one year of full-time study beyond the Bachelor's level, the MAcc-Assurance Track, MAcc-Corporate Track, and MST are offered as accelerated programs. These programs permit high achieving accounting students who have accelerated their education by taking advanced courses in high school, testing out of classes, taking increased class loads, or going to summer school, to start their graduate work while seniors.

The accelerated programs are available only to students who are undergraduate students at the University of Miami. The programs are designed in such a way that students can expect to complete both their Bachelor's and Master's degrees and make significant progress on the CPA exam (if not complete it entirely) within 4½ years. In addition, these programs are extremely price competitive.

Accelerated Program Timeline

1. Internship in summer after junior year.
2. Twelve credits of work in senior year will count towards the MAcc or MST degree (only students in the accelerated programs are eligible to take these classes during their senior year).
3. In summer after senior year take one graduate course, CPA review course, and the CPA exam.
4. Complete remaining credits of graduate work in fall semester after senior year.

Prerequisites

The following must be completed before students begin their senior year:

- A minimum of 102 credit hours
- The following Accounting major requirements: ACC 311, ACC 312, ACC 402 ACC 403, BSL 401 and either ACC 301 or ACC 404.
- All undergraduate degree requirements except for those that can be completed in the senior year. Note that MGT 401 must be taken in the final semester of the undergraduate program..
- Students that select the MAcc-Corporate track must take FIN 303 before or during their senior year.

Senior Year Curriculum

Aside from the remaining undergraduate Accounting program requirements, the program-specific curriculum for the senior year is the same for all tracks (except that students selecting the MAcc-Corporate track must complete FIN 303 in order to take the graduate finance courses required for the track) and consists of the following courses:

ACC 506	Internal Auditing	2
or ACC 572	Advanced Financial Analysis	2
ACC 522	Advanced Issues in Auditing	3
ACC 530	International Financial Reporting Standards	1
ACC 648	Financial Reporting Implications of Income Taxes.	2

BSL 691	The Public Corporation: Legal Perspectives	2
BUS 602	Critical Thinking and Effective Writing	1
BUS 603	Critical Thinking and Effective Speaking	1

Students must select their track (MAcc-Assurance, MAcc-Corporate, or MST) by the spring semester of their senior year before registering for their final fall graduate classes.

Summer after Senior Year

Students must take one accounting graduate course in the summer following their senior year. Accounting courses are offered based on demand and could include ACC 620, Accounting Controls in IT (offered every summer) or ACC 649, Issues in Tax Policy.

Students are also **REQUIRED** to take an approved CPA review course during the summer following their senior year. Students who do not take a CPA review course must complete an additional six graduate credits which will likely delay graduation to May instead of graduating in December.

Students are also expected to pass part, if not all, of the CPA exam during this summer.

Final Fall Semester

In the final fall semester students will complete the remaining 15 or 16 graduate credits including the requirements for their track and electives selected in consultation with the Program Director.

Admission to the Accelerated Programs

Incoming Freshmen

- Prospective students apply to the accelerated program when they apply for admission to the University of Miami.
- SAT scores should meet or exceed 1400; high school unweighted GPA should meet or exceed 3.75.
- Students are required to have an overall and accounting GPA of 3.3 or higher by their junior year in college. Students must then maintain an overall GPA of 3.3 or higher and an accounting GPA of 3.3 or higher to remain in the program. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program
- Students will need to have completed 102 credit hours by the start of their senior year.

Current University of Miami Undergraduate Accounting Majors

- Students should apply to the accelerated program by September 30 of their junior year.
- Admission to the program will be based on GPA, letters of recommendation, and performance in upper division (300-level or above) accounting courses in progress or completed. It is expected that the students admitted to the program will have GPAs exceeding 3.3, but students with these scores are not guaranteed admission. The decision will depend on the quality and size of the applicant pool and will be made by senior school administrators and faculty.
- After admission, to remain in the program, students must maintain an overall GPA of 3.3 or higher and an accounting GPA of 3.3 or higher. Students who do not maintain the expected GPA may be placed on probation or transferred out of the program.

- Students will need to have completed 102 credit hours by the start of their senior year including ACC 311, ACC 312, ACC 402, ACC 403, BSL 401 and either ACC 301 or ACC404.

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The Accounting Summer Intensive Program is also designed to meet the needs of foreign students. Foreign students must have successfully completed two semesters of intermediate accounting, one semester of cost accounting, one semester of auditing, one semester of accounting information systems and one semester of tax at a U.S. university accredited by the AACSB or alternatively, must attend the Summer Intensive Program before enrolling in graduate accounting courses. Foreign applicants to the MAcc program will automatically also be considered applicants to the Accounting Summer Intensive Program.

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The Accounting Summer Intensive Program is fast-paced and requires full-time attention. As its name implies, the program is intensive and not designed for students that are working even part-time. The 7-week program begins each year about July 1 and continues through mid-August and consists of two 3½ -week modules. Three 2-credit courses are included in each module. Students who want to take any additional graduate tax classes should also plan to take the advanced taxation course (ACC 639) which is offered following the Summer Intensive Program in a 9-day intersession format in August before the start of the fall semester.

Program Prerequisite Accounting Courses

Students entering the program are required to have previously completed introduction to financial accounting and management accounting at a US or foreign university.

Summer Intensive Program Course Offerings

The Summer Intensive Program includes the following six 2-credit upper division accounting courses that are prerequisites for graduate study.

ACC 632	Intermediate Accounting I	2
ACC 633	Intermediate Accounting II	2
ACC 634	Cost Accounting	2
ACC 636	Accounting Systems	2

ACC 673	Taxation for Business and Investment Decisions	2
ACC 635	Auditing	2

Note that the Summer Intensive Program does not include an advanced taxation course (the equivalent of ACC404) which is a required prerequisite for most tax courses in the MST program. Accordingly, in addition to the six summer intensive courses, students entering the MST program must complete ACC 639 which is offered following the Summer Intensive Program in an intersession format in August before the start of the fall semester.

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Upon successful completion of the intensive program, students immediately enter the MAcc or MST program in the fall semester. To graduate with their MAcc or MST degree, students must complete 30 credits beyond the 12-credit intensive program and may graduate in as little as two semesters, assuming they are full-time students.

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acceptable for credit nor are courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting.

The exam is offered in the following time periods; January – February, April – May, July – August and October – November. Note that applicants are not required to have a bachelor's degree in order to sit for the CPA exam.

Requirements for Licensure: In addition to passing all four parts of the CPA exam with at least a 75% within 18 month rolling period, the Florida State Board of Accountancy requires that applicants have completed a bachelor's degree plus an additional 30 hours for a total of 150 semester hours before you can become licensed as a CPA. One year of work experience under the supervision of a licensed CPA is now also required to become licensed. In addition to experience obtained in public accounting and government, Florida's 2008 legislative change also allows experience obtained in industry and academia. This experience may be obtained before or after sitting for the exam, however, all requirements to sit for the exam must be met before the work experience commences. If you fail to apply for licensure within three years of receiving the licensure package, (sent after you pass all four parts) the CPA grades expire and you have to retake the examination.

The 150 semester hours must include a minimum of 36 semester hours of upper division accounting courses and at least 39 semester hours of upper division (with some exception) general business courses. Excess upper division accounting courses may be used to meet the general business requirement. Courses for non-accounting majors and any MBA courses that are equivalent to elementary accounting are not accepted for this requirement.

Licensed in Another State: If you are licensed in a state other than Florida you can obtain a license in Florida by a process called endorsement. You must provide evidence of meeting all of the requirements in effect at the time of your application. In addition if you passed the exam more than two years before applying you must provide evidence of meeting continuing professional education requirements.

CPA Accreditation Requirements

The Florida State Board of Accountancy accepts degrees from schools accredited by the following associations : Middle States Association, New England Association, North Central Association, Northwest Association, Southern Association of Colleges and Schools, Western Association of Schools and Colleges, Association of Independent Schools and Colleges who have been approved by the Florida State Board of Independent Colleges and Universities, and Canadian Schools who have been approved by their provincial educational bodies. If you have graduated from a school or college which is not accredited by the above mentioned means, then you must use the provisions of F.A.C. 61H1-27.001 (5) (see below).

Applicants Who Have Graduated from Non-Accredited Schools (61H1-27.001) (5)

Applicants who have graduated from a non-accredited school may still qualify to sit for the CPA examination. The candidate must take 15 semester hours of graduate classes. Those must consist of at least nine hours of graduate level accounting courses including a minimum of three semester hours of graduate tax. THESE HOURS MUST BE TAKEN AFTER ADMISSION TO GRADUATE SCHOOL. If the courses are taken

before admission to a graduate program, the classes will not be accepted, even if the school includes them as part of the graduate program. These courses cannot duplicate other courses which the applicant has taken and they cannot be used to accredit the non-accredited degree and satisfy the educational requirements. The applicant must complete the graduate school courses to validate the non-accredited degree. The applicant must also meet all other requirements for endorsement or transfer of credit. An evaluation of foreign transcripts must be completed by an evaluation service which has been approved by the Board (see Board Approval Evaluation Services).

Duplicate Courses

No credit will be given for courses which duplicate another course for which the applicant has received credit. CPA review courses are considered as duplicates.

For the CPA requirements in other states, you should consult the State Board of Accountancy for your state.

Non-Degree

School of Business Administration Graduate Non Degree Programs

The University of Miami School of Business offers executive education programs that empower individuals and organizations to succeed on the global stage.

The School's customized training and development program are designed to enhance the professional knowledge and management skills of key managers and senior executives. Each custom executive education program is crafted by the School's world-class faculty, ranked No. 26 in the world by the Financial Times, working in partnership with the organization's leadership so that the program best meets the unique needs of that particular organization.

The School also offers open enrollment certificate programs in general business which enable professionals to add basic business courses to their portfolios. Several of these programs are taught in Spanish including certificate programs in Administration and Business, Logistics and Transportation, and Innovation and Competiveness Management.

To obtain program information please visit our website (<http://www.bus.miami.edu/executive-education>).

Certificate in Accounting Practice (online)

Certificate in Accounting Practice

Intended for candidates with no prior accounting credits, this online accounting certificate will provide you with the fundamental knowledge of financial and managerial accounting, as well as taxation and accounting information systems. Completion of the certificate will equip you for entry-level jobs in corporate accounting.

If you choose to complete the master's in professional accounting program as well, you will be exposed to more advanced topics in financial and managerial accounting, which will prepare you for mid-level corporate accounting and taxation positions.

To obtain detailed program admission and curricula information please visit website (<http://www.miami.edu/online/online-degrees/masters-professional-accounting>).

Certificate in Business Administration

Certificate in Business Administration (CBA)

The Certificate of Business Administration (CBA) program provides professional and graduate students an opportunity to obtain valuable, fundamental business education and enhance their analytical skills, as well as soft skills. The program consists of four courses in business covering all fundamental functions central to any business operation. Students can take one or more courses for credit, but must satisfactorily complete all four courses to be awarded the certificate. One or more of these courses may also serve as part of the specialized master's degrees. The Graduate Admissions Committee welcomes applications from individuals whose undergraduate degrees are from accredited colleges or universities. The GMAT and GRE are not required except from students seeking admission to the specialized master's programs.

To obtain detailed program admission and curricula information please contact the Office of Recruiting and Admissions at 305-284-2510 or visit our website. (<http://www.bus.miami.edu/graduate-programs/business-certificate>)

Certificate in Corporate Finance (online)

Certificate in Corporate Finance

This certificate is designed for students who are seeking a career change to corporate finance, or students wishing to advance in the corporate Treasurer's office or similar structure. The certificate begins with a common core of financial tools. The core classes include an integrated foundation of finance, economics and accounting, as well as an integrated course on domestic and international corporate valuation, covering both financial and accounting problems. The certificate finishes with a course in applied corporate finance, which focuses on financial decision making from a corporation's perspective. Issues addressed include management of corporate liabilities, leasing and other asset-based financing techniques, short-term and long-term financing, capital budgeting decisions (CAPEX), corporate valuation, hedging with options and futures, dividend policy and share repurchases, corporate financial strategy, and other current issues in corporate finance.

Students completing the Master in Finance have the option of earning a certificate in either Corporate Finance or Financial Decision-Making to supplement their degree. Additionally, an individual certificate in each track can be earned online for those students who do not wish to complete the full degree at this time. The combined Certificate in Finance Decisions and Corporate Finance requires 20 credits, while the Certificate in Corporate Finance requires 16 credits consisting of the following courses:

BUS 640	Quantitative And Analytical Fundamentals For Finance	1-4
FIN 613	Intermediate Corporate Finance and InvestmentS	4
FIN 614	International Finance, Valuation, & Financial Statement Analysis	4

To obtain more information please visit the website (<http://www.miami.edu/online/online-degrees/masters-finance>).

Certificate in Financial Decision Making (online)

Certificate in Financial Decision Making (online)

This certificate is designed for students who wish to either become financial managers or who wish to advance their financial careers. The certificate begins with a common core of financial tools and finishes with a course in financial decision-making. The core classes include an integrated foundation of finance, economics and accounting, as well as an integrated course on domestic and international corporate valuation, covering both finance and accounting problems. The financial decision making course, and the certificate will help managers use decision-making theory to better understand why investors, money managers, and corporate managers often make sub optimal economic and financial decisions. The course includes basic techniques and models that a manager or an investor should know. The certificate will provide students with a template for thinking through a variety of financial issues.

Students completing the master's in finance have the option of earning a certificate in either Corporate Finance or Financial Decision Making to supplement their degree. Additionally, an individual certificate in each track can be earned online for those students who do not wish to complete the full degree at this time. The combined Certificate in Finance Decisions and Corporate Finance requires 20 credits, while the Certificate in Financial Decision Making requires 16 credits consisting of the following courses:

BUS 640	Quantitative And Analytical Fundamentals For Finance	1-4
FIN 613	Intermediate Corporate Finance and InvestmentS	4
FIN 614	International Finance, Valuation, & Financial Statement Analysis	4
FIN 615	Financial Decision Making	4

To obtain detailed program admission and curricula information please visit the website (<http://www.miami.edu/online/online-degrees/masters-finance>).

Certificate in Leadership

Certificate in Leadership

The Certificate in Leadership program is designed to help participants develop the interpersonal skills needed to influence others and lead effectively in today's challenging work environment. The program consists of four 2 credit hour courses that generally meet in the late afternoon and/or early evening Monday-Thursday. Students must have an undergraduate degree to be eligible for this certificate.

Executive Education Programs

University of Miami Executive Education

Accelerate Your Growth and Make an Impact

The University of Miami School of Business offers executive education programs that empower individuals and organizations to succeed on the global stage.

The School's customized training and development programs (<http://www.bus.miami.edu/executive-education/custom-programs>) are designed to enhance the professional knowledge and management skills of key managers and senior executives. Each custom executive education program is crafted by the School's world-class faculty, ranked No. 26 in the world by the Financial Times, working in partnership with the organization's leadership so that the program best meets the unique needs of that particular organization.

The School also offers open enrollment certificate programs (<http://www.bus.miami.edu/executive-education/open-enrollment>) in general business which enable professionals to add basic business courses to their portfolios. Several of these programs are taught in Spanish including certificate programs in Administration & Business, Logistics & Transportation, and Innovation and Competiveness Management.

Courses

Graduate and Doctorate Business Courses

Graduate Business Courses (numbered from 600 to 699) and Doctorate Business Courses (numbered 700 and above) are arranged according to the following:

- ACC - offered by the Accounting department
- BUS - general business or interdepartmental courses
- BSL - courses offered by the Business Law department
- BTE - courses offered by the Business Technologies department (formerly CIS - Computer Informations Systems)
- ECO - courses offered by the Economics department
- FIN - courses offered by the Finance department
- MAS - courses offered by the Management Science department
- MGT - courses offered by the Management department
- MKT - courses offered by the Marketing department

Accounting Courses

ACC 506. Internal Auditing. 2 Credit Hours.

Course explores the unique issues associated with the internal audit function. Additionally, the ethical code applicable to internal auditors is discussed.

Prerequisite: ACC 402. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 572. Advanced Financial Analysis. 2 Credit Hours.

This course builds on the analytical techniques developed in the prerequisite financial accounting courses to augment your understanding of more complex financial reporting issues and to introduce you to the valuation of equity investments. The view point is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business. We discuss each financial reporting issue in terms of its effect on assessments of a firm's profitability and risk. This course is designed primarily for students who expect to be intensive users of financial statements as part of their professional responsibilities.

Prerequisite: ACC 312. Requisite: Accepted into the Accounting Accelerated Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 600. Accounting for Decision-Making and Control. 3 Credit Hours.

The course focuses on the use and understanding of basic financial and managerial accounting reports. The course is oriented to the user of financial data rather than the preparer of the data. Coverage of basic accounting assumptions and current issues affecting accounting processes and reporting are included, but detailed accounting procedures are not emphasized. Completion of the course should permit students to understand accounting information and to communicate with professional accountants. Does not satisfy any accounting requirements needed to sit for the CPA exam in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 601. Trends in Present Day Accounting. 2 Credit Hours.

Recent developments in accounting thought and advanced accounting theory. The analysis of trends as disclosed by recent releases of the Securities and Exchange Commission, the American Institute of Certified Public Accountants, and the Financial Accounting Standards Board are discussed. Other topics include terminology, current trends in the measurement, presentation of third financial data to meet the needs of third parties, and surveys accounting literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 602. Analysis of Financial Statements. 1-3 Credit Hours.

Course emphasizes the fundamental techniques of financial statement analysis. Building upon core accounting and investment concepts, the course covers the analysis (including ratio analysis) and interpretation of financial accounting information including the balance sheet, income statement, and statement of cash flows. The course also examines the use of accounting information in investment and credit decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 603. Studies in Financial Reporting Issues. 2 Credit Hours.

An exploration of complex financial reporting issues using the case method.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 604. Seminar in Cost Accounting. 2 Credit Hours.

Course covers four major segments. First, it reviews the basic concepts and tools associated with management control systems. Second, it underscores the importance of decentralization and the impact it has on decision making. Third, it examines the strategic place for cost management. Examples include the adoption of the balanced score card, quality control, productivity, and environmental cost management. Fourth, the course brings costing and control tools into the discussion of decision making.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 606. Internal Auditing. 2 Credit Hours.

Course explores the unique issues associated with the internal audit function. Additionally, the ethical code applicable to internal auditors is discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 607. Financial Accounting & Reporting. 3 Credit Hours.

Basic concepts of accounting designed to increase understanding of the function of accounting statements and their limitations. The generally accepted principles governing the preparation of financial reports and the use of accounting information in investment and credit decisions. Does not satisfy any accounting requirement needed to sit for the CPA Exam in Florida. Limited to Executive MBA students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ACC 608. Managerial Accounting. 3 Credit Hours.

Current managerial accounting techniques and theories. Topics include the use of accounting data in making decisions and planning and control systems for implementation of decisions. Does not satisfy any accounting requirements needed to sit for the CPA Exam in Florida. Limited to Executive MBA students only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 610. Financial Reporting Research. 2 Credit Hours.

The objective of the course is to familiarize students with researching financial information of publicly traded companies and to provide an introduction to accounting research related to the content and presentation in SEC filings. The course will emphasize searching and accessing as well as understanding and interpretation of financial information presented in SEC filings (e.g., 10-K, 10-Q, Proxy Statements). Accounting topics covered will include accounting information and the capital markets, earnings management, earnings quality, effect of recognition vs. disclosure in accounting reports and the role of the SEC in regulating financial reporting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 611. Auditing Seminar. 2 Credit Hours.

Practical applications of auditing and research into audit matters. Emphasis of the course is placed on cases involving audit failures, appropriate auditing procedures, reporting, and exercise of audit judgment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 616. CPA Review I. 3 Credit Hours.

The CPA Review is an essential ingredient of the accounting accelerated accounting track. Students must provide proof of satisfactory completion of an approved course of study for two parts of the CPA exam (Regulation and Financial Accounting and Reporting). This course cannot be used to meet the State of Florida's educational requirements for taking the CPA exam.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 617. CPA Review II. 3 Credit Hours.

The CPA Review is an essential ingredient of the accounting accelerated accounting track. Students must provide proof of satisfactory completion of an approved course of study for two parts of the CPA Exam (Business Environment and Concepts, and Auditing and Attestation). This course cannot be used to meet the State of Florida's educational requirements for taking the CPA exam.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 620. Accounting Controls in Information Technology. 2 Credit Hours.

Course develops students' understanding of the theory and practice of relational database management systems in the accounting view of enterprise-wide databases. With a focus on controls, students build accounting systems elements related to main accounting transaction cycles, the revenue cycle, and the purchase cycle.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 622. Advanced Issues in Auditing. 3 Credit Hours.

Course covers advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact in audit practice. Not open to students with credit in ACC 522.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 623. International Accounting and Taxation. 2 Credit Hours.

Course covers tax accounting and business considerations in the global business environment. U.S. tax issues involved in international transactions, working across national borders, the Foreign Corrupt Practices Act, money laundering and uses of accounting information in managing an international business. Not open to students with credit for ACC 523.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

ACC 624. Accounting for Governmental and Not-for-Profit Entities. 3 Credit Hours.

The course introduces accounting within the environment of modern government and not-for-profit organizations. Emphasis is placed on financial accounting and reporting, current accounting issues, and managerial activities. Not open to students with credit for ACC 524.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ACC 630. International Financial Reporting Standards. 1 Credit Hour.

This course provides an overview of International Financial Reporting Standards (IFRS). The course will begin with a study of IFRS Framework and will then examine a number of the major topics covered in the Intermediate Accounting courses. The perspective will be a comparison between IFRS and U.S. generally accepted accounting principles (U.S. GAAP).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 631. Advanced Financial Accounting Topics. 2 Credit Hours.

Coverage of the Generally Accepted Accounting Principles governing business combinations, the preparation of consolidated financial statement including local and foreign subsidiaries, and other financial reporting topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 632. Intermediate Accounting I. 2 Credit Hours.

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows. Does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 633. Intermediate Accounting II. 2 Credit Hours.

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows. Does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 634. Cost Accounting. 2 Credit Hours.

Topics include basic cost concepts, product costing techniques including job-order and process costing, in-depth studies of techniques and issues surrounding cost allocation methods, basic approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, activity-based costing concepts and methodology are introduced. This course does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 635. Auditing. 2 Credit Hours.

Course provides an introduction to the field of auditing. It concentrates on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports. This course does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 636. Accounting Systems. 2 Credit Hours.

Contemporary accounting systems are computer based. Course covers the nature, design, implementation, and controls in computerized systems as well as manual systems. Micro computers are used as a learning tool. This course does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 639. Income Taxation and Business Entities. 2 Credit Hours.

This course is designed to be the second tax course students who are interested in the business applications of federal income tax laws, as they affect corporations, partnerships, and their owners. Emphasis is placed on tax planning aspects of formation, operation, liquidation, and distributions of corporations and partnerships. Not open to students with credit in ACC 404 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 640. Corporate Taxation 1. 2 Credit Hours.

Course covers treatment of the corporate form of organization, its related opportunities, and problem areas, including formation, tax formula, non-liquidating and liquidating distributions, capital structure, redemptions, alternative minimum tax.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 641. Corporate Taxation II. 2 Credit Hours.

An in-depth study of taxable and nontaxable corporate reorganizations. An introduction to affiliated corporations, requirements for consolidated returns, and their associated problems and opportunities are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 642. Seminar in Taxation. 2 Credit Hours.

Investigation of current topical areas in taxation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 643. Tax Research. 2 Credit Hours.

Study of the tax practice environment including the Treasury Department, the Courts, and the legislative history of the Internal Revenue Code. Ethics in tax practice are also examined. Course includes training in the use of tax services such as RIA Checkpoint and LEXIS, in performing tax research. A research methodology for solving tax problem cases is studied and cases to be researched are assigned.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 645. Partnership Taxation. 2 Credit Hours.

Taxation of partners and other flow-through entities. Partnership formation, termination, distribution, liquidation, and sales of partnership interests are covered. Limited partnerships in conjunction with their use as tax shelters are discussed as well as family partnerships, limited liability companies, and LLPs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 647. Estates and Gift Taxes. 2 Credit Hours.

Estate and gift planning for shifting wealth from one individual to another by death, gift, or by the use of trusts. Property included in the decedent's gross estate valuation methods, gifts in contemplation of death, jointly held property, life insurance, transfers with retained life estates, bequests, revocable transfers, the marital deduction, powers of appointment, gifts of present and future interest, and gifts to minors are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 648. Financial Reporting Implications of Income Taxes.. 2 Credit Hours.

This course is designed to provide the foundation necessary to understand the financial accounting and reporting of book-tax differences. The course will cover the preparation of the income tax provision and related financial statement disclosures in conformity with U.S. GAAP (FASB ASC 740)

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 649. Issues in Tax Policy. 2 Credit Hours.

This course looks at the process through which our tax laws are created and the important policy issues inherent in individual and corporate income taxes, consumption taxes, and wealth transfer taxes. Topics in this course are not limited to U.S. taxation and include an examination of systems used in other countries (such as the VAT) as possible alternatives to our current tax.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 650. Accounting Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 660. Managerial Accounting in Healthcare Organizational. 3 Credit Hours.

This course covers Managerial Accounting concepts applied to healthcare organizations. Topics include cost allocation and management control systems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 662. Taxation of Multinational Corporations. 2 Credit Hours.

This course introduces the fundamental tax concepts underlying U.S. taxation of international transactions. Topics include the taxation of U.S. corporations with income from foreign sources, intercompany pricing, anti-tax avoidance provisions, and tax treaties.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 664. Global Mergers and Acquisitions: Accounting and Related Issues. 2 Credit Hours.

This course focuses on the financial, cultural, and strategic aspects of international mergers and acquisitions (M&A) activity and has a global, cross-cultural perspective. It presents a strategic view of the M&A process, examining managerial decision making in the planning, execution, and post-merger phases.

Prerequisite: ACC 402 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 670. Financial Reporting and Analysis. 2 Credit Hours.

The course focuses on the analysis and use of financial accounting information in the evaluation of corporate performance. The course initially demonstrates the accounting process and resulting generation of financial statements. Building on these core accounting concepts, the course emphasizes the understanding of financial statements prepared under U.S. and International Accounting Standards and the analysis of these financial statements including common size analysis, ratio analysis, the impact of taxes, and credit analysis. Completion of the course enhances the student's ability to read, interpret, and analyze financial statements for making investment, credit, acquisition, and other evaluation decisions. Limited to MBA students and Executive MBA students. Does not satisfy any accounting requirements needed to sit for the CPA Exam in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 671. Accounting for Decision Making. 2 Credit Hours.

The course focuses on the use of accounting information in reporting managerial performance and making business decisions. The course covers the preparation and use of managerial accounting information for use in planning, budgeting, control, break-even analysis and pricing, including the impact of taxes. Completion of the course will enhance the student's ability to understand managerial accounting reports and use this information in making business decisions. Limited to MBA students and Executive MBA students. Does not satisfy any accounting requirement needed to sit for the CPA Exam in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 672. Advanced Financial Analysis. 2 Credit Hours.

Advanced Financial Analysis and Valuation builds on the analytical techniques developed in the basic financial statement analysis course, Accounting 670: Financial Reporting and Analysis, to augment your understanding of more complex financial reporting issues and to introduce you to the valuation of equity investments. The viewpoint is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business. We discuss each financial reporting issue in terms of its effect on assessments of a firm's profitability and risk. This course is designed primarily for students who expect to be intensive users of financial statements as part of their professional responsibilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 673. Taxation for Business and Investment Decisions. 2 Credit Hours.

This course is designed to be the first tax course for students who are interested in acquiring the basic knowledge that all executives and investors should have about our federal income tax system. It studies basic concepts of federal income taxation applicable to all taxpayers. The basic income tax formula is studied including income exclusions, inclusions, statutory deductions, exemptions, and credits as well as property transactions. Completion of this course will enhance the students' appreciation of the role of taxation in making investment, employment-related, and business decisions. Not open to students with credit in ACC 403 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 675. Compensation, Incentives and Strategic Control. 2 Credit Hours.

Internal control is the process by which owners influence manager's of organization to implement the organization's strategies. They key idea is that different organizations typically have different strategies which in turn require different control systems for effective implementation. Internal control involves both formal systems and informal processes. Accounting 675 will begin by describing the formal aspects of management control such as the design of responsibility centers, budgets and standards, performance reports and management compensation. We will then explore the economic and financial reporting consequences (perhaps unintended) of various performance measurement mechanisms. In particular, we will focus on issues of short-termism, earnings, management, and attendant control failures that plague Corporate America today . Finally, we will discuss some of the regulatory changes brought about in recent times (e.g., Sarbanes Oxley) to address the apparent widespread control system failures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 677. Forensic Accounting. 2 Credit Hours.

This course provides an overview of fraud perpetrated against an organization, including employee theft, vendor fraud, customer fraud, and management fraud. You will learn how to investigate and quantify fraud, and how it can be detected and prevented as well as the accountants' role in litigation, such as acting as expert witness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 681. Introduction to Financial and Managerial Accounting. 4 Credit Hours.

The first half of the course explores the role of accounting in providing financial information about an enterprise to decision-makers. Emphasis is placed on understanding financial accounting from both a preparer as well as user perspective. Course covers the reporting of financial position including coverage of assets, liabilities, equity accounts, the results of operations, and cash flows. Topics covered in the second half include various product costing techniques, analysis of cost behavior patterns, budgeting, and the use of accounting information in decision making from a managerial perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 682. Intermediate Accounting. 4 Credit Hours.

The accounting principles guiding the financial reporting practices of entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. The course begins with a detailed discussion of the components of the income statement as well as the balance sheet followed by more complex accounting applications such as leases, post retirement benefits, accounting for income taxes, and other topics. Additionally, the course includes coverage of the statement of cash flows.

Prerequisite: ACC 681.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 683. Taxation. 4 Credit Hours.

The course begins with a discussion of basic concepts of federal income taxation applicable to all taxpayers. The principles of individual income taxation, the tax consequences of property transactions, and an introduction to the impact of income taxes on corporations and partnerships are discussed. Emphasis is placed on study of the basic income tax formula including income exclusions, inclusions, statutory deductions, exemptions, and credits. This is followed by a study of Federal income tax laws and regulations as they affect corporations, partnerships, their owners, and employees. Emphasis is placed on tax planning aspects of formation, operation, distribution, and liquidation of corporations and partnerships.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 684. Accounting Information Systems. 4 Credit Hours.

Course covers the nature, design, and implementation of accounting information systems. The objective of the course is to develop students' understanding of the theory and practice of relational database management systems in the accounting view of enterprise-wide databases. With a focus on controls, students build accounting system elements related to main accounting transaction cycles, the revenue cycle, and the purchase cycle.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 685. Financial Statement Analysis and Valuation. 4 Credit Hours.

This course emphasizes the fundamental techniques of financial statement analysis. Building upon core accounting and investment concepts, the course covers the analysis and interpretation of financial accounting information including the balance sheet, income statement, and statement of cash flows. The course also examines the use of accounting information in investment and credit decisions including the valuation of equity investments. The viewpoint is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 686. Auditing. 4 Credit Hours.

Course focuses on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports. This is followed by discussion of advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact on audit practice.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 687. Advanced Cost Accounting. 4 Credit Hours.

The course focuses on the use of accounting information in reporting managerial performance and making business decisions. The course covers the preparation and use of managerial accounting information for use in planning, budgeting, control, pricing, and in making other business decisions. Topics include in-depth studies of techniques and issues surrounding cost allocation methods, approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, the formal aspects of management control such as the design of responsibility centers, budgets and standards, performance reports and management compensation will be discussed. Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 688. Advance Accounting and Financial Reporting. 4 Credit Hours.

The primary focus of the course is on business combinations and preparing consolidated financial statements. Additionally, the accounting principles and practices applied to foreign operations and partnerships will be discussed along with foreign currency translation issues. This will be followed by an exploration of complex financial reporting issues of contemporaneous interest.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 698. Selected Topics. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 699. Directed Readings. 1-3 Credit Hours.

Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 701. Empirical Accounting Research. 3.00 Credit Hours.

This is the first course in Empirical Accounting Research for Ph.D. students. The course introduces students to the data sources; current techniques for accessing and analyzing accounting data; research methods employed in hypothesis testing; and the literature on positive accounting theory, accounting anomalies, institutional accounting, and disclosure. The emphasis will be on current research with a historical perspective.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ACC 702. Empirical Accounting Research II. 3.00 Credit Hours.

This is the second course in Empirical Accounting Research for Ph.D. students. In this course, students will explore research on analyst estimates and stock recommendations, industry research in accounting, and empirical research on compensation. The course will critically evaluate the theory, research design, and methodology employed in these studies. PREREQUISITE: ACC 701 TOPICS IN EMPIRICAL ACCOUNTING RESEARCH I, OR PERMISSION FROM THE INSTRUCTOR.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 823. Topics in Empirical Accounting Research I. 3 Credit Hours.

This is the first course in Empirical Accounting Research for Ph.D. students. The course introduces students to the data sources; current techniques for accessing and analyzing accounting data; research methods employed in hypothesis testing; and the literature on positive accounting theory, accounting anomalies, institutional accounting, and disclosure. The emphasis will be on current research with a historical perspective.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ACC 824. Topics in Empirical Accounting Research II. 3 Credit Hours.

This is the second course in Empirical Accounting Research for Ph.D. students. In this course, students will explore research on analyst estimates and stock recommendations, industry research in accounting, an empirical research on compensation. The course will critically evaluate the theory, research design, and methodology employed in these studies.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

ACC 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credit as determined by their advisor, but not for less than a total of 24. Not more than 12 hours of ACC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed their qualifying examinations they may take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Business Courses

BUS 600. Fundamentals of Critical Thinking and Effective Writing. 1 Credit Hour.

Critical thinking skills are developed by studying questions that transcend any single business discipline. Utilizing a variety of written formats, students hone analytic and persuasive skills, with emphasis on identifying critical issues, developing reasoned positions, and making compelling written arguments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 601. Mba Math Module. 3.00 Credit Hours.

This course provides the student with the necessary mathematical skills to progress toward an MBA degree. The course begins with a review of algebra and continues with the fundamentals of differential and integral calculus. The focus is on applying these concepts in solving business problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 602. Critical Thinking and Effective Writing. 1 Credit Hour.

Critical thinking skills are developed by studying questions that transcend any single business discipline. Utilizing a variety of written formats, students hone analytic and persuasive skills, with emphasis on identifying critical questions, developing reasoned positions, and making compelling written arguments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 603. Critical Thinking and Effective Speaking. 1 Credit Hour.

Builds on critical thinking and writing skills acquired in BUS 602. Topics include oral persuasion, prepared and impromptu speeches and dealing with the media, defending one's view before adversarial audiences, display of data, and effective use of visual aids.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 604. Career Development and Enrichment. 1.00 Credit Hour.

This course will expose students to a variety of academic and industry career lectures, events, and workshops to enhance their MBA experience. The focus is to establish added-value to an MBA student through real world and relevant access to information and resources beyond the traditional curriculum.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 605. Residential Session Abroad. 1-6 Credit Hours.

One two-week session of the Global Executive MBA program is held abroad. During this corporate and international experience students attend lectures and institutional visits. This experience exposes students to other cultures and different perspectives on business issues, and widens international networking opportunities.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 620. Exchange Program- IE Business School-Madrid Spain. 1-16 Credit Hours.

Course enrollment will vary based on student selection.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 622. Global Business Project (GBP) - CIBER. 1-6 Credit Hours.

The Global Business Project (GBP) is a collaborative course offered by participating CIBER schools to their MBAs and other interested graduate students. Students in related disciplines work in teams both virtually and in person on real business issues with multinational and local businesses and not-for-profits. Project supervision and final grade provided by Country Lead Professor CIBER.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 624. Asian/Pacific Business Environment- International Trip. 1-4 Credit Hours.

Course content, dates and location will vary from semester to semester at selected universities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 625. Latin America Business Environment - International Trip. 1-4 Credit Hours.

Course content, dates and location will vary from semester to semester at selected universities.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 626. Exchange Program- Tel Aviv University - Tel Aviv Israel. 1-16 Credit Hours.

Course enrollment will vary based on students selection.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 627. Exchange Program - IESE Business School - Barcelona Spain. 1-16 Credit Hours.

Course enrollment will vary based on student selection.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 628. Multidisciplinary Action Projects. 2-4 Credit Hours.

The Multidisciplinary Action Projects core course (MAP) places students with organizations throughout the world to address pressing organizational challenges. Students work in teams with guidance from faculty advisors to develop actionable and valuable recommendations for sponsors. For students, MAP provides an opportunity to augment and integrate knowledge of fundamental business concepts and tools learned in classroom settings. MAP also offers opportunities to develop and test both critical thinking and leadership skills through practical experience with real business challenges. For sponsoring organizations, MAP offers access to a high-caliber team of 4-6 students, the latest business concepts and tools, an external viewpoint, and rapid turnaround. The ultimate deliverable to the sponsor from a MAP project is a set of actionable, data-driven recommendations. MAP projects are based on sponsor needs and address a wide range of business issues – from identifying new processes and improving existing operations to launching new products and targeting new growth opportunities. Sponsors come from many different industries – from alternative energy to business process outsourcing to consumer products to financial services to healthcare to real estate to telecom. Sponsoring organizations may be large corporations, small entrepreneurial start-ups, or non-profit organizations. While each MAP project is different in context, all have essential features in common. All confront students with a real business challenge of significant importance and no existing solution. All require applying concepts and tools from multiple disciplines to successfully complete. All require dynamic sense-making, fact-based decisions, and high-performance teamwork. All unfold in unpredictable ways. All conclude with teams presenting actionable recommendations to project sponsors and faculty advisors.

Components: EXP.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 630. Fundamentals Of Economics, Accounting And Finance. 4 Credit Hours.

This course provides an overview of business economics, accounting, and finance. Economic themes primarily focus on microeconomic topics such as demand, supply, elasticity, and forms of competition. Accounting concepts include corporate financial statements, cost-volume-profit analysis, and traditional and activity-based cost accounting. Finance topics include time value of money, capital budgeting basics, foreign exchange, risk and return, modern portfolio theory, and financial markets. The course includes an integration of many of these concepts through an exposure to business plan development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 631. Business Analytics And Operational Excellence. 4 Credit Hours.

This course combines three disciplines that form the basis of a modern analytical approach to business management: statistics, optimization, and operations management. Many of the concepts covered are cross-disciplinary and can be applied to a variety of business functions and situations. Although specific examples will be used during the course to illustrate each concept, instruction will focus on the general applicability of the material. Topics to be covered include: numerical and categorical data, population/sample, parameter/statistic, introduction to excel, frequency distributions, histograms, pie charts, measures of variability, pivot tables, measures of association, random variables and distributions, sampling, types of hypothesis and of statistical errors, linear programming, network models, sensitivity analysis, integer and goal programming, forecasting, inventory management and location analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 632. Introduction To Strategy, Market And Management. 4 Credit Hours.

This integrated course focuses on the external environment in which business firms operate and on the management techniques through which managers organize and motivate human resources to support strategic initiatives. It emphasizes in particular three critical sets of actors: customers, competitors, and employees. The purpose of the course is to introduce the student to basic conceptual frameworks and analytic models that managers use to a) identify and understand the customer segments that make up a marketplace, b) formulate strategies that achieve a competitive advantage within that marketplace, and c) lead and motivate employees in the execution of competitive strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 633. Business Plan Fundamentals And Communications. 4 Credit Hours.

This course provides students with the fundamentals in the development and preparation of a business plan, as well as of oral and written business communications. Students, after exploring new venture opportunities, will develop a comprehensive business plan, including its functional components (marketing, finance, operational, human and intellectual capital plans), the support with which to secure the needed financial and human resources, and the organization to manage the new venture. Students will also enhance their communication skills with which to identify critical issues, develop reasoned positions, display data, use visual aids effectively, state persuasive and compelling arguments for written documents as well as prepared and impromptu speeches, and deal with the media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 634. Research Project. 1-6 Credit Hours.

Individually supervised research project in selected field. Scope of work must be approved by supervision instructor prior to registration. Total enrollment may not exceed six credits.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BUS 635. Research Project. 1-6 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**BUS 640. Quantitative And Analytical Fundamentals For Finance. 1-4 Credit Hours.**

This four-credit course provides graduate students with an intensive review of the fundamentals of financial accounting and finance, and as well as microeconomic concepts and quantitative skills, needed as appropriate foundation to pursue the Master of Science in Finance degree or other master degrees that entail taking an elective course in finance. Topics include: Math concept review (functions, exponents, notation, weighted average, derivatives as applied to maximization/minimization); Measures of central location, variability, and association; Supply and demand curves, elasticity; Profit maximization; Markets: perfect competition, monopoly, oligopoly; Economic role of Government (monetary and fiscal policy, regulation, taxation); Basic financial statements (income statement, balance sheet, statement of cash flow, statement of changes in shareholders' equity); Working capital, noncurrent liabilities and owners' equity, investments and long-lived assets; Common size and ratio analysis; Principles in finance; Time value of money; Valuation (including bonds and stocks); Fixed income securities; Term structure of interest rates; Interest rate risk and duration; Capital markets, how securities trade, intermediaries; Capital market efficiency, arbitrage; Risk and return, portfolio math; Diversifiable vs. non-diversifiable risk; Asset Pricing Models (CAPM, beta, Fama-French); Capital structure; Capital budgeting; Cost of capital; Foreign exchange and global investing; Introduction to derivatives. The course will be taught over a two-week period, primarily in lecture, homework, and test format.

Components: DIL.**Grading:** GRD.**Typically Offered:** Summer.**BUS 641. Business Analytics Capstone Project. 2 Credit Hours.**

including data collection and analysis. The description of the problem in question, the approach used to address it, and the findings obtained by the group are to be described in formal written reports. The reports will be evaluated both on their quantitative value and on the quality of the writing.

Prerequisites: MAS 631, MAS 632, MAS 637, MAS 639 or equivalent.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**BUS 650. Introduction To The Miami Emba For The Americas. 1 Credit Hour.**

This course provides incoming Executive MBA students an orientation to program tools and resources central to program success. Students will receive training in Blackboard, learn to access e-materials and navigate the business fundamental virtual modules, and increase their knowledge of business networking and influence. Students will also be introduced to business information resources and research strategies that they will use throughout the program. They will partake in Case Study preparation and receive an overview of the Integrated Project from Global Management, Global Enterprise, and Global Strategic Marketing perspectives. Students will also receive guidance on operating in teams both virtually and during the residency components of the program. Students will also participate in a corporate visit. This orientation also helps build a sense of affiliation among students and with the University.

Components: LEC.**Grading:** SUS.**Typically Offered:** Fall.**BUS 651. Global Strategic Marketing. 4 Credit Hours.**

The purpose of this course is to acquaint the student with the theories and practice of strategic marketing management in the Americas. This course will enable the student to understand markets, develop strategies to capture value, and develop marketing plans based on the nature of national as well as international markets. Specifically, the issues of strategic marketing in the context of firm level strategy will be addressed, as well as issues of value capture and delivery, customer life-time value, pricing, distribution, branding and communication in markets.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**BUS 652. Global Strategy. 2 Credit Hours.**

The purpose of this course is to change how the strategic environment is viewed, how students think about their own organizations and other others, and how strategy and its execution is viewed. This course will help the student: understand organizations as complex systems embedded in a set of evolving cooperative and competitive economic relationships; identify the distinct resources and capabilities that form the foundation of an organization's competitive advantage; formulate business strategies that anticipate imitation and competitor response; evaluate the relationship between a firm's competitive advantage and its growth opportunities; understand the role of the corporate center in supporting and enhancing the competitive success of operating divisions; and see the interplay of organizational structures, systems, networks, and influence centers that form the basis of effective strategy implementation.

Components: LEC.**Grading:** SUS.**Typically Offered:** Fall, Spring, & Summer.

BUS 653. Global Institutions Infrastructure And Environment. 4 Credit Hours.

This course considers how a country's legal and economic institutional arrangements influence managerial strategy involving goods, services and financial flows across nations. The course addresses how economic problems are dealt with by institutional arrangements in different ways around the world. Discussions will emphasize the influence that these institutional arrangements have on managerial project strategy when firms operate across borders. Specific emphasis will be placed on legal, economic and financial institutions in the Americas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 654. Corporate Financing And Investing. 4 Credit Hours.

This course considers financing and investing within the corporation. As such, it will consider the theoretical structure of the problem, the boundaries that management faces and how these decisions are made by management. The inter-residency portion will focus on the theoretical development and computational aspects of solving the problems. The residency portion will emphasize case discussion and simulation to demonstrate the practical implementation as well as integrating these concepts into the overall management picture. The objective of the course is to develop your understanding of the principles that define financial decision making in the firm. These topics are an important component of the strategic planning and top-level management of the firm. The course will guide you through the theory and computational aspects applying the theory, then through application to situations that will enhance and cement your understanding. Finance theory is universal and therefore does not apply to any given country or system. All of the applications will be international, multinational, or global in context. A central theme of the course is decision making. Specifically we will focus on the financial aspects of major strategic decisions. We will build on previous courses to understand how institutions, accounting, legal structures and more, affect these decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 655. Public Policy and Health. 3 Credit Hours.

Development of public policy at the federal, state and local level. Policy process, models of policy analysis, policy development in several government service areas, and plans for policy change. Special emphasis on health policy formulation, implementation and the use of epidemiological tools in health policy analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BUS 656. Integrated Business Project. 1-6 Credit Hours.

The Integrated Project course (IP) requires students to formulate, develop and implement three business projects that address pressing organizational challenge, over the 17-month duration of the EMBA for the Americas. Students may work in teams or individually to develop actionable and valuable recommendations for their chosen organization and present project outcomes to faculty advisors during the February, June and October residencies. For students, IP provides an opportunity to augment and integrate knowledge of fundamental business concepts and tools learned in classroom settings. IP also offers opportunities to develop and test both critical thinking and leadership skills through practical experience with real business challenges.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 657. Optimizing Human Capital. 4 Credit Hours.

The 21st century workplace has often been characterized as the "Age of Intellectual Capital," a time in which competitive advantage is linked intricately to optimizing human resources in distinctive ways. In this dynamic, global marketplace, Darwin rules. To survive, organizations must provide the best products, the best services with the best labor or risk extinction. Contextual factors including changing demographics; global social, economic, and regulatory issues; and technological innovations have created major challenges for organizational sustainability. In a recent publication based on survey results from 94 countries, talent acquisition, retention, management, and engagement were viewed as "urgent" global trends for the 21st century. Utilizing a variety of pedagogical approaches, this course will focus on the ways in which human capital can be leveraged to create sustainability as well as work environments that engage the minds and hearts of participants to achieve strategic initiatives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BUS 658. Business Analytics. 4 Credit Hours.

One of the strengths of Business Analytics is its broad applicability. The skills learned in this module can be used in virtually any context of business, including but not limited to: finance, marketing, strategy, operations, logistics, transportation, health care, real estate, sports, manufacturing, etc. For that reason, rather than focusing on a single central theme, as do other modules in the MEMBAA program, the Business Analytics module touches on a variety of themes that illustrate its potential.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 660. High Performance Leadership. 4 Credit Hours.

The High Performance Leadership course was developed to help executives build a high-performance work environment and effectively operate in the multi-cultural environment of the Americas and the World. The course is divided into two parts. The first part, the inter-residency will concentrate on the facets of high-performance leadership. It will explore the fundamentals of leadership; investigate the major leadership theoretical concepts; explore a wide-range of leadership research; convey practical leadership implications; and share lessons in conquering self-leadership. This section will be taught online through readings, discussion boards, and case and leader analyses. The emphasis will be on building a sound grasp of good practice, and on developing the ability to apply such knowledge to actual business problems. The theories will be applied to specific situations. The second part of the course, the residency concentrates on the cross-cultural environment of the Americas (and global markets) and addresses four main topics. The first session focuses on Cross-Cultural Communication in Business and allows executives to understand culturally-specific communication patterns, negotiation styles, expectations, cues, and norms. The second session addresses Leadership Issues in Organizational Control and participants will explore ethical and moral dilemmas, and external communications by senior executives. The third session focusses on Cross Cultural Issues in Leadership and examines effective leadership across cultures. The final session addresses Guanxi and Doing Business in China. China is currently or will soon become the world's largest economy (PPP basis) and is increasingly becoming important to the Americas. This session addresses critical thinking, cultural understanding, solutions to problems, and evaluating different options when doing business with China.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 661. Enhancing Global Operations. 4 Credit Hours.

This course focusses on how to manage more complicated global networks; how to optimize service and quality levels of performance; and, how to minimize risks yet maintain required capacities. Operational transformation requires commitment and expertise in strategy and execution to achieve lasting improvements. This course draws on research and real world issues confronting manufacturing and service companies today, providing strategic frameworks to enable executives to make smart choices so that their firms can deliver the products and services they are committed to providing their customers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 662. Decision Making in Global Environment. 4 Credit Hours.

This course provides students with a systematic way to carefully think about decisions to arrive at more informed choices while doing business globally and specifically in the Americas. The course covers structuring decisions, creating alternatives, making tradeoffs among conflicting objectives, accounting for uncertainties and risk tolerance, and analyzing and evaluating alternatives. The course is intended to make participants aware of decision making issues surrounding global business, the dynamic issues surrounding their context, and how these affect managerial strategy. An objective of the course is to increase participants' competence in managerial decision making related to globalization, institutions, incentives, corporate governance, regulation, business law, international finance and accounting, organizations and management (including culture), and international trade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 663. Entrepreneurship & Innovation. 4 Credit Hours.

This course considers entrepreneurship and innovation within the Americas, together with a special emphasis on the Latin American context. The course covers the building blocks of the entrepreneurial process and pays special attention to the family business model where ownership is closely held. The objective of the course is to develop an understanding of the venture formulation process within the Americas and the processes that surround this. The topics of innovation; venture capital; venture formulation; human capital; market dynamics; technological readiness; role of government, regulation, and culture will be assessed. An objective of the course is to consider new models for venture design such as the agile model of development and the creation of the business canvases, a lean version of the traditional business plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 698. Selected Topics. 1-6 Credit Hours.

Topics in selected areas of business.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 700. Introduction To Commercial Real Estate: Analysis And Field Experience. 3 Credit Hours.

Students enrolled in the Accelerated MBA in Real Estate program are required to participate in a one-week, four module, on-campus class followed by a full-time internship at a local Commercial Real Estate Institution during the first summer of the program. Module I: Students are introduced to the complexities of commercial construction techniques used in South Florida and the important links between architectural plans and economic value to owners and tenants. Module II: Students are introduced to the terminology and financial analysis of commercial real estate. Module III: Students are introduced to the application of real estate finance and valuation principles using ARGUS Valuation – DCF. Module IV: Students participate in a required internship at a local Commercial Real Estate Institution. Regarded as a full-time student.

Components: EXP.

Grading: SUS.

Typically Offered: Summer.

BUS 701. Commercial Real Estate Field Experience. 3 Credit Hours.

Students enrolled in the Accelerated MBA in Real Estate program are required to participate in a full-time internship at a local Commercial Real Estate Institution during the first fall semester of the program. This internship is subsequent to their previous summer internship (BUS 700). Regarded as a full-time student.

Components: EXP.

Grading: SUS.

Typically Offered: Fall.

Business Law Courses

BSL 612. Legal Aspects of International Business. 3 Credit Hours.

International legal framework, transactional legal issues in finance, marketing, management, distribution, and a review of theory and practice of negotiations. Case studies on such topics as legal implications of GATT, European Competition, C.I.S.G., and Export Import Rules are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 624. Negotiation: Theory & Practice. 2 Credit Hours.

This experiential course is designed to introduce graduate business students to the theory and practice of negotiation. The lectures and readings will discuss negotiation theory, equipping students with the concepts and terminology to prepare and execute value-creating, interest-based negotiations. Negotiation exercises will provide the student with an opportunity to apply the theoretical elements of the course in live, simulated negotiations. Extensive review of these simulated negotiations through classroom discussion and film analysis will assist students in cementing their understanding of the use of negotiation theory in practice. Although negotiation theory is applicable to a wide variety of academic contexts, this course focuses on negotiations in the practice of law and business.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 675. Advanced Business Law. 2 Credit Hours.

Advanced Business Law focuses on the following substantive subject areas commonly encountered by Certified Public Accountants and tested on the Uniform Certified Public Accountancy Examination: business ethics, contracts (including formation, performance, breach, and remedies), commercial transactions under UCC Article 2, commercial paper, agency principles, and secured transactions. Special attention is given to the areas tested on Regulation section of the Uniform CPA Exam.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 685. Legal Aspects of Health Administration. 3 Credit Hours.

Derivation of rule of law governing health providers, vicarious liability of administrative and medical personnel, informed consent, and other related problems are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 690. Legal and Ethical Implications of Business Decision Making. 2 Credit Hours.

The course provides an introduction to our legal and governmental regulatory system, as well as a review of constitutional considerations for businesses. Morality and ethics are defined and distinguished. Applied philosophy is then introduced, to give the student a foundation upon which to analyze the ethical dimensions of common business questions. The relationship between the letter and the spirit of the law is examined. Specific business topics and their legal and ethical aspects are then addressed. This includes, but is not limited to, discussion of the following areas: consumer relationships; business organizations; the balancing of corporate vs. individual power (employee rights and responsibilities, employment discrimination); and the emerging ethic of a global economy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 691. The Public Corporation: Legal Perspectives. 2 Credit Hours.

The Public Corporation: Legal Perspectives reviews the laws governing the formation, operation, regulation, and governance of the public corporation with the objective of providing the graduate business student a sophisticated examination of the legal and social aspects of managing the money of others. Further, the course examines the rules and regulations governing the raising of capital from the public through the sale of securities for the development of and investment in a private enterprise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 692. Legal Implications of International Business Transactions. 2 Credit Hours.

International legal framework, transactional legal issues in finance, marketing, management, and distribution. Case studies in substantive international legal topics such as international sales contracts, international documentary sale, international terms of trade, legal implications and substantive rules governing international finance, collections, payments, and letter of credit, the resolution of international disputes with a particular emphasis and examination upon the management of litigation, enforcement of foreign judgments, and alternative dispute resolution are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 694. Real Estate Law. 2 Credit Hours.

Real Estate Law focuses on the U.S. legal system as it relates to the buying, selling, and financing of real property. In addition to traditional text material, the analysis of U.S. court cases is used to detail the legal factors of ownership rights and liabilities, specific interests in real property, contracting issues related to the purchase and sale of real property, as well as financing and closing the real estate transaction. The course provides a problem-solving experience, which is intended to develop graduate students' critical thinking process as well as their skills in oral and written communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 695. Legal Implications in Executive Decision Making. 3 Credit Hours.

Law and legal process are examined as they mix with the politics and ethics of business, including the weight given to legal implications in the executive decision-making process.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 696. Legal and Ethical Implications in Executive Decision Making. 3 Credit Hours.

Business and public administration cases requiring identification of the legal, ethical, and social elements as well as the determination of the weight such elements should have in setting policy are discussed. Integration of law and ethics with public and business administration is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 698. Selected Topics. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Business Technology Courses

BTE 610. Foundations of Management Information Systems. 2 Credit Hours.

Course is designed to provide the foundations in management information systems information systems required to understand and effectively use an enterprise wide information system. Topics include the role of the CIO, managing Information Technology (IT) as a strategic resource, business process reengineering, IT planning, IT governance and communication, the Internet, and eBusiness.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 612. Enterprise Technologies. 2 Credit Hours.

Course addresses the needs of business students who wish to expand their understanding of information technology fundamentals. Focusing upon their use in today's enterprises, the course aims to provide students with knowledge of a variety of technological concepts commonly used in the IT Organization's systems development initiatives and enables students to understand the implications of deploying such technologies within the enterprise.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 613. Business Intelligence Technologies. 2 Credit Hours.

Course facilitates business decision makers in their understanding of data analysis tools that operate over data warehouses and 'data marts' more commonly referred to as Business Intelligence. Course focuses upon using technologies to drive effective data driven decision making through effective mining of corporate data warehouses, thus improving operational efficiency and ultimately increasing profitability. Students are exposed to the concepts, analysis techniques, data cubes, and manipulation of information extracted from a data warehouse that enables the formulation and execution of business strategies. Data analysis case studies are used to reinforce students' understanding and strategic use of results to accomplish business objectives.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 617. Information Technology Project Management. 2 Credit Hours.

Course covers the identification and development of information technology plans for projects supporting the organization's business objectives and all activities required in the initiating, planning, executing, controlling, and closing phases of the project's lifecycle. Course is intended to provide the body of knowledge and best practices necessary for a new Consultant, Business Analyst or Project Manager to successfully perform his/her responsibilities on a wide variety of IT enterprise projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 621. Management Information Systems. 3 Credit Hours.

Course is designed to give prospective managers a foundation in MIS sufficient to understand and effectively use information systems. Topics include types of information systems, role of MIS in organizations, CIO issues, ERP systems, and electronic commerce.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 623. Database Management Systems. 3 Credit Hours.

Course covers the fundamental concepts of database management systems using the Oracle DBMS. Topics include database theory and terminology, logical modeling, normalization, SQL language, database design and implementation, database administration, data security, database transaction/concurrency, and data backup.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 624. Mobile Apps Development. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 630. Fundamentals of Local and Wide Area Networks. 3 Credit Hours.

Course provides the graduate student the necessary knowledge to understand the design, integration, technologies, and services of local and wide area networks (LANs and WANs) in the business environment. Topics include signal transmission and propagation, standards and protocols, data communications media and devices, layered/encapsulated communications based on the hybrid TCP/IP-OSI standards, small and large-site PC LANs, Frame Relay, ATM, Virtual Private Networking (VPN), Telephony, Internet technologies, and network security.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 631. Computer and Network Security. 3 Credit Hours.

Protection of computers and networks against unauthorized access, access control, encryption, firewalls, proxy, digital certificates, and software security are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 635. COMP COMMUN SECURITY. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 640. Data Communications and Networking. 3 Credit Hours.

Course addresses advanced topics in computer networks from the perspective of a business decision-maker. The course begins with a focus on signal propagation, media characteristics, and digital and analog encoding techniques. It continues with a study of datalink, network, and transport layer functions as defined by the OSI and TCP/IP models. The architecture of the Internet is explored and routing algorithms for wired, wireless, and peer-to-peer networks are introduced. Course concludes with a high-level overview of the top OSI layers. After taking the class the students should be able to critically evaluate network solutions based on the capabilities and limitations of the equipment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 646. IT Planning and Project Management. 3 Credit Hours.

Course covers the development of information technology strategic and tactical plans for projects supporting the organization's business objectives and project management as applied to planning, implementing, controlling networking, information systems and e-commerce projects. Course is intended to provide a body of knowledge necessary for a new Consultant or Project Manager to successfully initiate, plan, manage, control, and report on a variety of project types. People skills required in the areas of team selection, structure, conflict resolution, and leadership is also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 650. Introduction to Health Informatics. 3 Credit Hours.

The course develops an understanding of the role of information systems and technology within a healthcare organization. It examines the business and technical issues associated with the selection, deployment and use of health informatics, both in the clinical and back office areas. Health informatics, for the purpose of the course, is defined as the convergence of information technology, information management, and health care, at various levels, ranging from simple data gathering, to the design and implementation of new health care information systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 660. Computer Information Systems Graduate Internship. 1-3 Credit Hours.

Student is individually assigned to an operating business firm or other organization to gain insight and experience in information technology practice in area of career interest. Periodic reports and conferences are required. This course can only be taken as "satisfactory/unsatisfactory."

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

BTE 665. Applied Software Project Development. 3 Credit Hours.

Advanced concepts and techniques in application project development. Topics include project management, program testing, documentation, application installation, and application maintenance. Students will work on a group project to sharpen their implementation skills. Prerequisite: CIS 223 or 226 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 680. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 682. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 684. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 685. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 686. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 687. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 688. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 689. Topics in Computer Information Systems. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 690. Directed Study in Computer Information Systems. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 691. Directed Study in Computer Information Systems. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 699. Directed Study. 1-3 Credit Hours.

Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Economics Courses

ECO 600. Econometrics. 3 Credit Hours.

Statistical methods for estimating and testing mathematical models of economic relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 601. Graduate Macroeconomic Theory. 3 Credit Hours.

The primary objective of this course is to introduce the student to the mathematical presentation of the major Classical, Neo-classical, Keynesian, and Neo-Keynesian macroeconomic models.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 602. Advanced Microeconomic Theory. 3 Credit Hours.

An introduction to the mathematical approach to microeconomic theory. Topics include consumer/household behavior, the theory of the firm, resource allocation, welfare economics, and uncertainty theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 603. Monetary Theory and Policy. 3 Credit Hours.

Current monetary theory and its use and application in fiscal and monetary policymaking. Topics include the rational expectations hypothesis, time inconsistency, and the role of the government budget constraint.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 604. Topics in Applied Macroeconomics. 3 Credit Hours.

Course acquaints students with current substantive issues in macroeconomics. Topics include consumption determination, savings behavior, bequest behavior, fiscal policy effects on interest rates, consumption, real exchange rates, trade balances, and inflation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 610. Mathematical Economics And Applications. 3 Credit Hours.

The course will focus on specific applications of microeconomic theory, which may vary each semester. Topics may include choice under uncertainty, game-theoretic models of insurance markets, principal-agents problems, and basic auction theory. The discussion of each application will be preceded by a discussion of the mathematical tools required. The mathematics topics covered may include basic theory of sets and functions, concave / convex functions and their role in optimization, expectations, conditional probability, Bayes rule, and order statistics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 611. Labor Economics (III). 3 Credit Hours.

The formulation and testing of models of labor markets. The application of the tools of microeconomics and econometrics to the analysis of labor markets. Leading contributions in the areas of dynamic analysis of labor markets, human capital investment, the determinants of the wage structure, time allocation and search models, dual and internal labor market models, and analysis of government policy are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 612. Economic Strategies for Firms and the Industry. 3 Credit Hours.

This course shows how modern economic techniques can be used to identify optimal managerial decisions and industrial developments. Diverse real-world applications are examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 620. Advanced Econometrics. 3 Credit Hours.

Advanced econometric methods including advanced techniques in multiple regression, Bayesian methods, maximum likelihood estimators, distributed lag models, spectral analysis, and Monte Carlo studies are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 621. Advanced Macro Analysis. 3 Credit Hours.

Theory of the determination of national income, employment, and price levels. Course emphasizes mathematical solutions of Classical, Keynesian, and other economic models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 625. Applied Econometrics. 3 Credit Hours.

Practical applications of econometrics are surveyed. Computer packages are used to examine economic data. Topics include the series analysis, limited dependent variable models, pooling cross section and time series data, model selection, and rational expectations models.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 633. Advanced Micro Analysis. 3 Credit Hours.

Theory of the behavior of firms and households and the determination of prices and resource allocation in a decentralized economy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 634. Advanced Micro Analysis II. 3 Credit Hours.

Continuation of ECO 633. Advanced analysis of theory of the household and firm emphasizing recent approaches. Analysis of decisions over time, duality relationships, advanced demand theory, risk and uncertainty, behavioral theories of the firm, and technological change are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 645. Regulations Economics. 3 Credit Hours.

This course examines public policies for dealing with problems arising in markets in which competitive forces are weak. The focus is on monopolies, oligopolies, cartels, and other environments where market mechanisms are unlikely to produce outcomes that benefit consumers more than the alternatives involving costly government intervention.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 675. Latin America And The Global Economy. 3 Credit Hours.

Analysis of the economic, political, and social forces at work in the changing economies in Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 680. Essentials of Economics. 2 Credit Hours.

This course provides an introduction to the core concepts of economics. Topics include allocation of scarce resources by the laws of supply and demand, use of the market place as the principle organizing and distribution tool of the economy, externalities, and market failure. Pollution of the environment is treated as a needed correction to be done by public regulation through taxation and legislation. The principal forms of firm organization and dissolution are also discussed. Applications of the laws of supply and demand are made to forecasting demand and analyzing cost structure. The entry and exit of firms and the valuation of the firm is also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 685. Managerial Decisions in a Global Economy. 2 Credit Hours.

Modern techniques of economic analysis and decision science are applied to the management of the firm in a global environment. Business planning and the determinants of supply and demand are an integral part of the course. The principal forms of business organization and dissolution are reviewed. The major issues confronted by the firm: Principal-agent problem (or how to motivate managers to act in the best interest of the owners, the shareholders), moral hazard, discounting of free cash flow and terminal value, economies of scale and scope, and strategic management decision making are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 690. Essentials of Economic Theory. 3 Credit Hours.

An economic study of the environment in which the decision making process takes place in management and the functional areas. Structured especially for students without an undergraduate background in economics. Credit not applicable toward 36-credit professional MBA component.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 691. Managerial Economics. 3 Credit Hours.

Application of economic analysis to the formulation and solving of management problems and the determination of business policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 695. Global Economics. 2 Credit Hours.

This is a course in global economics with focus on economic policies and country risk. We study the aggregate behavior of macroeconomics variables that are relevant for business decisions. We take into account the interaction of the national economy with the rest of the world. In other words, we do global economics and study the roles of monetary and fiscal policies in an open economy, foreign direct investment, and the exchange rate.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ECO 698. Selected Topics. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of ECO 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Finance Courses

FIN 602. Fundamentals of Finance. 3 Credit Hours.

This is a core MBA course in our executive MBA program, devoted primarily to the area of finance. No prior background in finances is assumed. The course objective is to provide students with a conceptual framework for appreciating and understanding the problems facing the financial manager.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 603. Advanced Corporate Finance. 3 Credit Hours.

Applications in corporate finance. This class builds on the core MBA courses in our executive MBA program, especially Fundamentals of Finance (Finance 602). Topics include working capital management, financial planning, basic option valuation, agency theory, capital structure management, mergers and acquisitions, liabilities management and leasing. Note: required for Finance concentration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 613. Intermediate Corporate Finance and Investments. 4 Credit Hours.

Prerequisite: BUS 640.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 614. International Finance, Valuation, & Financial Statement Analysis. 4 Credit Hours.

Prerequisites: BUS 640, FIN 613.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 615. Financial Decision Making. 4 Credit Hours.

Prerequisites: BUS 640, BUS 613, FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 616. Advanced Corporate Finance. 4 Credit Hours.

Prerequisites: BUS 640, BUS 613, FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 617. Derivatives and Financial Modeling. 4 Credit Hours.

Prerequisites: BUS 640, BUS 613, FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 620. Investment Analysis. 3 Credit Hours.

This course deals with theory and application of investment analysis.

Topics include general stock trading, portfolio and risk-return theory, models of stock valuation, portfolio diversification, market efficiency, options and futures, bond valuation and bond portfolio strategy, general commodity investing, and personal financial planning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 621. Portfolio Construction and Management. 3 Credit Hours.

The evolution of portfolio theory and practice and its role in modern investment management. Individual constraint models within the general capital market theory are included as well as empirical evidence, theoretical discussion, and practical exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 622. Financial Options and Futures. 3 Credit Hours.

Study of the theoretical development of models for pricing contingent claims in the field of finance. Application of theoretical results to the hedging of current and future assets and liabilities and to speculative strategies for the risk-averse, profit-maximizing entity are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 630. International Finance. 3 Credit Hours.

The financing of international trade and capital placements. Restrictions on capital retrieval and problems of international liquidity related to the U.S. and non-U.S. firms is discussed as well as current developments in international banking, theory, and policy. Cases involving foreign capital commitments and transactions, especially Latin America are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 631. International Financial Management. 3 Credit Hours.

Sources and uses of long and short term capital for international business applications and foreign currency markets. Financial decisions associated with international cash and capital budgeting, capital repatriation and taxation strategies, capital exposure and coverage, and multinational firm financial strategies are discussed. Lectures and cases are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 641. Valuation and Financial Decision Making. 2 Credit Hours.

Basic financial valuation. This is one of the core classes in finance for our regular MBA program. Topics include the financial environment; the time value of money; capital market efficiency; basic security valuation; risk, return and asset pricing; cost of capital; and an introduction to capital budgeting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 642. The Financial Environment. 2 Credit Hours.

A continuation of FIN 641. Topics include an introduction to the global securities markets and foreign exchange, basic derivatives, real options, the securities trading process, fixed income securities markets, the term structure, investment banking, and short-term financial management and planning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 643. Quantitative Finance & Market Microstructure. 2 Credit Hours.

This course exposes students to the fast growing field of market microstructure. Students will learn about different trading mechanisms encountered in financial markets today, how information affects prices and liquidity, what algorithms practitioners use to implement their trading strategies, and some basic models of market microstructure. The course ends with a brief description of several common quantitative trading strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 644. Real Estate Investment and Appraisal. 2 Credit Hours.

This course will introduce students to the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 645. Real Estate Finance. 2 Credit Hours.

This course will introduce you to the theoretical concepts and analytical techniques used to make a decision to loan money for the purchase or development of a commercial real estate project.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 647. Introduction to ARGUS. 1 Credit Hour.

ARGUS software is used extensively in the development, financing and management of commercial real estate, especially in the office, industrial and retail sectors. The introduction to ARGUS class exposes the student to the basic concepts and terminology in the commercial real estate market and to the typical inflows and outflows an owner who invests in real estate faces over the life of the investment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 648. Advanced ARGUS. 1 Credit Hour.

At the end of the Advanced ARGUS class the student will be able to assess the viability of detailed rent and operating expense assumptions, make decisions about the impact of financing on investor returns and critically evaluate the investment potential of leveraged office and retail property.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 650. Financial Investment. 2 Credit Hours.

This course builds on FIN 641 and FIN 642 to provide a more advanced knowledge of the field of investments, particularly the fixed income markets, portfolio construction, asset pricing, and behavioral biases affecting financial decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 651. Advanced Topics in Investments. 2 Credit Hours.

This course is about applying finance theory to the practice of investments. Topics include building a term structure model, building a fixed income portfolio, performance standards and measurement, and the role of futures and options in portfolios.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 653. Alternative Investments. 2 Credit Hours.

The course provides an advanced theoretical and practical understanding of various alternative investment strategies, with a specific focus on derivatives (e.g., interest rate and credit derivatives), venture capital and private equity investments, and real estate investments. The course also examines how macro-economic, technological, labor market, taxes and regulatory issues affect specific investment decisions. In addition, the students learn about valuation, investment and risk management strategies of sophisticated investors and recent chronology of events that affect market participants.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 655. Smif Fund Analyst I. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 656. Smif Fund Analyst II. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 657. Smif Fund Portfolio Manager I. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 658. Smif Fund Manager II. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 660. International Finance. 2 Credit Hours.

Finance 660 builds on Finance 641 and 642, and introduces students to the concepts that are important in today's dramatically changing global economy. The course covers the international monetary system; the interrelationship between national economies through the balance of payments; the economic relationships that determine a currency's value relative to other currencies and real goods; the markets and instruments of international finance; currency crises and contagion; the hedging of international risk exposure; and international portfolio investment. Requisite: Master in International Business Studies Students Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 661. Advanced Topics in International Finance. 2 Credit Hours.

This course builds directly on Finance 660 and on the MBA core classes, Finance 641 and 642, using a variety of techniques, including group projects and class discussion. A number of special topics are covered including measuring and managing the many additional risk exposures faced by a multi-national enterprise, investment decisions in a global framework, and financing the multi-national firm.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 663. Advanced Topics in International Finance. 3 Credit Hours.

Components: LEC.

Grading: GRD.

FIN 670. Corporate Finance. 2 Credit Hours.

This course builds on Finance 641 and 642 and focuses on financial decision making from a corporation's perspective. Issues addressed include capital structure, management of corporate liabilities, leasing and other asset-based financing techniques, advanced treatment of capital budgeting and some of the complex issues involved, and corporate mergers and acquisitions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 671. Advanced Topics in Corporate Finance. 2 Credit Hours.

This course builds directly on Finance 670 and on the MBA core classes, Finance 641 and Finance 642, and relies mainly on the analysis and vigorous class discussion of a variety of real-world cases. The cases cover a broad range of topics, including short- and long-term financing, capital budgeting decisions, corporate valuation, hedging with options and futures, dividend policy and share repurchases, corporate financial strategy, and other current issues in corporate finance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 674. Financial Analysis of Mergers and Acquisitions. 2 Credit Hours.

This course is designed to develop an understanding of (1) the economic and financial issues involved in the acquisition of a company; (2) the analytical valuation tools used to evaluate an acquisition; and (3) potential and empirical stock market reaction to an acquisition. Students are then asked to apply their understanding of the issues to analyze cases involving various aspects of acquisition.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 679. Private Equity and Venture Capital. 2 Credit Hours.

In this course, you will learn about the private equity (PE) industry, composed of both venture capital (VC) and buyouts (BO). The focus is on how PE investors evaluate, select, value, and structure deals. The course will improve your understanding of corporate finance by applying central concepts and tools to a new and increasingly important industry. The course will also introduce you to the institutions of the PE industry. This involves examining, for example, how contracts are structured to reduce asymmetric information problems and agency costs that are endemic to any PE investment. In addition, the students will learn about the valuation process used by PE investors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 681. Financial Institutions. 2 Credit Hours.

Finance 681 builds on Finance 641 and 642 and focuses on the management of financial institutions, such as banks. Topics include risk management, deposits and deposit insurance, liquidity, reserve requirements, capital adequacy, liability management, investment interest rate risk, and current issues connected with financial institutions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 683. Financial Modeling. 2 Credit Hours.

This course takes a variety of finance topics and implements them using practical spreadsheet models. Students will use the intent and financial databases to obtain input data for their models. Students will learn Visual Basic for Applications (VBA) to design functions and macros that will enhance their models. In addition to class time, this course will meet in a "computer lab" (a classroom) for hands-on instruction. Students are presumed to have a working knowledge of Windows and Excel.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 685. Mathematics of Financial Derivatives. 2 Credit Hours.

This course builds on Finance 650 and 670. This course provides an in-depth mathematical treatment of derivatives and is divided into three parts: (1) options; (2) futures and forwards; and (3) other derivative instruments, which include options on futures, foreign currency derivatives, swaps, exotic options, and financial engineering. The emphasis is placed on equity instruments, although there is also some coverage of short- and long-term interest bearing instruments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 686. Financial Decision Making. 2 Credit Hours.

The goal of this course is to use decision-making theory to better understand why investors, money managers, and corporate managers often make suboptimal economic and financial decisions. The first part of the course focuses on the basic techniques and models that a manager or an investor can use to make effective financial decisions. The second part of the course focuses on the psychological, social, and cultural determinants of suboptimal investor and managerial behavior. In addition, the course examines the impact of those mistakes for financial markets (e.g., price bubbles) and the overall economy. The course should be useful to individuals who work in a corporate setting or at a money management firm (mutual funds, hedge funds, pension funds, etc.).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 698. Selected Topics in Finance. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 699. Directed Readings and Study. 1-3 Credit Hours.

Individually supervised research or reading projects in selected fields. Evaluation of project and subject by the supervising professor is required at the time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 705. Theory of Corporate Finance. 3 Credit Hours.

The aim of this course is to expose students to some of the important papers that constitute the theoretical foundations of corporate finance. The course will try to give you a working understanding of the key papers and give you a flavor of the techniques for setting up and solving models, which you could possibly apply in your own research. The later part of the course leans more towards empirical work and discusses the connections and gaps between theoretical and empirical corporate literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 706. Empirical Methods in Finance. 3 Credit Hours.

The objective of this course is to give you an introduction to empirical research in finance. This class is not designed like an econometrics class where the emphasis is the statistical specification of tests and the derivation of underlying asymptotics. The focus in this class is the understanding of the technique and the actual implementation in finance. The goal is to provide you with a toolbox of techniques that you can use to answer empirical questions in corporate finance and asset pricing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 707. Financial Economics I. 3 Credit Hours.

This course is an introductory Ph.D. level course on the fundamental theories of asset pricing. Specifically, it consists of three parts. The first part focuses on individual choice under uncertainty. The second part develops equilibrium asset pricing theories, which include mean-variance efficiency and the Capital Asset Pricing Model (CAPM), as well as the Arbitrage Pricing Theory (APT). The third part reviews recent development in asset pricing by introducing some stylized facts and new theories.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 708. Financial Economics II. 3 Credit Hours.

This is a second course on asset pricing. The class is divided in two independent modules. The first module covers discrete time asset pricing models with frictions. These frictions include, among others, asymmetric information, slow-moving capital, delegated portfolio management, and short-sale constraints. The second module is an introduction to continuous time finance. Topics include introduction to stochastic calculus, derivative pricing and hedging, optimal portfolio choice, and equilibrium asset pricing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 709. Behavioral Finance. 3 Credit Hours.

This course will cover selected topics from the field of behavioral finance. Issues related to both asset pricing and corporate finance will be discussed. The main objective of the course is to help you identify a few interesting research ideas and execute one of these ideas into a completed paper, which could be part of your dissertation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 830. Pre-Dissertation Research. 1-6 Credit Hours.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

Management Courses

MGT 600. Managing Responsible Behavior in Organizations. 3 Credit Hours.

For Executive MBA students only. Course covers organizational behavior and utilizes cases and lectures to explore topics such as personality, motivation, leadership, group processes, organizational structure/design, and social responsibility.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 602. Human Resource Management. 3 Credit Hours.

Modern personnel administration: job analysis and design, evaluation and appraisal, recruitment and interviewing, training and development, wages and benefits, and health and safety. Unionization, regulation of wages, hours and working conditions, financial security for workers, job anti-discrimination legislation, and manpower planning is also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 603. Leading Teams. 3 Credit Hours.

The objectives of this course are to develop interpersonal communication and conflict management skills necessary to work in teams and/or exercise leadership in teams. Topics include team development, decision making, and diagnosing team process issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 617. Leading Across Cultures. 2 Credit Hours.

This course examines what constitutes "effective" leadership across cultures. Skills and behaviors that are perceived as effective leadership in one culture are not necessarily those that will be effective in a different culture. By exploring the ways in which specific cultural values and leadership prototypes are seen across different cultures, students will be prepared for cross-cultural adjustment and effective leadership. These skills may be applied to work assignments in a culture that is not their own or to leading diverse followers in their home country. The goal of the course is to help prepare students for leadership in multicultural environments.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 618. Leading Change In Organizations. 2 Credit Hours.

Charles Darwin aptly noted, "It is not the strongest species that survive, not the most intelligent, but the ones who are most responsive to change." The primary goal of this course is to help you learn how to lead and manage the challenges associated with organizational change processes. Together we will identify the opportunities that require change programs; discuss ways to overcome the inevitable obstacles to change; learn how to build successful coalitions to support change efforts; analyze strategies for implementing change; and examine ways to consolidate the results of such efforts to ensure that changes are sustainable over time.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 619. Leading With Power And Influence. 2 Credit Hours.

One of the realities of organizational life is that people continually attempt to control the actions of others and to successfully influence their behavior. This reality leads to a wide array of organizational activities aimed at enhancing one's own or one's group's personal agendas. This course focuses on preparing graduates for the challenges and "realities" they will ultimately face as leaders. Given that most students will eventually be leading the efforts of others, it is essential that they understand how to acquire power and, within ethical bounds, exercise influence.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 620. Managing Through People. 2 Credit Hours.

This core course in the MBA program introduces students to some of the key behavioral topics necessary to manage oneself and others in organizations. Specifically, the topics covered include individual attributes (personality, perception, motivation, relationship building), group processes (norms, roles, and team basics), leadership views, and organizational culture/change. An understanding of the relationship between each of these areas and organizational outcomes is enhanced through lecture, cases, and interactive exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 621. High Performance Leadership. 2 Credit Hours.

Leadership skills are critical for high performing organizations. Course utilizes lecture, cases, exercises, self-assessments, and contemporary reading materials to present leadership approaches that both motivate and enable employees to perform beyond normal or ordinary expectations. Topics include followership and organizational culture, power, influence, rewards and punishments, path-goal and exchange theories, participation and empowerment, charismatic and transformational leadership, and contingency and cognitive resources theory.

Requisite: Master of Science in Management Studies Students Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 622. High Performance Teams. 2 Credit Hours.

This elective course highlights how to manage and construct effective teams to achieve strategic goals. Team-based organizations have been created to enhance organizational performance. The benefits of effective team leadership are performance beyond expectations and enhancement of learning for employees. Topics covered include team decision-making, team leadership, diversity in teams, conflict resolution, and team creativity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 623. Human Resource Systems. 2 Credit Hours.

Leaders must manage their human resource assets effectively to achieve high performance organizations. Course topics include recruitment and selection of high performance employees, designing performance appraisal systems, implementing policies to satisfy legal issues impacting human resources, and instituting training/development systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 624. Negotiation Strategies. 2-3 Credit Hours.

This course is a skills-based approach to learning the art and science of negotiation. Negotiation is a core management competency; these skills are increasingly necessary for leaders in business, non-profits, small businesses and other organizations. This course will cover preparation, and negotiation skills such as establishing trust and relationship-building. Topics covered include power, persuasion, creativity and problem-solving, ethics and cross-cultural negotiation. Skills and self-insight will be acquired through self-assessment, role-play negotiation exercises and case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 625. Entrepreneurship: Creating New Ventures. 2 Credit Hours.

This is a two-credit course for MBA students (only). The course is designed to help students understand the basic essentials for creating a new venture. Among some of the topics covered will be: preparation of a business plan, securing sources of capital, choosing and creating appropriate distribution channels, and understanding the complexities of selecting a management team. Students will be required to critique and develop business plans as a key evaluation component for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 628. Global Entrepreneurship. 4 Credit Hours.

This seminar-type course is an advanced elective specially designed for graduate students either interested in starting their own firms or developing the skills with which to submit business plans within the corporate world (i.e., corporate entrepreneurship) in today's global, interdependent economy. Students will learn to assess the new venture opportunities that he/she may have considered and choose the one that seems most attractive and viable and develop a unique business model which enhances the plan's viability in the short term, and ensures the development of sustainable advantages in the long term. Each student will draft a comprehensive business plan after working on its functional components (e.g., marketing, finance, human and intellectual capital plans) to be developed throughout nine classes and several individual meetings along the program's academic calendar. At the end, students will present their business plans to a panel of new venture investors who will assess all projects, give individual feedback, and choose the best project(s).

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

MGT 643. Principles of Operations Management. 2 Credit Hours.

Introduction to operations management, forecasting, process analysis, aggregate planning, capacity management, waiting line management, system design, quality management, and inventory management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 645. Principles of Supply Chain Management. 2 Credit Hours.

Course introduces students to the business discipline of Supply Chain Management (SCM) which centers on concepts and techniques that enables firms to better coordinate material and information flows, and non-material activities associated with logistical and marketing processes that occur within and across organizations. Course also discusses concepts and recent influential innovations in SCM (e.g., Cross-Docking, Vendor Managed Inventory (VMI), Third-Party Logistics (3PL), Efficient Consumer Response (ECR), and Quick Response (QR)).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 651. Behavioral and Organizational Systems. 3 Credit Hours.

Exploration of relevant concepts, research findings, and pragmatic implications of the behavioral sciences for the management of complex socio-technical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 653. Operations Management. 3 Credit Hours.

Introduction to major managerial problems and decision processes of operations management. Topics include the design of operations, planning, scheduling, quality control, systems analysis and evaluation, resource allocation, materials requirement planning, and integration of operations management with the other functional areas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 654. Sel Top In Oper Mgt. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 655. Research Methods. 3 Credit Hours.

Course addresses the fundamentals of research in business including exploratory designs, correlational and multivariate designs, experimental and non-experimental studies, measurement theory, internal and external validity considerations, and ethical requirements in conducting organizational research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 656. Seminar: Organizational Behavior. 3 Credit Hours.

Seminar addresses the current research and theoretical foundations in organizational behavior. Topics include individual attributes, job attitudes, leadership, motivation, and group processes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 658. Strategic Management. 3 Credit Hours.

The formulation and implementation of strategy, from a domestic and international perspective, is explored through cases, readings, and decision simulation. An integration of all the core areas of business is emphasized. This core course is required of all MBA students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 659. Management of Multinational Enterprise. 3 Credit Hours.

Analysis of the management tasks confronting managers operating in the international arena presented from both an environmental and an operational perspective. Alternatives for overall corporate policy and strategy that accommodate global operations is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 660. Leadership and Motivation in Organizations. 3 Credit Hours.

Selected topics pertaining to leadership, motivation, and individual processes are surveyed through selected readings, class discussions, and a guided research project. Students' ability to conceptualize, integrate, and apply diverse approaches to the leadership and motivation of people in organizations is emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 661. Influence, Power and Politics in Organizations. 3 Credit Hours.

One of the basic realities of organizational life is that people continually attempt to control the actions of others and to successfully influence their behavior. This reality leads to a wide array of organizational politics aimed at enhancing one's own or one's group's personal agendas. This course focuses on preparing graduate business students for the challenges and "realities" they will ultimately face as managers. Given that most business students will eventually be leading the efforts of others, it is essential that they understand how to acquire power and exercise power within ethical bounds.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 675. Business Policy and Strategy. 2 Credit Hours.

The objectives of the course are to improve the student's ability to think strategically and to provide an intellectual framework that enhances understanding of the MBA program. The course focuses on relationships among the firm, its strategy, and its environment; why firms choose certain businesses; which business strategies are successful; and how firms can change in response to a dynamic environment. Models for strategic formulation, implementation, and control are developed that facilitate an integrated understanding of the courses that comprise the MBA curriculum. Readings and lectures illustrate strategic management theories and frameworks while case discussions, experiential exercises, and team projects provide opportunities for application.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 677. Corporate Strategy and Organization. 2 Credit Hours.

This capstone course focuses on the perspective and skills of the general manager. Its purpose is to provide practice in diagnosing and identifying realistic solutions to complex strategic and organizational problems.

Course builds on previous coursework by providing an opportunity to integrate various functional areas by providing a total business perspective. Since the course focus is on pragmatic, action-oriented general management skills, the course is taught primarily through the case method and requires both written analyses and case presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 679. Merger and Acquisition Strategies. 2.00 Credit Hours.

This course examines the merger and acquisition growth of two sets of actors. First, it focuses on "financial buyers" (hedge funds, leveraged buy-out groups, private equity funds) that acquire with the intention of divesting the asset at a profit in the near or medium term. Second, it focuses on "strategic buyers" (corporations or companies) that acquire with the intention of operating the acquired asset as a stand-alone business or by integrating it into an on-going operation or set of businesses. The course utilizes lectures, case discussions, presentations, and guest speakers to examine issues of strategy formulation and subsequent execution.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

MGT 680. Doing Business In China. 2 Credit Hours.

THIS COURSE EXPLORES VARIOUS BUSINESS AND MANAGEMENT ISSUES FACED BY INTERNATIONAL EXECUTIVES WHO ARE INTERESTED OR ACTIVE IN VARIOUS INDUSTRIES AND MARKETS IN CHINA, AIMING TO IMPROVE THEIR UNDERSTANDING OF THIS LARGEST EMERGING MARKET IN THE WORLD. SEVERAL CASE STUDIES OF BUSINESS ORGANIZATIONS AND INDUSTRIES ARE USED THROUGHOUT THE COURSE. EMPHASIS OF THE COURSE MATERIAL AND CLASS DISCUSSION IS ON CRITICAL THINKING, SOLUTIONS TO PROBLEMS, AND EVALUATING DIFFERENT OPTIONS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 681. Essentials of Health Care Management and Policy. 3 Credit Hours.

This course develops an understanding of the basic elements of the health services industry in the United States. A systems approach will be used utilizing a historical perspective as a basis and moving on to current and potential future system dynamics. The various components of the health care system will be examined, including physician services, hospital and hospital systems, long-term care providers, mental health services, and pharmaceutical services. Various elements associated with the financing of health services will be examined as well as indemnity insurance, capitation, and the role of managed care and consumer driven health care in theory and practice. The role of government and its impact on our health care system will be explored as well.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 682. Issues in Health Care Administration. 3 Credit Hours.

A seminar on current problems and issues in health care administration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 684. Analysis of Health Care Delivery and Policy. 3 Credit Hours.

This course examines theoretical and operational incentive structures which guide health care consumers, providers and health care organization toward decisions both efficient and inefficient.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MGT 685. Economic Models in Operations and Supply Chain Management. 3 Credit Hours.

In this course we will study the academic literature that is based on analytical models of supply chain and channel management. In particular we will be concerned with models that capture the economics that govern the interaction among the firms in a supply chain/distribution channel. Since this topic is of interest to both the marketing and operations management communities, we will draw upon readings from both areas. One of our objectives will be to identify opportunities for building bridges between these two bodies of knowledge.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 686. Optimization Models For Operations And Supply Chain Management. 3 Credit Hours.

This course is designed primarily for advanced graduate students who are interested in research on supply chain and operations management, focusing on the study of (deterministic) optimization models to support system design, planning, and operational decisions. The course complements other related doctoral courses such as those on economic models for supply chain and operations management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 687. Health Care Organization, Economics, and Ethics. 3 Credit Hours.

Course provides the student insight into organizational and behavioral aspects of the various sectors and agents within the health care industry and understanding of how such aspects in turn affect performance measured in terms of both economic and ethical criteria.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 688. Individual and Interpersonal Processes. 3 Credit Hours.

Basic Overview of many topics relevant to studying individuals and dyads in organizations. Course will introduce students to a variety of topics related to individual and interpersonal differences, processes, and behaviors in organizations. Students will begin to see how to link research designs with a theoretical framework for empirical testing.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 689. Doctoral Seminar in Leadership and Group Processes. 3 Credit Hours.

This seminar examines the theory and research that focuses individual leadership and examines implications for individual and group behaviors as well as bridging the micro-macro divide. You will perform a critical in-depth examination of the primary research literature, focusing on appropriateness of design, analysis, interpretation, contribution and future research directions.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 690. Sustainable Business Operations: Value Creation & Environmental Considerations. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 691. International Management. 2 Credit Hours.

Course is designed to provide an overview of management problems and issues for organizations and executives operating internationally. Students learn how multinational enterprises are different, why they behave as they do, and how to apply management principles to problem-solving in such contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 692. Theories in Management and Organization. 3 Credit Hours.

This course provides an in-depth review of major theories in the broad field of management and organization. It covers a multitude of management and organization theories that are derived not only from general management but from economics, sociology, ecology, and the like. The course will use several techniques, including lectures, article presentations and discussions, theory development, research project, and manuscript preparation. By the end of the term, students are expected to understand the central notions of each theory being discussed, comment on various arguments in these theories, improve the skills in applying these theories to their specific research questions, and sharpen their ability to develop theoretical models.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MGT 693. Theories and Research in Global Strategic Management.. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review of major theories, paradigms, and perspectives in global strategy and international business. We'll also explore how to apply existing theories and perspectives to new contextual settings, such as emerging markets and outsourcing. Furthermore, we'll do all this while reading and critiquing the major branches and works within the strategic management and international business literature. The course is intended for doctoral students in business or related fields. There are no formal prerequisites for the course although some basic knowledge of global business is expected.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 694. Ph.D Seminar in Strategic Management. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review of major theories, perspectives, and methods in strategic management. The course is intended for doctoral students in business or related fields.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

MGT 695. Ph.D Seminar in Emerging Market Research. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review and study of major theories, perspectives, methods, findings, and future research issues in business and management involving emerging economies. It encompasses both macro- (e.g., strategic management, international business, entrepreneurship), and micro- (e.g., culture, human resources management, leadership, and organizational behavior) levels.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MGT 698. Selected Topics. 1-6 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 699. Directed Study. 1-6 Credit Hours.

Individually supervised research project in selected field of management. Approval of supervising professor of the topic/scope of work/evaluation is required prior to registration.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 825. Comprehensive Test Preparation. 1-3 Credit Hours.

Doctoral students who are preparing for their qualifying examinations may use this course designation. Enrolled students must develop, with the approval of their advisor, a "Plan of Study" for these credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MGT 830. Doctoral Dissertation. 1-12 Credit Hours.

Course is required of all candidates for the Ph.D. The student enrolls for credit as determined by his/her advisor.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Management Science Courses

MAS 601. Applied Regression Analysis. 3 Credit Hours.

Theory and practical application of regression modeling and analysis. Computer control language, text editing, data base manipulation, and use of various data scales are covered. Understanding the role and responsibility of a statistician is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 610. Statistical Analysis for Managerial Decision Making. 3 Credit Hours.

Data analysis, probability concepts, distributions, sampling, estimation, hypothesis testing, simple and multiple regression and correlation analysis. Required of all MBA students unless satisfied by a waiver examination or equivalent undergraduate course or courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 611. Principles of Quality Management. 3 Credit Hours.

The definition of quality management, its history, and comparison of various schools of thought. An introduction to the theories of systems, variation, knowledge, and psychology as they relate to quality management. Deming's fourteen points for management are studied through examples and cases.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 612. Advanced Quantitative Analysis. 3 Credit Hours.

The application of probability theory to the formulation and analysis of mathematical models for decision making. Applications are taken from inventory control, forecasting, waiting lines, quality control, production, and operations management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 629. SAS Programming for Business Analytics. 2 Credit Hours.

SAS (Statistical Analysis System) is considered a world leader in business analytics software. This course provides the student with the tools necessary to program in SAS at an intermediate level necessary for data scientists in many Fortune 500 companies in the pharmaceutical, financial, manufacturing and health care industries. The course begins with an introduction to Base SAS software, including the reading, manipulation and transformation of data. Techniques for restructuring data files, merging and concatenating data sets, creating summary reports as well as the utilization of basic statistical procedures will comprise the first half of the course. The middle of the course will focus on intermediate SAS skills for Data Management. The topics include error checking, report generation, date and time processing, PROC SQL, SAS Graph, SAS Macros, and the ODS (Output Delivery System) for production quality output. The last third of the course will include SAS statistical procedures most often utilized by data analysts and covered in the SAS Certified Statistical Business Analyst Credential.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 630. Quality Management in Practice. 3 Credit Hours.

This course presents administrative systems necessary for an organization or an individual to pursue quality management. The course presents a functional model for quality management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 631. Statistics for Managerial Decision Making. 2 Credit Hours.

This course aims to familiarize the student with statistical theory, tools, and methods required for business systems analysis and improvement. Topics include descriptive methods, elementary probability, random variables and the distributions, hypothesis testing, confidence intervals, statistical modeling, and regression.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 632. Management Science Models for Decision Making. 2 Credit Hours.

This course aims to familiarize the student with Management Science tools for business systems analysis and improvement. The coverage includes linear and integer programming models, project management, simulation, queuing, and decision analysis. Some widely used software are illustrated through examples and case studies derived from business applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 633. Introduction to Quality Management. 2 Credit Hours.

Introduction to the major elements of Dr. Deming's theory of management, including Dr. Deming's System of Profound Knowledge and Fourteen Points for Management. Additionally, participants are introduced to "Six Sigma" tools and methods. These tools and methods have been adopted with great success by many of the largest organizations in the world, for example, General Electric, Allied Signal, Dupont, American Express, and J.P. Morgan. Additionally, the course is a prerequisite for the "Six Sigma" Green Belt certification examination. Requisite: Master of Science in Business Analytic Students Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 634. Administrative Systems for Quality Management. 2 Credit Hours.

This course presents a model to pursue quality management (QM). It features administrative systems and structures necessary for Quality Management. The administrative systems and structures presented in this course are required to sit for the Six Sigma Management "Green Belt" certification examination.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 635. Design of Experiments. 2 Credit Hours.

This course presents tools and methodology useful in conducting experiments that provide valid answers to questions of interest to the experimenter. The course discusses an overall approach to obtaining and analyzing experimental data, the advantages of using structured multi factor experiments to screen for important factors, ways of minimizing the amount of data points needed to obtain desired information, and how to identify values of experimental factors that optimize the value of measured responses. Factorial designs, fractional factorial designs, screening designs, and response surface designs are presented. Emphasis is placed on the knowledge required for proper application of these methods through many examples in business and quality management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 636. Statistical Process Control and Reliability. 2 Credit Hours.

This course aims to introduce some fundamental concepts of statistical process control and reliability with an emphasis on business applications. The first part of the course focuses on control charts and other tools that are used to monitor and improve business processes. The second part of the course introduces some basic ideas of reliability models and presents methods used in identifying failure modes in products and in business systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 637. Applied Regression Analysis and Forecasting. 2 Credit Hours.

This course aims to familiarize the student with statistical prediction. It covers simple and multiple regression methods as well as time series and forecasting models in business. Instead of theoretical development, the course emphasizes the application of these methods in business systems analysis and improvement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 638. Management Science Consulting. 2 Credit Hours.

The purpose of this course is to enhance students' consulting skills in management science. In addition to skills of modeling and choosing appropriate tools for analysis, these include the communication skills of presenting quantitative and analytical material in business settings. The course is structured around a set of case studies that are based on real applications of management science models and methods discussed in MAS 631 and MAS 632.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 639. Data Acquisition, Preparation And Visualization. 2 Credit Hours.

This course teaches using statistical computing software to get a better understanding of what problems can occur (and what solutions exist) when dealing with a variety of data types and sources. It will also discuss how to address data visualization and how to leverage current methods and software to best communicate with results and decision with stakeholders.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 640. Applied Time Series Analysis and Forecasting. 2 Credit Hours.

Time series data occur when a single experimental unit or process is observed repeatedly over time. Data of this type are common in finance and economics. Statistical methods that assume independence are inappropriate for time series data. This course will provide the students with the basic theory and tools for the statistical analysis and interpretation of time series data. Broadly, the methods may be categorized into time-domain and frequency-domain methods. Time-domain methods develop explicit models for the evolution of a process over time. Frequency-domain methods equivalently model the correlation structure of the time series. Other topics include methods for model-based estimation, model selection, diagnostics, forecasting, and computing as they relate to time series analysis.

Prerequisites: MAS 637 or MAS 601.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 641. Operations Research Models in Management. 3 Credit Hours.

The application of Operations Research techniques in Management. Topics include linear programming, PERT/CPM, queuing theory, forecasting, inventory models, statistical quality control, decision theory, and Simulation.

Prerequisites: MAS 631, MAS 632, MAS 637, MAS 639 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 647. Computer Simulation Systems. 3 Credit Hours.

Introduction to discrete-event computer simulation and hands-on development of simulation models. Topics include introduction to queuing theory, input and out put analysis, random number generation, and variance reduction techniques. Students practice their modeling skills using commercial state-of-the-art simulation software. Assigned readings of real-life simulation projects complement the material learned in the classroom. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 648. Data Mining and Knowledge Acquisition. 3 Credit Hours.

This course provides an introduction to the principles and techniques of data mining. Topics covered include the data mining process, data preprocessing, data mining techniques and data mining evaluation. The course will involve a combination of lectures, labs, projects and case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 650. Management Science Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Permission of department chair is required prior to registration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 663. Project Management and Modeling. 2 Credit Hours.

This course considers the various methods, techniques, and software tools of project management and modeling with special emphasis on real estate projects and development. Topics include: project selection and strategy, risk assessment, conflict and negotiation, budgets, costs, and resource allocation, monitoring and information systems, project control and auditing, and project closure. The course is designed to show the integration of the various roles of owners, developers, builders, architects, and engineers in the project management process.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 680. Spatial Statistics. 3 Credit Hours.

Prerequisite: ECO 520.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 691. Topics in Management Science. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 692. Topics in Management Science. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 693. Directed Study in Operations Research. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 695. Directed Study in Operations Research. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 696. Directed Study in Statistics. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 699. Directed Study. 1-3 Credit Hours.

Offered by special arrangement.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 720. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 725. Continuous Registration--Master's Study. 0 Credit Hours.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MAS 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MAS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MAS 850. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

Marketing Courses

MKT 639. Marketing Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Marketing.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 640. Foundations of Marketing Management. 2 Credit Hours.

Course introduces students to the analytical concepts and tools of marketing management. Special emphasis is placed on the relationships between marketing and overall company strategy, the development of a customer orientation, the integration of marketing throughout the organization, and the implementation of systems for planning and controlling the marketing effort. Students consider problems of consumer analysis, product planning, integrated communication, distribution, and pricing. The discovery and application of marketing management skills are developed through the use of readings, case exercises, and class discussions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 641. Marketing Research. 2 Credit Hours.

The objective of the course is to allow students to understand functional analysis of consumer and market behaviors utilizing statistical tools. The course will cover topics of secondary sources of data, sampling, questionnaire design, and analysis and interpretation of data. Project and case analysis methods will be used for instruction.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 642. Pricing And Value Management. 2 Credit Hours.

Pricing decisions require a synthesis of economic and marketing principles, an appreciation of legal and ethical constraints, and the ability to use accounting, financial, and market research data. This course is designed to teach students how to price goods and services by providing a framework for understanding pricing strategies and tactics. While pricing strategies are taught under the rubric of many diverse disciplines, we will take an integrative approach, combining strategic, economic, marketing, and psychological considerations. Topics covered include economic value and break-even analysis, price elasticity, markup and profit margin, price bundling, among others.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 644. Services Marketing. 2 Credit Hours.

Course develops skills necessary to manage companies in an increasingly service-oriented and technology-driven economy and to gain sustainable competitive advantage through delivering superior quality services. Course covers the special marketing challenges posed by the unique characteristics of services and discusses their managerial implications. The need and strategies for synergistic management of operations, systems, and people to satisfy customers in order to achieve marketing excellence and superior financial performance are also included.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 645. International Marketing. 2 Credit Hours.

Course analyzes the theories and practice of international marketing management. Course allows students to understand markets and aid in the development of marketing plans based on the nature of national as well as international markets. Issues of globalization, standardization, intermarket segments, trading blocks, global marketing strategies, local branding, global branding in the context of customer movements, product development, pricing, distribution, communication, and segmentation in global markets are also discussed.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 646. Consumer Behavior. 2 Credit Hours.

This course provides an overview of psychological and normative principles of consumer decision-making and judgment by focusing on underlying behavioral research and theory. How people process information, make decisions involving risk and uncertainty, conflicting objectives, and imperfect information are some of the main topics discussed. The implications of consumer behavior on a marketing strategy are highlighted.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 647. Advertising and Communications Management. 2 Credit Hours.

Billions of dollars are wasted every year on ineffective advertising and communication campaigns. This problem is due to an absence of a compelling strategy to serve as a foundation for developing creative executions and media plans. The course provides a balanced analysis of strategy and execution of integrated marketing communication campaigns. The effectiveness of existing and emerging communication vehicles to attain strategic marketing goals is assessed. Special emphasis is placed on advertising, sales promotions, and online communications. Current and historical campaigns are also reviewed. Course requirements include case reports, projects, and class participation.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 648. New Product Development. 2 Credit Hours.

This course enables students to appreciate the systematic approach that goes into the creation and marketing of new products. Practical aspects of developing and marketing new products are included through two assignments and one class project.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKT 649. Strategic Brand Marketing. 2 Credit Hours.

More and more firms have come to realize that their brands are among their most valuable assets. The goal of this course is to teach students the strategic significance of brands in creating shareholder value.

Students should develop fluency with the core principles associated with branding including: an understanding of how to develop a brand's positioning; managing total brand experience; how to manage the brand relevancy over time; familiarity with the various qualitative and quantitative methodologies that are used to evaluate brand equity; how to achieve growth through brand extension; brand design and brand messaging. The basic philosophy for this course is to blend theory and practice of brand management. Branding is both an art and a science. Few branding situations have a definitive, unqualified "right" answer as to what is the best approach. However, when armed with relevant and comprehensive theories, appropriate frameworks and models, familiarity with past successful and unsuccessful branding strategies, managers can make better and more informed decisions that are more likely to yield successful implementation.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKT 650. Strategic Marketing. 2 Credit Hours.

Course develops the skills necessary to strategically manage business-unit level marketing activities in a multi-brand firm. This necessitates examining all marketing mix elements, R&D, financial and production considerations simultaneously in the context of the many markets, products, and services that may concern a typical firm. The emphasis is placed on understanding internal capabilities, market competitors, and customers. Market simulation exercise, cases, and readings are utilized.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 660. Foundations of Marketing Management. 3 Credit Hours.

Marketing problems experienced by top executives are examined and fundamental problem-solving concepts are developed. Students consider problems of consumer needs, product planning, promotion, distribution and pricing. The discovery and application of marketing management skills are developed through the use of cases and a major planning project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 665. International Marketing. 3 Credit Hours.

Analysis of major U.S. foreign markets, marketing policies, and techniques are discussed.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 672. Services Marketing. 3 Credit Hours.

Course develops the skills necessary to manage services marketing and compete through delivering quality service. The unique characteristics of services and their managerial implications are examined. Importance of the synergistic management of operations, environment, systems and people to satisfy the customer is highlighted.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 675. Marketing Analytics. 2 Credit Hours.

More and more firms now consider data is one of their key strategic assets. This has made analytics an important subject for business majors. One area where firms find analytics useful is marketing. Today firms use analytics to identify profitable customers, continuously track brands, calculate optimal price promotions, test commercials and optimize media budgets across online and offline channels. The goal of this course is to give you hands-on experience with data and analytics and teach you how to draw strategic marketing insights from data.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 686. Behavioral Decision Theory in Consumer Research.. 3 Credit Hours.

The objective of this seminar is to acquaint students with important theories and findings regarding consumer behavior and to stimulate research. Students will learn how to identify important research problems, ask interesting research questions, develop theories and hypotheses, and design experiments.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MKT 687. Marketing Strategy. 3 Credit Hours.

Marketing Strategy is a vast, exciting and exploding literature that almost defies classification. However, despite this difficulty one common theme unifies and distinguishes this stream of research: it is marketing as seen through the eyes of a manager. Is it worth fighting for market share? How do we analyze competitors? Is it more profitable to introduce a new product or enter a new market? Should we build on existing relationships or seek new customers? Does loyalty management pay? Do consumers understand product quality? Can we quantify the effects of advertising and promotions? What metrics should we use to evaluate the effectiveness of marketing effort? Can we run policy simulations before committing to marketing action? These are some of the questions that marketing managers need to address. Often the questions are very broad and complex, reflecting the bewildering range of techniques that have been used to address those questions. The seminar will try to impart an appreciation of how to define and solve research problems in a marketing strategy.

Requisite: Must be registered Doctoral Student.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKT 688. Ph.D. Seminar in Consumer Behavior and Decision Making. 3 Credit Hours.

This course is designed to provide students with a background regarding a wide set of topics in consumer behavior focusing on theoretical models. In addition to developing a knowledge base in several extant consumer behavior literatures, this course has several additional goals. Students will: 1) become familiar with the content and style of consumer behavior research published within the marketing field, 2) develop an understanding of many methodologies and paradigms that can be used to investigate theoretical issues, 3) have several opportunities to explicate research ideas that they will hopefully be able to pursue in the remainder of the program or early in their careers, and 4) learn to critically evaluate the research of others to aid in strengthening their thinking and ultimately their own research activities.

Requisite: Must be registered Doctoral Student.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

MKT 695. Topics In Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 696. Topics In Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 697. Topics In Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 698. Topics In Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 699. Directed Study. 1-6 Credit Hours.

Individually supervised readings or research projects. Restricted to students with superior academic records. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MKT 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Communication

<http://www.com.miami.edu>

Departments

The School of Communication offers:

- the Master of Arts in the Department of Communication Studies (MA in Communication Studies),
- the Master of Arts in the Department of Journalism and Media Management (MA in Journalism), and
- the Master of Arts in the Department of Strategic Communication (MA in Public Relations), and
- the Master of Fine Arts in the Department of Cinema and Interactive Media (MFA in Motion Pictures and MFA in Interactive Media).

The School also offers a Ph.D. in Communication.

Admission Requirements

Admission to Graduate Studies at the Master's Level

The following is a list of the required conditions as well as the required documents/fees for your application for admission to the Master of Arts or Master of Fine Arts degree in Communication:

- A baccalaureate degree from an accredited institution
- The School's official application
- A \$65.00 non-refundable application fee
- Three letters of recommendation
- 500 word typed statement of academic and professional goals.
 - Note: for the Interactive Media MFA, please visit <http://com.miami.edu/interactive-media-mfa> for specific instructions about the statement
- Official transcripts of all college work, both undergraduate and graduate
 - Note: In addition, international applicants must send an official copy of their diploma for all degrees earned, and all documentation that confers your degree, with English translation for all degrees earned.
 - Note: All transcripts must be the original document, forwarded directly from the university; Xerox copies, true copies, notarized copies and other types of copies are not acceptable.
- Official TOEFL or IELTS scores
 - Note: Only for international applicants
- Copy of current passport
 - Note: Only for international applicants. The name entered on the graduate application must exactly match your name as it appears on your passport.
- Official Graduate Record Examination (GRE) scores
 - Note: Required for MA applicants
 - Note: Interactive Media MFA applicants may send GRE scores or a portfolio
 - Note: Not required for Motion Pictures MFA applicants
- Portfolio
 - Note: Required for Motion Pictures MFA applicants

- Note: Interactive Media MFA applicants may send a portfolio or GRE scores

Contact the Office of Graduate Studies, 305-284-5236 or socgrad@miami.edu, for information.

Admission to Graduate Studies for the Juris Doctor/ Master of Arts in Communication Joint Degree

Requirements for admission to graduate studies for the Juris Doctor/ Master of Arts in Communication joint degree are:

- Students must be admitted to the Law School first, prior to enrollment in the School of Communication, checking a box on their application indicating their interest in the joint degree program. Once accepted to the Law School, the student's law school application including LSAT score, undergraduate transcript, and letters of recommendation (two of them required for the JD program) will be sent to the School of Communication for review. The student will then receive notification from the School of Communication regarding his/her admission to the joint degree program.
- The LSAT score may be submitted in lieu of the GRE score.

General notes

- Students will be admitted to the Law School JD program and the School of Communication (SoC) master's program separately.
- Students in this joint degree program must commence law study first.
- Students who have already commenced work on the SoC MA are not eligible for the joint program.

Admission to Graduate Studies at the Doctoral Level

The following is a list of the required conditions as well as the required documents/fees for your application for admission to the Doctor of Philosophy in Communication program:

- A master's degree in communication or another appropriate field. The degree must be in addition to a bachelor's degree. All degrees must be from accredited institutions.
- The School's official application
- A \$65.00 non-refundable application fee
- Three letters of recommendation
- Official transcripts of all college work, both undergraduate and graduate
 - Note: In addition, international applicants must send an official copy of their diploma for all degrees earned, and all documentation that confers your degree, with English translation for all degrees earned.
 - Note: All transcripts must be the original document, forwarded directly from the university; Xerox copies, true copies, notarized copies and other types of copies are not acceptable.
- Official TOEFL or IELTS scores
 - Note: Only for international applicants
- Copy of current passport
 - Note: Only for international applicants. The name entered on the graduate application must exactly match your name as it appears on your passport.

- Official Graduate Record Examination (GRE) scores
- Current Curriculum Vitae (CV)
- 500-word typed statement of your academic and professional goals, research area you want to pursue and why, and how your background has prepared you for this. A copy of the completed master's thesis or comparable scholarly work if a master's thesis has been completed. If the master's thesis is in progress, submit completed chapters. If a thesis is not required by your master's program, submit comparable scholarly work.

Degree Programs

The School of Communication offers graduate programs leading to the Master of Arts, Master of Fine Arts, and the Doctor of Philosophy degrees.

Communication Studies (M.A.)

COMMUNICATION STUDIES (M.A.) is a program designed to provide students with a rigorous educational experience, to develop an advanced understanding of the human communication process, to increase awareness of the interdisciplinary nature of the communication field, and to develop oral, written, critical thinking, and research skills. The 30 credit hour thesis track program emphasizes the student's development of research skills. The 36 credit hour non-thesis track program focuses on a theoretical foundation with emphasis on applied communication. Students have the option to concentrate in Communication Studies, Health Communication, or Intercultural Communication.

Journalism (M.A.)

JOURNALISM (M.A.) is an intensive program of academic study and hands-on practice designed to develop competitive, high-level, cross-platform digital media skills appropriate for today's media landscape. Students take a common core of courses designed to provide a foundation in all aspects of contemporary journalism (e.g., writing, reporting, multimedia, data visualization, broadcasting, media law and ethics). In addition, students have the opportunity to focus their work in various areas of study, including broadcast journalism, news and feature writing and various aspects of multimedia journalism. Through a combination of journalism courses and related courses offered by other programs, students may also concentrate some of their work in particular areas of interest (e.g., sports reporting and, travel and features). The program begins in the fall semester and lasts for 18 months. No prior training or experience in journalism is required.

Public Relations (M.A.)

PUBLIC RELATIONS (M.A.) offers two tracks. The 30 credit hour thesis track program provides an opportunity to supplement a working foundation and knowledge with pertinent theory and research methodologies. A second 36 credit hour, coursework-only non-thesis track program builds from a foundation of public relations and communication courses.

Joint Degree Juris Doctor (J.D.)/M.A. in Communication

JOINT DEGREE JURIS DOCTOR (J.D.)/M.A. IN COMMUNICATION. A powerful background in law and in communication can be a launching pad for a career in law, business, entertainment or government. For this reason, the University of Miami School of Law and School of Communication have brought together these two dynamic fields to offer a joint degree program. Through this joint program, students can acquire a law degree and a master's degree in communication in less time (3

to 3½ years). The joint degree program is intended for students with a variety of goals including students who plan to practice professionally in a communication field such as journalism or strategic communication with a law-related emphasis. Graduates of these programs may also work as in-house counsel for new communication technology companies, or serve with government agencies concerned with communication law or with law firms practicing in that field. This program also provides a solid foundation for future journalists who wish to report on legal affairs, and offers ideal preparation for the rapidly growing field of public affairs management, in which practitioners work in business, government and non-profits to communicate with key audiences.

The School of Communication M.A. degree programs participating in the joint J.D. program are:

- Communication Studies (Communication Studies, Health Communication, Intercultural Communication)
- Public Relations
- Journalism

Motion Pictures (M.F.A.)

MOTION PICTURES (M.F.A.) The Motion Picture graduate program provides a student-centered, learning experience within a globally diverse moving image context. The M.F.A. curriculum emphasizes the relationship between theory and practice and encourages both creative collaboration and independent thinking as it prepares motion picture professionals and artists. M.F.A. candidates are expected to follow a set sequence of courses during the first two semesters of their studies. During the second year of studies, candidates are strongly encouraged to explore not only a primary but also a secondary area of specialization in the program and develop a minimum of two creative projects consistent with their areas of primary interest and secondary specialization. A minimum of 6 credit hours in each area of specialization is required. Under faculty committee supervision, students will develop one or two creative projects in the third year of their studies. This three-year program culminates with a thesis portfolio that demonstrates, not only skillful execution of craft, but strong conceptual development rooted in collaborative work and innovative uses of technology.

Graduate students are encouraged to pursue independent and critical thinking, research and creative work as appropriate to the fulfillment of the requirements of their degree. In addition, the graduate program seeks to support innovative approaches and ideas and to aid in the pursuit of relevant scholarly and creative endeavors.

Interactive Media (M.F.A.)

INTERACTIVE MEDIA (M.F.A.) The Interactive Media graduate program aims to prepare a new generation of innovators and leaders in the field of interaction design. The M.F.A. curriculum emphasizes exploration of the use of technology, design, and human behavior, to impact, augment, and influence how people communicate. The multidisciplinary curriculum brings together students from different backgrounds to learn about interaction design, gaming, mobile, data visualization, human computer interaction, and other emerging technologies. The program trains students to research, prototype, design, and build projects in business, social, academic, and cultural contexts.

Communication

COMMUNICATION (Ph.D.) provides students with the theory and research skills required to use communication to make positive change in society, community, and individuals. Possible areas of specialization, within this overarching framework of social and behavioral change, include health communication (broadly defined), intercultural communication, organizational communication, international communication, advocacy, and journalism studies and accompanying new/digital media foundations and skills.

Cinema and Interactive Media

The Cinema and Interactive Media Department offers a complete curricular experience in critical understanding and effective creation of contemporary moving image media and interactive design. With two programs, the M.F.A. in Motion Pictures and the M.F.A. in Interactive Media, our mission is to explore the creative uses of narrative, documentary, technology, design and human behavior in order to entertain, impact, augment, and influence how people communicate. We prepare a new generation of innovators, storytellers and leaders in the fields of cinema, transmedia and interaction design.

The M.F.A. in Motion Pictures program requires that students complete a minimum of 66 credit hours. At least 24 of these credit hours must be at or above the 700-level. At least 12 credit hours must be earned at the 800-level for thesis work. Motion Picture students must maintain an overall minimum GPA of 3.0 or above for all courses. By the end of the second year, students are required to achieve a minimum 3.0 score on the program's film and television literacy test.

Students in the Motion Picture program are strongly encouraged to explore not only a primary but also a secondary area of specialization and develop a minimum of 2 creative projects in consultation with their faculty advisory committee. The 3 year program culminates in a thesis portfolio. Students need to work closely with their primary advisor and committee to ensure they are fulfilling their degree expectations, which typically include a short motion picture project abroad and a summer internship.

The M.F.A. in Interactive Media program requires that students complete a minimum of 45 credit hours at the graduate level with an average of "B" and no grade lower than a "C-". Prior written approval is required from both the chair of the CIM department and the director of graduate studies for transfer of credit hours, for course substitutions, as well as for taking a course at another university.

Interactive Media students are required to register for a capstone project seminar. To register for this course, students must complete all courses with a standing of 3.0 GPA. The capstone course is designed to help students define and execute their final projects. To graduate, students must complete and present a fully articulated capstone project and related documentation. Students must complete all degree requirements within 6 years.

Masters

Masters Programs in Cinema and Interactive Media

- M.F.A. in Motion Pictures (p. 470)

- M.F.A. in Interactive Media (p. 469)

M.F.A. in Interactive Media

Students must complete a minimum of 45 credit hours at the graduate level with an average of B and no grade lower than a C-. Prior written approval is required from both the chair of the interactive media program and the director of graduate studies for transfer credit hours, for course substitutions as well as for taking a course at another university.

Students are required to register for a capstone project seminar. To register for this course, students must complete all courses with a standing 3.0 GPA. The capstone course is designed to help students define and execute their final projects. To graduate, students must complete and present a fully articulated capstone project and related documentation.

Students must complete all master's degree requirements within 6 years.

Core Courses (Year One)		
JMM 622	Infographics And Data Visualization	3
CIM 640	Intro to Creative Coding	3
CIM 643	Intro To Systems: Designing Interactivity	3
CIM 690	Building Interfaces	3
Other Required Courses		
CIM 622	Ux Research	3
CIM 636	Collaborative Innovation Laboratory	3
CIM 645	Managing Interactive Media Projects	3
Specializations		
		12
Interaction Design Sequence		
CIM 642	Physical Computing And Prototyping	
CIM 635	Introduction to Design	
CIM 693	Dynamic Data: Building Database Driven Websites	
CIM 613	Mobile Application Development	
Game Design Sequence		
CIM 642	Physical Computing And Prototyping	
CIM 635	Introduction to Design	
CIM 721	Game Development Studio	
CIM 795	Special Topics in Motion Pictures (3D Characters / Motion Capture)	
	or CIM 610 Foundation of Screenwriting	
	or CIM 740 Sound Design	
Interactive Storytelling		
JMM 628	Seminar in Visual Storytelling	
CIM 610	Foundation of Screenwriting	
	or CIM 611 Writing the Short Film	
CIM 630	Introduction to Editing	
CIM 795	Special Topics in Motion Pictures (- 3D Characters / Motion Capture)	
	or CIM 740 Sound Design	
	or CIM 620 Cinematography	
Data Journalism and Visualization		
JMM 614	Media Law and Ethics Seminar	

JMM 628	Seminar in Visual Storytelling	
GEG 680	Introductory Quantitative Methods for Geographical Analysis.	
	or COM 602 Methods of Communication Research	
CIM 693	Dynamic Data: Building Database Driven Websites	
Health Design		
CIM 693	Dynamic Data: Building Database Driven Websites	
COS 651	Survey Of Health Communication	
COS 652	Culture And Health	
	or COS 653 Organizations, Communication Health	
COS 655	Health Communication Interventions	
Electives		9
Students will be able to take 12 elective credits (four classes) of their choice under guidance of their advisor.		
Capstone		
CIM 691	Capstone	3
Total Credit Hours		45

M.F.A. in Motion Pictures

Students must complete a minimum of 66 credit hours with the approval of the faculty advisor. Of the 66 credit hours, at least 24 must be at or above the 600-level, and 12 credit hours at the 700-level must be earned for thesis work. Motion Picture students must maintain an overall minimum GPA of 3.0 for all courses.

M.F.A. candidates are expected to follow a set sequence of courses during the first two semesters of their studies. Several courses are required during the second year of studies. Candidates are strongly encouraged to explore not only a primary but also a secondary area of specialization in the program and develop a minimum of two creative projects consistent with their areas of primary interest and secondary specialization. A minimum of 6 credit hours in each area of specialization is required. Under faculty committee supervision, students will develop one or two creative projects in the third year of their studies.

All M.F.A. students must demonstrate deeper, critical understanding of motion picture practice in diverse social and cultural contexts. To this purpose, and during their first year of studies, students are expected to produce a short motion picture project abroad. Students are also encouraged to participate in an internship during the summer of the first year or second year of studies.

By the end of the second year, students must complete a film and television literacy test, based on a list of 150 culturally and historically significant titles compiled by the faculty. The list is circulated to each student upon entrance into the program. The test is administered annually in the spring semester. Students are required to earn 85/100% on the test in order to complete the degree.

This three-year program culminates with a thesis portfolio that demonstrates, not only skillful execution of craft, but strong conceptual development rooted in collaborative work and innovative uses of technology.

First Year		
Fall		Credit Hours
CIM 601	Principles of Aesthetics and Analysis	3
CIM 611	Writing the Short Film	3
CIM 620	Cinematography	3
CIM 660	Directing the Actor	3
Term Credit Hours:		12
Spring		
CIM 610	Foundation of Screenwriting	3
CIM 621	Narrative Production	3
CIM 630	Introduction to Editing	3
CIM 670	Producing the Motion Picture	3
Term Credit Hours:		12
Second Year		
Fall		
Required Course Work:		
CIM 850	Production Workshop II - Individual Projects	3
CIM 707	Pedagogy And Film	3
CIM 612	Writing for Episodic Television	3
CIM 710	Writing the Feature-Length Screenplay	3
Term Credit Hours:		12
Spring		
Required course work:		
CIM 697	Topics In Film Analysis	3
Select three of the following:		
CIM 658	Documentary Production	
CIM 761	Directing The Camera	
CIM 740	Sound Design	
CIM 730	Advanced Editing	
Term Credit Hours:		12
Third Year		
Fall		
Required course work:		
CIM 815	MFA Thesis	1-6
Select one of the following:		
CIM 613	Mobile Application Development	
CIM 705	Production Management	
Term Credit Hours:		9
Spring		
Required course work:		
CIM 694	Motion Picture Marketing and Distribution	3
CIM 815	MFA Thesis	1-6
Term Credit Hours:		9
Total Credit Hours:		66

No more than 9 credit hours will be allowed for graduate internships and advanced projects and directed research. Courses may be taken, with

program director approval, from other programs or departments within the University of Miami.

Communication Studies

Two programs are offered in Communication Studies.

- The thesis program emphasizes the student's development of research skills under faculty supervision (30 credit hours).
- The non-thesis program focuses on a theoretical foundation with emphasis on applied communication (36 credit hours).

Students will be prepared for leadership positions in public or private organizations at the national or international level, or pursue advanced degrees.

Thesis students must complete a minimum of 30 credit hours at the graduate level with the approval of a faculty advisor or department chair. Of the 30 credit hours, 15 credit hours must be at or above the 600-level. Non-thesis students must complete a minimum of 36 credit hours at the graduate level with the approval of a faculty advisor or department chair. Of the 36 credit hours, 18 credit hours must be at or above the 600-level. Communication Studies students must maintain an overall minimum GPA of 3.0 for all courses. Core courses must be completed during the first year of study, or by completion of 18 credit hours. No more than 6 credit hours will be allowed for advanced projects and directed research. Only one intercession course (3 credit hours) can be counted towards the degree. Electives credits must be chosen with prior approval of a Communication Studies advisor.

Masters

Masters Programs in Communication Studies

- M.A. in Communication Studies - Communication Studies Track (p. 471)
- M.A. in Communication Studies - Health Communication Track (p. 472)
- M.A. in Communication Studies - Intercultural Communication Track (p. 472)
- M.A. in Communication Studies - Organizational Communication Track (p. 473)

M.A. in Communication Studies - Communication Studies Track

The goals of the Master of Arts program in Communication Studies are to provide students with a rigorous educational experience, to develop an advanced understanding of the human communication process, to increase awareness of the interdisciplinary nature of the communication field, and to develop oral, written, critical thinking, and research skills. Students may complete coursework in persuasion, and interpersonal, intercultural, organizational, and health communication together with research methods applicable to these areas. Two programs are offered.:

- The thesis track emphasizes student development of research skills under faculty supervision (30 credit hours).
- The non-thesis track emphasizes a theoretical foundation based on application of communication courses (36 credit hours).

Thesis Program

Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Electives ¹		
Select five of the following:		15
COM 609	Special Topics in Communication (Seminar in Applied Communication Research)	
COM 609	Special Topics in Communication (Seminar in Writing for Publication)	
COM 609	Special Topics in Communication (Seminar in Computer-Mediated-Communication)	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

A maximum of 6 credit hours thesis track may come from outside the School of Communication. Elective credits must be chose with prior approval of a Communication Studies advisor.

Non-Thesis Program

Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Electives ¹		
Select nine of the following:		27
COM 609	Special Topics in Communication (Seminar in Applied Communication Research)	
COM 609	Special Topics in Communication (Seminar in Writing for Publication)	
COM 609	Special Topics in Communication (Seminar in Computer-Mediated-Communication)	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 630	Conflict Management	

COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Total Credit Hours		36

A maximum of 9 credit hours non-thesis track may come from outside the School of Communication. Elective credits must be chosen with prior approval of a Communication Studies advisor.

M.A. in Communication Studies - Health Communication Track

Health Communication is an emerging specialty in the field of communication. This graduate program is designed to provide a broad introduction to human communication in a health-care context. Career opportunities in this area include public health leaders, practitioners, and researchers who design, evaluate, and disseminate health communication messages for private and governmental organizations, advertising, public relations and marketing agencies, and journalists. Students will explore the roles of patients and caregivers, social and cultural issues, communication in health organizations, and the role of mass media. Two programs are offered. The thesis track emphasizes student development of research skills under faculty supervision (30 credit hours). The non-thesis track emphasizes a theoretical foundation based on application of communication courses (36 credit hours).

Thesis Program

Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Electives ¹		
Select five of the following:		15
COM 672	Seminar in Persuasive Communication	
COS 651	Survey Of Health Communication	
COS 652	Culture And Health	
COS 653	Organizations, Communication Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 674	Seminar in Interpersonal Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
INS 639	Globalization and Health	
SOC 632	Social Psychology of Health and Illness	

SOC 635	Medical Sociology: Issues in Research and Theory.	
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

¹ A maximum of 6 credit hours thesis track may come from outside the School of Communication. Elective credits must be chosen with prior approval of a Communication Studies advisor.

Non-Thesis Program

Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Electives ¹		
Select nine of the following:		27
COM 672	Seminar in Persuasive Communication	
COS 651	Survey Of Health Communication	
COS 652	Culture And Health	
COS 653	Organizations, Communication Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 674	Seminar in Interpersonal Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
INS 639	Globalization and Health	
SOC 632	Social Psychology of Health and Illness	
SOC 635	Medical Sociology: Issues in Research and Theory.	
Total Credit Hours		36

¹ A maximum of 9 credit hours non-thesis track may come from outside the School of Communication. Elective credits must be chosen with prior approval of a Communication Studies advisor.

M.A. in Communication Studies - Intercultural Communication Track

The Intercultural Communication Track is designed to provide students with an understanding of the way communication functions in intercultural settings, how culture affects the communication process, and the reciprocal effects of intercultural perceptions on policy in the history of Eastern-Western relations. Career opportunities in this field include corporate diversity trainer, communication director, human resource manager, international service representative, negotiator, and foreign correspondent with government and business organizations. Two programs are offered. The thesis track emphasizes student development of research skills under faculty supervision (30 credit hours). The non-thesis track program emphasizes a theoretical foundation based on application of communication courses (36 credit hours).

Thesis Program

Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Electives ¹		
Select five of the following:		15
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 652	Culture And Health	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
JMM 610	Comparative Media Systems	
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

¹ A maximum of 6 credit hours thesis track may come from outside the School of Communication. Elective credits must be chosen with prior approval of a Communication Studies advisor.

Non-Thesis Program

Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Electives ¹		
Select nine of the following:		27
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 652	Culture And Health	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	

COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
JMM 610	Comparative Media Systems	
Total Credit Hours		36

¹ A maximum of 9 credit hours non-thesis track may come from outside the School of Communication. Elective credits must be chosen with prior approval of a Communication Studies advisor.

M.A. in Communication Studies - Organizational Communication Track

Organizational Communication is designed to provide students with a comprehensive and advanced understanding of communication in the organizational environment. Courses are designed to extend oral, written, and critical thinking skills through application of concepts using practical challenges in organizations. Students have the opportunity to explore essential areas of organizational communication, presentational skills, leadership styles, interpersonal and small group interaction, decision making, persuasion, conflict management, and diversity training. Two programs are offered. The thesis track emphasizes student development of research skills under faculty supervision (30 credits). The non-thesis track emphasizes a theoretical foundation based on application of communication courses (36 credits).

Thesis Program

Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Electives ¹		
Select five of the following:		15
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 645	Intercultural Communication: International Perspectives	
COS 616	Small Group Processes	
COS 630	Conflict Management	
COS 647	Culture and Organizations	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 680	Organizational Training and Development	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
STC 660	Corporate Communication And Public Relations	
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

¹ A maximum of 6 credit hours thesis track may come from outside the School of Communication. Elective credits must be chosen with prior approval of a Communication Studies advisor.

Non-Thesis Program

Required Communication Core		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Electives ¹		
Select nine of the following:		27
COM 609	Special Topics in Communication	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 630	Conflict Management	
COS 647	Culture and Organizations	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 680	Organizational Training and Development	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
STC 660	Corporate Communication And Public Relations	
Total Credit Hours		36

¹ A maximum of 9 credit hours non-thesis track may come from outside the School of Communication. Elective credits must be chosen with prior approval of a Communication Studies advisor.

Doctor of Philosophy in Communication

The doctoral program is designed to provide students with the requisite foundation in theory as well as research skills for using communication to make positive change at the societal, community, and individual levels. The program allows learning across content and creative areas, methodological orientations, and platforms of expression for engaged scholarship and immersive experience, globally and locally. You will engage with communication theory, research, and practice using advocacy and storytelling, with particular attention to new and social media for social and behavioral change. This will be your niche: conducting research, engaging in immersive experience, and translating these into evaluation-based practice for the well being of community, society and the world.

The program includes field research experience and the teaching, writing, and media skills necessary for a career in higher education, research institutions, non-profits, government organizations, media, business, and industry. You may choose from health, environmental, international, intercultural and organizational communication as well as from journalism studies and media development to create an appropriate combination for your career goals.

For the doctoral program, students must complete 57 credit hours of course work beyond the master's degree; 24 credit hours must be in courses at the 600-level. No transfer credit hours may count toward these 24 credit hours, and 12 of the 57 credit hours must be dissertation credit hours. Doctoral students cannot take intersession courses. The case for exceptions should be made by department chair/adviser and student to the Graduate Admissions and Curriculum Committee.

Required Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
COM 604	Advanced Communication Research Methods and Statistics	3
COM 609	Special Topics in Communication ¹	3
COM 695	Directed Readings ¹	1-3
COM 698	Independent Research ¹	3
School of Communication Electives		9-12
Courses outside the School of Communication		12-15
Dissertation Credits		
COM 830	Doctoral Dissertation	1-12
Total Credit Hours		58-60

¹ Students must take a total of 9 credit hours in COM 609 and/or COM 695/COM 698 or any combination of the three. Students are allowed to take up to 6 credit hours of Directed Readings/Independent Research in total.

Qualifying Examinations

All School of Communication Ph.D. students will take written and oral qualifying examinations following the conclusion of all course work prior to being admitted to candidacy for the Ph.D. degree. A student who fails the exam is given one opportunity to retake it with the permission of the exam committee and must pass it within one calendar year of failing the first exam. To be admitted to candidacy, students must have successfully completed qualifying exams and received approval from the department chair, have a minimum GPA of 3.0, and have submitted all original transcripts and standardized test results. Any student who fails to be admitted to candidacy for the degree within this one-year period will be dismissed from the program. A qualifying exams committee consists of a minimum of four members including the chair. All members must hold a Ph.D. degree or its equivalent.

Dissertation

The dissertation committee may be the same as the student's qualifying exams committee. The guidelines for the composition of the dissertation committee are the same as those for the qualifying exams committee. Students must complete 12 dissertation credit hours. These credit hours begin after students have successfully completed their qualifying exams. Students are required to defend a dissertation proposal to the dissertation committee. Students may proceed with the dissertation once the proposal has been approved by the committee and accepted by the director of graduate studies. The dissertation must be an investigation of a substantial scholarly topic and must be defended orally in the presence of the dissertation committee. Students should note that they cannot

conduct human subjects research without approval from the University of Miami's Institutional Review Board.

J.D./M.A. in School of Communication

This program allows students to earn a J.D. and an M.A. in Communication in 3 to 3½ years. The three School of Communication programs participating in the joint J.D./M.A. program are Communication Studies, Public Relations, and Journalism. This joint degree program will allow 9 J.D. credit hours to be applied to the M.A. degree and 6 M.A. credit hours to be applied to the J.D. degree, saving the student 15 credit hours between the two programs.

In the J.D. program, students will complete 82 credit hours in the School of Law. Additionally, 6 credit hours from the School of Communication program will be applied to their Law School transcript, for a total of 88 required J.D. credit hours. In the M.A. program, students will complete 27 credit hours in the School of Communication. Additionally, 9 law school credit hours will be applied toward their master's degree, for a total of 36 required M.A. credit hours. As defined above, 15 credit hours will be counted toward both degrees: 6 credit hours from the School of Law and 9 credit hours from the School of Communication. During the first year of the joint program, students will be required to attend the J.D. program full-time. Students will be able to take courses in the School of Communication beginning in the fall of their 2L year. Students must complete all J.D. requirements and all M.A. requirements as defined by their programs. Participants in the joint J.D./M.A. program are not required to complete the M.A. capstone project. The thesis-track is not open to students in the J.D./M.A. joint program without specific approval of the School of Communication. Students may take summer law courses, which may reduce the length of the joint degree program by up to one semester. Students may not take more than 16 credit hours each semester, excluding summer sessions. 17 credit hours per semester may be taken with permission from the Associate Dean, Academic Affairs, School of Law.

Law School Requirements

9 Law School credit hours should come from the following courses:

- Administrative Law
- Communications law
- Constitutional Law II
- Copyright Law
- First amendment Law
- Intellectual Property Law
- Internet Law
- Mass Media Law

Additional law courses to be considered (depending on the student's particular area of interest) are: Antitrust, Art and the Law, Bankruptcy Law, BA, Civil Procedure, Commercial Law, Consumer Law, Corporate Finance, Criminal Law, Cultural Property & Heritage, Elder Law, Election Law, Employment Law, Environmental Law, EU Law, Evidence, Family Law, Financial Regulation, Florida Con Law, Florida Criminal Procedure, Immigration Law, International Finance, International Human Rights, International Law, Latin American Law, Law & Economics, Law & Medicine, Legal Research Techniques, Media & the Law, Mortgage Law, National Security Law, Press Freedoms in the Americas, Public Education

Law, Race and the Constitution, Securities Regulation, Sports Law, State & Local Government, Substantive Criminal Law, and Trademark Law.

The Law School will accept 6 credit hours from the following School of Communication courses: (the courses selected will depend on the specific program, e.g., Journalism, Public Relations or Communication Studies, though following consultation with, and approval by, a faculty advisor, substitutions may be allowed)

COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
COM 605	Theories and Methods for Mass Communication Research	3
JMM 611	Newswriting and Reporting Seminar	3
JMM 615	Writing and Reporting Across Platforms	3
STC 620	Public Relations Fundamentals	3
JMM 692	Special Topics In Journalism And Media Management (- The Business of Modern Journalism)	3

J.D./M.A. in Communication Studies

Communication Studies (M.A.)

The program has four tracks, each with 9 credits of required courses and 27 credits of elective courses but students in the joint program take 18 credits of electives and transfer 9 credit from the School of Law to make 27 credits. Communication Studies students must receive a "B" or higher in core courses (COM 601, COM 602, and COM 603), as well as maintain an overall minimum GPA of 3.0 for all courses. Core courses must be completed during the first year of study, or by completion of 18 credits.

Communication Studies Track - Non-Thesis

This program focuses on developing a theoretical foundation with emphasis on applied communication.

Required Communication Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		18
Elective credits must be chosen with prior approval of a Communication Studies advisor.		
COM 609	Special Topics in Communication ((Seminar in Applied Communication Research))	
COM 609	Special Topics in Communication ((Seminar in Computer-Mediated-Communication))	
COM 609	Special Topics in Communication ((Seminar in Writing for Publication))	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	

COS 646	Intercultural Communication: Domestic Perspectives	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
Law School Credits		9
Total Credit Hours		36

Health Communication Track - Non-Thesis

This program focuses on human communication in a health-care context.

Required Communication Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		18
Elective credits must be chosen with prior approval of a Communication Studies advisor.		
COM 672	Seminar in Persuasive Communication	
COS 651	Survey Of Health Communication	
COS 652	Culture And Health	
COS 653	Organizations, Communication Health	
COS 654	Risk Communication	
COS 655	Health Communication Interventions	
COS 674	Seminar in Interpersonal Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
INS 639	Globalization and Health	
SOC 632	Social Psychology of Health and Illness	
SOC 635	Medical Sociology: Issues in Research and Theory.	
Law School Credits		9
Total Credit Hours		36

Intercultural Communication Track - Non-Thesis

This program focuses on the way communication functions in intercultural settings, how culture affects the communication process, and the reciprocal effects of intercultural perceptions on policy in the history of East-West relations.

Required Communication Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		18

Elective credits must be chosen with prior approval of a Communication Studies advisor.		
COM 609	Special Topics in Communication ((Social Change Communication Theory))	
COM 672	Seminar in Persuasive Communication	
COS 645	Intercultural Communication: International Perspectives	
COS 646	Intercultural Communication: Domestic Perspectives	
COS 647	Culture and Organizations	
COS 652	Culture And Health	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
JMM 610	Comparative Media Systems	
Law School Credits		9
Total Credit Hours		36

Organizational Communication Track - Non-Thesis

This program focuses on communication in the organizational context.

Required Communication Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
COM 603	Qualitative Research Methodologies	3
Communication Electives		18
Elective credits must be chosen with prior approval of a Communication Studies advisor.		
COM 609	Special Topics in Communication ((Social Change Communication Theory))	
COM 672	Seminar in Persuasive Communication	
COS 616	Small Group Processes	
COS 630	Conflict Management	
COS 645	Intercultural Communication: International Perspectives	
COS 647	Culture and Organizations	
COS 660	The Executive Communicator	
COS 674	Seminar in Interpersonal Communication	
COS 680	Organizational Training and Development	
COS 682	Seminar in Organizational Communication	
COS 690	Communication Studies Practicum	
COS 691	Advanced Special Topics in Communication Studies	
COS 699	Advanced Projects and Directed Research	
STC 660	Corporate Communication And Public Relations	

Law School Credits	9
Total Credit Hours	36

J.D./M.A. in Journalism

Journalism (M.A.)

The program in journalism has 15 credits of required courses and 12 credits of elective courses (plus 9 credits that will be transferred from the School of Law). Law students with particular areas of interest may consult with a faculty advisor in Journalism to request course substitutions.

Required Communication and Journalism Core Courses		
COM 605	Theories and Methods for Mass Communication Research	3
JMM 615	Writing and Reporting Across Platforms	3
JMM 622	Infographics And Data Visualization	3
JMM 628	Seminar in Visual Storytelling	3
JMM 637	The Business Of Modern Journalism	3
Journalism Electives		12
Select four of the following:		
JMM 609	Internship In Journalism And Media Management	
JMM 610	Comparative Media Systems	
JMM 611	Newswriting and Reporting Seminar	
JMM 613	Computer-Assisted Reporting	
JMM 617	Television News Reporting	
JMM 619	Interactive Storytelling	
JMM 620	Reporting and the Internet	
JMM 623	Sports Reporting	
JMM 627	Television News Producing	
JMM 631	Database Journalism	
JMM 641	Advanced Audio Video Narratives	
JMM 644	Feature Writing	
JMM 650	3D Design and Graphics	
JMM 651	Advanced Programming	
JMM 692	Special Topics In Journalism And Media Management	
JMM 699	Advanced Projects and Directed Research	
JMM 725	Journalism Internship	
CIM 645	Managing Interactive Media Projects	
Law School Credits		9
Total Credit Hours		36

J.D./M.A. in Public Relations

Public Relations (M.A. - Non-Thesis)

This program is focused on public relations with 15 credit hours of required courses and 12 credit hours of elective courses (plus 9 credit hours that will be transferred from the School of Law.) Public Relations students must receive a "B" or higher in core courses (COM 601, STC 620, STC 621, STC 622, COM 602 OR COM 603).

Required Communication and Public Relations Core Courses		
COM 601	Theories of Communication	3
STC 620	Public Relations Fundamentals	3
STC 621	Writing for Public Relations	3
STC 622	Design for Public Relations	3
COM 602 or COM 603	Methods of Communication Research Qualitative Research Methodologies	3
Public Relations Electives		12
Select four of the following:		
STC 623	Crisis Communication And Management	
STC 624	Media Relations	
STC 625	Cases In Public Relations Administration	
STC 626	Sports, Publicity, & Promotions	
STC 627	Religion, Communication, & Culture	
STC 628	Public Relations Management	
STC 629	Special Topics Seminar In Public Relations	
STC 632	Seminar in Public Relations and Political Campaigns	
STC 634	Non-Profit And Public Information Campaigns	
STC 635	Seminar In Public Relations Measurement	
STC 644	Seminar In Public Relations Ethics	
STC 650	Strategic Communication In Health Care	
STC 660	Corporate Communication And Public Relations	
STC 681	Public Relations Experience Program (Prep)	
STC 682	International Public Relations	
STC 690	Public Relations Practicum I	
Law School Credits		9
Total Credit Hours		36

Journalism and Media Management

Journalism (M.A.)

Journalism is an intensive program of academic study and hands-on practice designed to develop competitive, high-level, cross-platform digital media skills appropriate for today's media landscape. Students take a common core of courses designed to provide a foundation in all aspects of contemporary journalism (e.g., writing, reporting, multimedia, data visualization, broadcasting, media law and ethics). In addition, students have the opportunity to focus their work in various areas of study, including broadcast journalism, news and feature writing and various aspects of multimedia journalism. Through a combination of journalism courses and related courses offered by other programs, students may also concentrate some of their work in particular areas of interest (e.g., sports reporting and, travel and features). The program begins in the fall semester and lasts for 18 months. No prior training or experience in journalism is required.

Masters

Masters Program in Journalism and Media Management

- M.A. in Journalism (p. 478)

M.A. in Journalism

The Journalism M.A. program is designed to prepare students for professional participation in a number of digital and multimedia news environments, including television, online, mobile, magazine, and newspaper. Coursework stresses journalistic values, critical thinking, and storytelling, combined with the digital and technical skills to create content in the context of today's dynamic and evolving media landscape. In consultation with faculty advisors, students are strongly encouraged to develop areas of special interest, and are required to complete an individually produced, in-depth Qualifying Project.

Journalism M.A. students must complete a minimum of 36 credit hours at the graduate level with the approval of the Chair of the Department of Journalism and Media Management or Director of the Graduate Program in Journalism. Of the 36 credit hours, all must be at or above the 600 level. Students with strong prior experience in a particular area may request a written waiver of a required course from the department chair, upon the demonstration of sufficient expertise in that subject.

Required Communication and Journalism Core Courses		
COM 605	Theories and Methods for Mass Communication Research	3
JMM 606	Multimedia Design	3
JMM 614	Media Law and Ethics Seminar	3
JMM 622	Infographics And Data Visualization	3
JMM 628	Seminar in Visual Storytelling	3
JMM 637	The Business Of Modern Journalism	3
Electives		15
Electives are chosen with the approval of a faculty advisor. These courses may come from either within or outside the School of Communication. It is highly recommended that students consider pursuing a professional internship for one of these electives.		
Select five of the following:		
JMM 609	Internship In Journalism And Media Management	
JMM 610	Comparative Media Systems	
JMM 611	Newswriting and Reporting Seminar	
JMM 613	Computer-Assisted Reporting	
JMM 617	Television News Reporting	
JMM 619	Interactive Storytelling	
JMM 620	Reporting and the Internet	
JMM 623	Sports Reporting	
JMM 627	Television News Producing	
JMM 631	Database Journalism	
JMM 641	Advanced Audio Video Narratives	
JMM 644	Feature Writing	
JMM 650	3D Design and Graphics	
JMM 651	Advanced Programming	
JMM 695	Special Topics in Journalism	
JMM 699	Advanced Projects and Directed Research	
JMM 725	Journalism Internship	
CIM 645	Managing Interactive Media Projects	

Final Qualifying Project

Students, in consultation with a faculty committee of their choosing, will complete a final reporting project that reflects in-depth knowledge and analysis of a subject and professional competence in reporting and presenting it for the appropriate medium.

JMM 715	Multimedia Project	1-6
Total Credit Hours		36

Strategic Communication

Public Relations (M.A.)

The program offers two tracks. The 30-credit thesis track program provides an opportunity to supplement a working foundation and knowledge with pertinent theory and research methodologies. A second 36-credit, coursework-only non-thesis track program builds from a foundation of public relations and communication courses.

Masters

Masters Programs in Strategic Communication

- M.A. in Public Relations (p. 478)

M.A. in Public Relations

Thesis Track

This program includes a thesis. Students must complete a minimum of 30 credit hours at the graduate level with the approval of a faculty advisor. Of the 30 credit hours, 15 credit hours must be at or above the 600 level. No more than 6 credit hours will be allowed for advanced projects and directed research (699). 6 credit hours will be earned for thesis work. Public Relations students must receive a "B" or higher in core courses (COM 601, STC 620, STC 621, COM 602 OR COM 603).

Required Communication and Public Relations Core Courses		
COM 601	Theories of Communication	3
COM 602	Methods of Communication Research	3
or COM 603	Qualitative Research Methodologies	
STC 620	Public Relations Fundamentals	3
STC 621	Writing for Public Relations	3
Public Relations Electives		
Select four of the following:		12
STC 622	Design for Public Relations	
STC 623	Crisis Communication And Management	
STC 624	Media Relations	
STC 625	Cases In Public Relations Administration	
STC 626	Sports, Publicity, & Promotions	
STC 627	Religion, Communication, & Culture	
STC 628	Public Relations Management	
STC 629	Special Topics Seminar In Public Relations	
STC 632	Seminar in Public Relations and Political Campaigns	
STC 634	Non-Profit And Public Information Campaigns	
STC 635	Seminar In Public Relations Measurement	
STC 644	Seminar In Public Relations Ethics	

STC 650	Strategic Communication In Health Care	
STC 660	Corporate Communication And Public Relations	
STC 681	Public Relations Experience Program (Prep)	
STC 682	International Public Relations	
STC 690	Public Relations Practicum I	
STC 699	Advanced Projects and Directed Research in Public Relations	
Thesis		
COM 810	Master's Thesis	1-6
Total Credit Hours		30

6 elective credit hours must be taken outside the School of Communication's Public Relations program, with approval of the program's graduate coordinator.	6
COM 825 Continuous Registration--Master's Study	
Total Credit Hours	36

No written comprehensive examinations are required for this degree.

No comprehensive examinations are required for this degree.

Professional (Non-thesis) Track

Students who elect the professional, non-thesis track must complete a minimum of 36 credit hours at the graduate level with the approval of the faculty advisor. Public Relations students must receive a "B" or higher in core courses (COM 601, STC 620, STC 621, STC 622, COM 602 OR COM 603). Of the 36 credit hours, 18 must be at or above the 600 level.

Required Communication and Public Relations Core Courses		
COM 601	Theories of Communication	3
STC 620	Public Relations Fundamentals	3
COM 602	Methods of Communication Research	3
or COM 603	Qualitative Research Methodologies	
STC 621	Writing for Public Relations	3
STC 622	Design for Public Relations	3
Public Relations Electives		
Select five of the following:		15
STC 623	Crisis Communication And Management	
STC 624	Media Relations	
STC 626	Sports, Publicity, & Promotions	
STC 627	Religion, Communication, & Culture	
STC 681	Public Relations Experience Program (Prep)	
STC 682	International Public Relations	
STC 628	Public Relations Management	
STC 625	Cases In Public Relations Administration	
STC 629	Special Topics Seminar In Public Relations	
STC 632	Seminar in Public Relations and Political Campaigns	
STC 634	Non-Profit And Public Information Campaigns	
STC 635	Seminar In Public Relations Measurement	
STC 644	Seminar In Public Relations Ethics	
STC 650	Strategic Communication In Health Care	
STC 660	Corporate Communication And Public Relations	
STC 690	Public Relations Practicum I	
STC 699	Advanced Projects and Directed Research in Public Relations	
Electives		

Education and Human Development

<http://www.education.miami.edu>

Departments

- Educational and Psychological Studies (EPS)
- Kinesiology and Sport Sciences (KIN)
- Teaching and Learning (TAL)

Degree Programs

Doctor of Philosophy in Education (Ph.D.)

The Doctor of Philosophy degree with a major in education is designed to develop personnel competent to conduct research in a particular field of education or behavioral sciences. Concentrations are offered in:

- Exercise physiology (KIN)
- Community well-being (EPS)
- Counseling psychology (EPS)
- Language and literacy learning in multilingual settings (TAL)
- Science, technology, engineering and mathematics (TAL)
- Special education (TAL)
- Research, measurement, and evaluation (EPS)

Doctor of Education (Ed.D.)

The Doctor of Education degree is designed to develop personnel in education competent to utilize the results of research in practical situations. The Ed.D. program offers a concentration in higher education leadership (EPS).

Specialist in Education (Ed.S.)

The Specialist in Education degree is an advanced terminal, practice-oriented degree that is designed to prepare recipients to assume positions of leadership within educational and affiliated settings. Concentrations are offered in:

- Advanced professional studies (TAL)
- Early childhood/special education (TAL)
- Reading education (TAL)
- STEM education (TAL)

Master of Science in Education (M.S.Ed.)

The Master of Science in Education degree is a practice-oriented degree that is designed to prepare its recipients to assume professional positions that require advanced course work and post-graduate degrees. Concentrations are offered in:

- Advanced professional studies (TAL)
- Community and social changes (EPS)
- Counseling: Marriage and family therapy (EPS)
- Counseling: Mental health (EPS)
- Early childhood, special education (TAL)
- Education and social change (TAL)
- Exercise physiology: Clinical and applied exercise physiology (KIN)
- Exercise physiology: Nutrition for health and human performance (KIN)

- Exercise physiology: Strength and conditioning/Fitness entrepreneurship (KIN)
- Higher education: Enrollment management (EPS)
- Higher education: Institutional research and policy analysis (EPS)
- Higher education: Student life and development (EPS)
- Reading (TAL)
- Research, measurement and evaluation (EPS)
- Sport administration (KIN)
- Sports medicine (KIN)
- STEM education (TAL)

NOTE: The School of Education and Human Development's graduate programs are governed by the rules, regulations and policies of the larger University and Graduate School. In places where what appears in the following is judged to be in conflict with these other policies, the University and/or Graduate School's policies will take precedence.

Application Requirements

Admission to all graduate-degree concentrations in the School of Education and Human Development is based on the recommendation of the faculty. Admissions decisions are based on faculty review of the following general requirements that apply to **all** Graduate Programs in the School as well as specific documents listed under each concentration. Applicants must:

- achieve acceptable scores on the Graduate Record Exam (GRE) taken within the past five years. International applicants whose native language is not English or applicants whose degrees are from a non-U.S. University must pass the Test of English as a Foreign Language (TOEFL) and the GRE;
- provide official transcripts showing completion of a bachelor's degree from an accredited institution and an acceptable undergraduate grade point average. A minimum of 3.0 undergraduate GPA is required. Official transcripts from every institution attended by an applicant, whether or not the applicant completed a degree program at the institution, are required;
- provide three letters of recommendation that address the issues and meet the criteria established by the program being applied to;
- provide a personal statement that addresses the mission and purpose of the program being applied to;
- take part in an admissions interview (required by some programs); and
- exhibit personal and professional experiences and characteristics that are relevant to the profession and/or field and/or degree program for which the application is being submitted.

Doctor of Philosophy (Ph.D.)

In addition to the factors listed as general requirements for all applications to the SEHD's graduate programs, consideration for admission to the Ph.D program will include the following:

- letters of recommendation should address the applicant's *academic* potential;
- available student space in program;
- For TAL: availability of faculty advisor willing to mentor the student.

- For EPS: Counseling: receipt of completed applications by predetermined cut-off date. Please reference the SEHD web site, as doctoral applications are reviewed once each year.

Doctor of Education (Ed.D.)

In addition to the factors listed as general requirements for all applications to the SEHD's graduate programs, consideration for admission to the Ed.D. program will include the following:

- letters of recommendation should address the applicant's academic potential;
- available student space in program; and
- admissions interview.

Specialist in Education (Ed.S.)

In addition to the factors listed as general requirements for all applications to the SEHD's graduate programs, consideration for admission to the Ed.D. program will include the following:

- completion of a master's degree with an outstanding record from an accredited institution;
- adequacy of previous study in the field for which the Ed.S. is being requested;
- an appropriate period of successful teaching experience (TAL only);
- acceptable scores on the Graduate Record Examination (GRE); or in the case of TAL only, approval of a GRE waiver. Applicants who seek a GRE waiver must have taught for a minimum of three years in a full-time capacity, fill out and submit a GRE waiver form, and submit a 3-page essay on an important educational.

Master of Science in Education (M.S.Ed.)

In addition to the factors listed as general requirements for all applications to the SEHD's graduate programs, consideration for admission to the M.S.Ed. program will include the following:

- For some M.S.Ed. programs in TAL: Teachers with **at least** three years full-time teaching experience may apply for a GRE waiver for programs in the Department of Teaching and Learning. An application for waiver of the GRE requirement may be found on the SEHD web site. Teachers who apply for a GRE waiver must submit a 3-page essay on an important topic in education.
- For Community and Social Change (EPS): Professionals who have worked full-time for at least three years in a not-for-profit setting may apply for a waiver of the GRE requirement. Please contact the program directly for conditions governing this waiver.

International Applications

All international applications must provide additional information and meet additional requirements as required by the UM Graduate School and the UM Office of International Admissions. For an appropriate link to these requirements, please visit the Graduate School (p. 360) web site.

Admission Decision

Once an applicant has been admitted to graduate study, that individual should meet with the faculty advisor who was appointed to serve in that capacity and whose name appears in the admissions letter. This advisor will help the student enroll in courses that are appropriate to the program; to develop and to refine a Program of Study or Course Sequence Plan

that must be on file in the Senior Associate Dean's Office by the end of the first semester of study.

Honor Code

The School of Education and Human Development follows the Graduate School's Honor Code. All students are required to submit a signed Student Responsibility Checklist and the Graduate Student Honor Code by the end of their first semester of enrollment.

Continuous Enrollment

The School of Education and Human Development adheres to the Graduate School's continuous enrollment requirement.

Financial Assistance

In addition to University-wide fellowships and the availability of student loans, the School of Education and Human Development provides many forms of financial assistance for students enrolled in its graduate programs. These include tuition-based scholarships (including federally funded scholarships), teacher-tuition scholarships, training fellowships, graduate student assistantships, and other forms of help.

Notwithstanding a student's time to completion, the SEHD limits a student's eligibility for scholarships and other financial assistance that is under its control to five years from the time of initial enrollment.

Scholarship-based financial assistance is to be used only for courses that define each student's program of study. Students who enroll in courses outside of their programs of study will be charged full tuition for those courses.

Teacher Tuition Scholarships do not apply to doctoral (Ph.D. and Ed.D.) programs.

Tuition scholarship assistance may not be applied to the retaking of courses for any reason whatsoever.

Financial assistance whose sources of funding are outside of the School of Education and Human Development, for example Federal loans provided by the University of Miami, shall be governed by all applicable rules, regulations and policies. Specifically, many federal loans and grants have conditions limiting the programs and/or courses to which they may be applied. Some federal loans are restricted to graduate courses only; some fellowships, grants or traineeships may entail post-graduation employment commitments. Alternatively, private scholarships or fellowships may have their own conditions. Before accepting any form of financial assistance, please be sure to ask about and to fully understand the conditions that govern whatever type of financial assistance you are offered.

Degree Requirements

In addition to the formal academic requirements (as outlined below), the School of Education and Human Development requires its students to demonstrate personal qualities that, in the judgment of the faculty, would permit them to function effectively in their professional roles. The School of Education and Human Development reserves the right to dismiss any students who are academically or personally unwilling or unable to carry out the professional responsibilities of the respective profession for which they are being trained. Conduct which may be considered unprofessional may include, but is not limited to, research or professional

misconduct; dishonesty, cheating, plagiarism; exercise of professionally poor judgment; sexual harassment, discrimination on the basis of race, ethnicity, religion, or sexual orientation; and inappropriate interpersonal behavior. It is up to all students to fulfill their responsibilities in a timely and professional manner, to represent themselves and the University with honesty, and to treat others with dignity and respect.

Doctor of Philosophy (Ph.D.)

Upon admission to graduate study, a supervisory committee, consisting of at least four members (composed as per UM Graduate School regulations), will be appointed by the School of Education and Human Development.

The student will meet with the chairperson of this committee to design a Program of Study/Residency Plan.

The Program of Study/Residency Plan must be approved by the supervisory committee, the department chairperson, and the Senior Associate Dean of Graduate Studies in the School of Education and Human Development.

The Program of Study/Residency Plan must be filed with both the Graduate School and the School of Education and Human Development by the end of the second semester of enrollment or future registration will not be permitted.

All students are required to submit a signed Student Responsibility Checklist and the Graduate Student Honor Code by the end of their first semester of enrollment.

The residence requirement is two full-time consecutive semesters of course work at the University of Miami.

The minimum total credit hours required beyond the Bachelor's are 60, plus a minimum of 12 dissertation-research credit hours.

15 credit hours of statistics and research methods are required as prescribed by the supervisory committee.

A student must pass a Qualifying exam before being admitted to candidacy for a doctorate. The content and conditions for administering the Qualifying examination are defined by the program area in which a student is enrolled.

A student's score on the Qualifying examination is the professional judgment of the committee that was appointed to score that examination. As such, no academic appeals of scores on qualifying examination are possible.

If a student fails an initial attempt at passing a program's Qualifying examination, the student's advisory committee may allow a student a second opportunity to pass a new qualifying examination that is administered within a year of the original, *at its sole discretion*.

A student who fails a program's qualifying examination may not proceed any farther in the program and is, instead, dismissed at the end of then-current term. Beyond the then-current term in which a student's qualifying examination is scored, no additional financial assistance will be provided to a student who is scheduled to be dismissed from the program for failure in the qualifying examination.

Students are required to complete all Ph.D. requirements within 8 years of initial enrollment.

Doctor of Education (Ed.D.)

Upon admission to graduate study, a supervisory committee, consisting of at least four members (composed as per UM Graduate School regulations), will be appointed by the School of Education and Human Development.

The student will meet with the chairperson of this committee to design a Program of Study/Residency Plan.

The Program of Study/Residency Plan must be approved by the supervisory committee, the department chairperson, and the Senior Associate Dean of Academic Studies in the School of Education and Human Development.

The Program of Study/Residency Plan must be filed with both the Graduate School and the School of Education and Human Development by the end of the second semester of enrollment or future registration will not be permitted.

All students are required to submit a signed Student Responsibility Checklist and the Graduate Student Honor Code by the end of their first semester of enrollment.

The minimum total credit hours required beyond the bachelors are 60, including a minimum of 12 dissertation credit hours.

A supporting area consisting of at least 12 credit hours is required; the student must be qualified for admission to graduate status in this area, and receive approval for enrollment from the appropriate department and from the School of Education and Human Development.

A minimum of 12 credit hours of statistics and research methods are required as prescribed by the supervisory committee.

Students are required to complete all Ed.D. requirements within 8 years of initial enrollment.

Specialist in Education (Ed.S.)

The Specialist in Education is a terminal degree that is independent of both doctoral degrees (Ph.D. and Ed.D.) that are offered by the SEHD. Although there is normally some overlap in coursework, admission to a specialist program does not imply that the student has been or will be admitted to a doctoral program.

A supervisory committee consisting of three faculty members in the student's area of study will be appointed by the School of Education and Human Development.

Upon admission to the specialist program, a formal program of study is approved by the Supervisory Committee.

A minimum of 60 graduate credit hours, (or 30 credit hours after completion of the Master's program) is required. The program must include at least 30 graduate credit hours earned at the University of Miami and at least 18 graduate credit hours earned following admission to the specialist program. The specialist program of study is developed in consultation with the Supervisory Committee that consists of 3 faculty members (a chairperson and 2 other members).

Students must pass a comprehensive written examination, portfolio (with an oral examination as a possible additional requirement), capstone course, project, thesis, or requirement specified by the program. When a thesis is chosen, a maximum of 6 credit hours may be counted toward the total degree requirements, and an oral examination in defense of the thesis will be required. The written comprehensive examination will cover the student's program of study. The examination must be taken during or after the final semester in which the student is enrolled for coursework in the program. The project will be directed by the Chairperson of the Specialist Supervisory Committee.

All specialist students must engage in teaching and/or research appropriate to their degree program.

All work for the degree of Specialist in Education must be completed within six years of initial enrollment.

Master of Science in Education (M.S.Ed.)

A minimum of 30 graduate credit hours is required.

TAL: Students enrolled in any certification program that has been approved by Florida Department of Education (e.g., the Professional Training Option) must fulfill any and all additional requirements (e.g., passing state teacher tests) that are specified by the program approval.

EPS: Students enrolled in any counseling program must complete the required "Personal Growth Experience" form.

Students must pass a comprehensive written examination, portfolio (with an oral examination as a possible additional requirement), capstone course, project, thesis, or requirement specified by the program. When a thesis is chosen (in the KIN Dept. or EPS Dept.), a maximum of 6 credit hours may be counted toward the total degree requirements, and an oral examination in defense of the thesis will be required. The written comprehensive examination will cover the student's program of study. The examination must be taken during or after the final semester in which the student is enrolled for coursework in the program. The project will be directed by the student's advisor.

All work towards the Master's degree must be completed within six years of initial enrollment.

Educational and Psychological Studies

Dept. Code: EPS

Programs

Doctor of Philosophy (Ph.D.)

- Community Well-Being (p. 489)
- Counseling Psychology (p. 489)
- Research, Measurement, and Evaluation (p. 490)

Doctor of Education (Ed.D.)

- Higher Education Leadership (p. 485)

Master of Science in Education (M.S.Ed.)

- Community and Social Change (p. 485)
- Counseling:
 - Marriage and Family Therapy (p. 486)

- Mental Health Counseling (p. 486)
- Higher Education Administration:
 - Enrollment Management (p. 486)
 - Institutional Research and Policy Analysis (p. 487)
 - Student Life and Development (p. 488)
- Research, Measurement, and Evaluation (p. 488)

Certificates (Non-Degree Programs)

- Higher Education Administration/Enrollment Management (p. 483)
- Higher Education Administration/Student Life and Development (p. 484)
- Latino Mental Health Counseling (p. 484)

Masters

Masters Programs in Educational and Psychological Studies

- M.S.Ed. in Community and Social Change (p. 485)
- M.S.Ed. in Counseling - Marriage and Family Therapy Concentration (p. 486)
- M.S.Ed. in Counseling - Mental Health Counseling Concentration (p. 486)
- M.S.Ed. in Higher Education Administration - Enrollment Management Concentration (p. 486)
- M.S.Ed. in Higher Education Administration - Student Life and Development Concentration (p. 488)
- M.S.Ed. in Higher Education Administration - Institutional Research and Policy Analysis (p. 487)
- M.S.Ed. in Research, Measurement and Evaluation (p. 488)

Doctoral

Doctoral Programs in Educational and Psychological Studies

- Ph.D. in Community Well-Being (p. 489)
- Ph.D. in Counseling Psychology (p. 489)
- Ph.D. in Research, Measurement, and Evaluation (p. 490)
- Ed.D. in Higher Education Leadership (p. 485)

Certificates

Certificates in Educational and Psychological Studies

- Higher Education Administration/Enrollment Management (p. 483)
- Higher Education Administration/Student Life and Development (p. 484)
- Latino Mental Health Counseling (p. 484)

Certificate in Higher Education Administration/Enrollment Management

Post Master's Degree

The Certificate can be integrated into the Master's Program in Higher Education Administration. It can be completed in addition to or after

completion of a Master's Program in Higher Education Administration, or a related field.

Core Courses		
EPS 748	Enrollment Management: Theory and Practice	3
EPS 749	Advanced Seminar in Enrollment Management	3
Electives		
Select a minimum of two of the following Electives that are divided into three "academic areas" or as otherwise approved by an advisor:		6
Education		
EPS 737	Organization and Administration of Higher Education I	3
EPS 739	The Community College	3
EPS 740	Administration of Student Affairs	3
EPS 742	Higher Education in the United States: From Harvard to Present	3
EPS 744	Student Diversity in American Higher Education	3
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	3
EPS 746	College Student Development: Theory, Research and Practice	3
EPS 747	Critical Issues in Student Affairs	3
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	3
Business		
ECO 690	Essentials of Economic Theory	3
MGT 603	Leading Teams	3
MKT 660	Foundations of Marketing Management	3
POL 501	Budget and Financial Management and Administration	3
Research		
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS 625	Program Evaluation	3
EPS 700	Introductory Statistics	3
EPS 714	Qualitative Methods I	3
EPS XXX	Survey Research Methods	
MKT XXX		

Certificate in Higher Education Administration/Student Life and Development

Post Master's Degree

The Certificate can be integrated into the Master's Program in Higher Education Administration. It can be completed in addition to or after completion of a Master's Program in Higher Education Administration, or a related field.

Core Courses		
EPS 740	Administration of Student Affairs	3

EPS 744	Student Diversity in American Higher Education	3
EPS 746	College Student Development: Theory, Research and Practice	3
Electives		
Select a minimum of two of the following categories or as otherwise approved by an advisor:		6
Counseling and Advising		
EPS 676	Counseling Process and Practice	3
EPS 741	Basic skills in Counseling and Interviewing	3
EPS XXX	Group Dynamics and Communication Skills	
Education		
EPS 737	Organization and Administration of Higher Education I	3
EPS 739	The Community College	3
EPS 740	Administration of Student Affairs	3
EPS 742	Higher Education in the United States: From Harvard to Present	3
EPS 744	Student Diversity in American Higher Education	3
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	3
EPS 746	College Student Development: Theory, Research and Practice	3
EPS 748	Enrollment Management: Theory and Practice	3
EPS 749	Advanced Seminar in Enrollment Management	3
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	3
Research		
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS 625	Program Evaluation	3
EPS 700	Introductory Statistics	3
EPS 714	Qualitative Methods I	3
EPS XXX	Survey Research Methods	

Certificate in Latino Mental Health Counseling

This Certificate requires previous graduate training. It can be acquired after graduation from the Masters Program in Counseling or can be integrated into the Doctoral Program in Counseling Psychology. It can be completed in addition to or after completion of a degree program in counseling, psychology or a related field.

Core Courses		
EPS 687	Latino Youth And Families	3
EPS 688	Spanish For Mental Health Professionals	3
EPS 689	Psychological Interventions with Hispanic/Latino Populations	3
Total Credit Hours		9

Ed.D. in Higher Education Leadership

The Higher Education Leadership program, which offers a Doctor of Education degree (Ed.D.), is committed to preparing high-quality graduates for senior leadership positions in colleges and universities, state and federal agencies, and other educational organizations. The Ed.D. program is guided by a practitioner-scholar model that combines theoretical offerings with application to practical higher education problems. Students focus on areas of special interest and choose dissertation projects that address issues confronting the contemporary higher education workplace.

The Executive Track is an innovative option in the Ed.D. program explicitly designed to meet the needs of working professionals. Courses are offered on weekends, and a cohort design allows students to develop meaningful relationships, support one another, and learn from the diverse experiences of fellow educators. Ed.D. students may also choose to take courses in a traditional weekly format.

An emphasis across the traditional and Executive Ed.D. curriculum is on how theory and empirical evidence inform the administrative, organizational, and policy contexts within postsecondary education. Unique to the University of Miami's Higher Education Leadership program curriculum is its component in Enrollment Management, a comprehensive strategy that promotes the seamless integration of administrative responsibilities to efficiently and effectively meet institutional needs and promote student success.

Higher Education Foundations		
EPS 737	Organization and Administration of Higher Education I	3
EPS 742	Higher Education in the United States: From Harvard to Present	3
EPS 744	Student Diversity in American Higher Education	3
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	3
EPS 746	College Student Development: Theory, Research and Practice	3
EPS 748	Enrollment Management: Theory and Practice	3
Practicum/Internship		
EPS 754	Practicum: Administration of Higher Education	1-6
Research		
Select 9 credit hours of the following:		
EPS 625	Program Evaluation	3
EPS 700	Introductory Statistics	3
EPS 701	Introduction to Research Methods	3
EPS 702	General Linear Models	3
EPS 703	Applied Multivariate Statistics	3
EPS 704	Computer Applications in Educational and Behavioral Science Research	3
EPS 705	Measurement and Psychometric Theory	3
EPS 706	CATEGORICAL DATA ANALYSIS	3
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	3
EPS 714	Qualitative Methods I	3

EPS 715	Qualitative Methods II: Case Studies and Grounded Theory	3
Electives		
EPS 676	Counseling Process and Practice	3
EPS 704	Computer Applications in Educational and Behavioral Science Research	3
EPS 741	Basic skills in Counseling and Interviewing	3
EPS 743	Psychological Bases of Education	3
Dissertation		
EPS 752	Dissertation Seminar	3
EPS 830	Pre-Candidacy Dissertation Research	1-12
EPS 835	Doctor of Education Dissertation	1-12
EPS 840	Post-Candidacy Dissertation Research	1-12

M.S.Ed. in Community and Social Change

The Community and Social Change Master's program is designed to prepare a new generation of creative leaders for the not-for-profit sector who are knowledgeable in the research, theories, and practice of individual and social well-being. The vision of the program is to be a hub for innovative and applied leadership in community well-being and social change. The mission of the program is to prepare globally aware leaders, researchers, and agents of change who create, inspire, and engage community organizations to foster well-being in diverse community settings. The program is designed to develop community leaders who can help understand and address the real challenges faced by local communities in a multi-cultural and global context. The program is designed to accommodate a variety of students by offering courses in a unique format that incorporates the following domains;

1. Core theory and skill-building coursework,
2. Core research coursework,
3. Experiential field experience (practicum), and
4. Capstone experience (Independent project, portfolio, or masters thesis).

Core Courses		
EPS 622	Community Well-being and Change: Theory and Practice	3
EPS 623	Development & Change in Community Organizations: Theory & Practice	3
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS 625	Program Evaluation	3
EPS 628	Managing Community Organizations	3
EPS 648	Multicultural Communities in a Globalized Society	3
Practicum Field Experience		
EPS 629	Seminar in Community & Social Change	3
Electives/Cognate		
Select 9 credit hours of electives ¹		
Total Credit Hours		30

¹ NOTE: If electives are not specified (to be determined) when form is submitted to the Senior Associate Dean's Office, then you should complete a Course Substitution form when you register for the approved electives.

M.S.Ed. in Counseling - Marriage and Family Therapy Concentration

Programs offered in counseling and counseling psychology are characterized by intensive clinical supervision by faculty members in an on-campus clinic, by strengths in the areas of family systems and health psychology, and by the rich multi-ethnic composition of the community, students and clients.

Marriage and Family Therapy

This variable 60 credit hour program provides the academic and pre-degree supervision requirements for licensing as a Marriage and Family Therapist in the State of Florida.

Core Courses		
EPS 667	Professional, Legal and Ethical Issues in Counseling	3
EPS 668	Psychosocial Bases of Social and Cultural Diversity	3
EPS 669	Psychopathology for Counselors	3
EPS 676	Counseling Process and Practice	3
EPS 677	Assessment Strategies for Counselors I	3
EPS XXX	Counseling Theories & Practice	
EPS 679	Lifespan Human Development	3
EPS 680	Theory and Practice with Children and Adolescents	3
EPS 681	Counseling and Sexuality	3
EPS 684	Research and Program Evaluation in Counseling	3
EPS 685	Substance Abuse and Addictions: Theories and Counseling	3
Marriage and Family Therapy Specialty		
EPS 670	Dynamics of Marriage and Family Systems	3
EPS 671	Family Therapy	3
EPS 672	Therapy for Couples	3
EPS 682	Practicum in Counseling I	1-4
EPS 683	Practicum Laboratory I	1-4
Elective		
Select 3 credit hours to fulfill elective requirement ¹		

¹ See Graduate Academic Advisor for guidance.

M.S.Ed. in Counseling - Mental Health Counseling Concentration

Programs offered in counseling and counseling psychology are characterized by intensive clinical supervision by faculty members in an on-campus clinic, by strengths in the areas of family systems and health

psychology, and by the rich multi-ethnic composition of the community, students and clients.

Mental Health Counseling

This variable 60 credit hour program provides the academic and pre-degree supervision requirements for licensing as a Mental Health Counselor in the State of Florida.

Core Courses		
EPS 667	Professional, Legal and Ethical Issues in Counseling	3
EPS 668	Psychosocial Bases of Social and Cultural Diversity	3
EPS 669	Psychopathology for Counselors	3
EPS 676	Counseling Process and Practice	3
EPS 677	Assessment Strategies for Counselors I	3
EPS XXX	Counseling Theories & Practice	
EPS 679	Lifespan Human Development	3
EPS 680	Theory and Practice with Children and Adolescents	3
EPS 681	Counseling and Sexuality	3
EPS 684	Research and Program Evaluation in Counseling	3
EPS 685	Substance Abuse and Addictions: Theories and Counseling	3
Mental Health Counseling Specialty		
EPS 673	Counseling in Community Settings	3
EPS 674	Lifestyle and Career Counseling	3
EPS 675	Therapeutic Group Procedures	3
EPS 682	Practicum in Counseling I	1-4
EPS 683	Practicum Laboratory I	1-4
Elective		
Select 3 credit hours to fulfill elective requirement ¹		

¹ See Graduate Academic Advisor for guidance.

M.S.Ed. in Higher Education Administration - Enrollment Management Concentration

The Higher Education Administration Program, which offers a Master of Science in Education with concentrations in Enrollment Management, Student Life and Development, or Institutional Research and Policy Analysis, is designed to produce skilled and versatile higher education administrators who understand all aspects of their professional environment.

Our graduates enter a variety of roles in college and university administration with the ability to consider today's challenges from a broad-based, highly informed perspective.

Also offered is a Certificate Program for working professionals who already have Master's degrees and seek career-furthering credentials and skills.

Enrollment Management Concentration

The Enrollment Management concentration (33 credit hours), the product of a unique collaboration between the School of Education and Human Development and the Division of Enrollments, integrates theory, research, teamwork, and effective communication. It is an interdisciplinary program, with courses also required in the School of Business Administration. Opportunities abound for integrating research and theory in daily practice.

Core Courses		
EPS 748	Enrollment Management: Theory and Practice	3
EPS 749	Advanced Seminar in Enrollment Management	3
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	3
Higher Education Foundations		
EPS 737	Organization and Administration of Higher Education I	3
EPS 742	Higher Education in the United States: From Harvard to Present	3
EPS 744	Student Diversity in American Higher Education	3
Business		
May select graduate business courses approved by program. ¹		
MGT 603	Leading Teams	3
MKT 660	Foundations of Marketing Management	3
POL 501	Budget and Financial Management and Administration	3
Research ²		
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS 625	Program Evaluation	3
EPS XXX	Survey Research Methods	
EPS 700	Introductory Statistics	3
EPS 714	Qualitative Methods I	3
Electives		
ECO 690	Essentials of Economic Theory	3
EPS 739	The Community College	3
EPS 740	Administration of Student Affairs	3
EPS 741	Basic skills in Counseling and Interviewing	3
EPS 743	Psychological Bases of Education	3
EPS XXX	Group Dynamics and Communication Skills	
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	3
EPS 746	College Student Development: Theory, Research and Practice	3
EPS 747	Critical Issues in Student Affairs	3
EPS 754	Practicum: Administration of Higher Education	1-6
MGT 602	Human Resource Management	3
MGT 603	Leading Teams	3
POL 501	Budget and Financial Management and Administration	3
POL 699	Directed Readings	1-3

¹ See Graduate Academic Advisor for guidance.

² EPS700 is required.

M.S.Ed. in Higher Education Administration - Institutional Research and Policy Analysis

The Higher Education Administration Program, which offers a Master of Science in Education with concentrations in Enrollment Management, Student Life and Development, or Institutional Research and Policy Analysis, is designed to produce skilled and versatile higher education administrators who understand all aspects of their professional environment.

Our graduates enter a variety of roles in college and university administration with the ability to consider today's challenges from a broad-based, highly informed perspective.

Also offered is a Certificate Program for working professionals who already have Master's degrees and seek career-furthering credentials and skills.

The Institutional Research and Policy Analysis concentration (33 credits) focuses on skills necessary to conduct applied research related to the effective functioning of postsecondary institutions. Areas of study extend beyond integrating research into effective administrative or policy initiatives to include understanding state and federal policies, higher education foundations, statistics, and data analytics.

Core Courses in Higher Education		
EPS 737	Organization and Administration of Higher Education I	3
EPS 744	Student Diversity in American Higher Education	3
EPS 748	Enrollment Management: Theory and Practice	3
EPS 764	Workshop in Education	3
Core Courses in Research		
EPS 700	Introductory Statistics	3
EPS 702	General Linear Models	3
EPS 703	Applied Multivariate Statistics	3
EPS 704	Computer Applications in Educational and Behavioral Science Research	3
Electives		
EPS 710	Meta-analytic methods for research synthesis.	3
EPS 706	CATEGORICAL DATA ANALYSIS	3
EPS 705	Measurement and Psychometric Theory	3
EPS 707	Item Response Theory	3
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	3
EPS 709	Introduction to Multilevel Modeling	3
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	3
EPS 746	College Student Development: Theory, Research and Practice	3
EPS 747	Critical Issues in Student Affairs	3

EPS 749	Advanced Seminar in Enrollment Management	3
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	3
EPS 765	Workshop in Education	3
Practicum		
EPS 712	Field Experience in Educational Research	3

M.S.Ed. in Higher Education Administration - Student Life and Development Concentration

The Higher Education Administration Program, which offers a Master of Science in Education with concentrations in Enrollment Management, Student Life and Development, or Institutional Research and Policy Analysis, is designed to produce skilled and versatile higher education administrators who understand all aspects of their professional environment.

Our graduates enter a variety of roles in college and university administration with the ability to consider today's challenges from a broad-based, highly informed perspective.

Also offered is a Certificate Program for working professionals who already have Master's degrees and seek career-furthering credentials and skills.

Student Life and Development Concentration

The Student Life and Development concentration (36 credit hours) provides knowledge and skills necessary to facilitate undergraduate students' transition, adjustment and involvement in college, in ways that enhance their academic achievement and lead to persistence and graduation.

Core Courses		
EPS 740	Administration of Student Affairs	3
EPS 744	Student Diversity in American Higher Education	3
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	3
Higher Education Foundations		
EPS 737	Organization and Administration of Higher Education I	3
EPS 742	Higher Education in the United States: From Harvard to Present	3
EPS 748	Enrollment Management: Theory and Practice	3
EPS 751	Seminar in Higher Education Administration: Contemporary Issues	3
Counseling and Advising		
EPS 676	Counseling Process and Practice	3
EPS XXX	Group Dynamics and Communication Skills	
EPS 741	Basic skills in Counseling and Interviewing	3
Research		
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS 625	Program Evaluation	3

EPS XXX	Survey Research Methods	
EPS 700	Introductory Statistics	3
EPS 714	Qualitative Methods I	3
Electives		
Select one of the following for a total of 3 credit hours or as otherwise advised:		3
EPS 739	The Community College	3
EPS 745	Organization of Higher Education II: Governance, Leadership and Finance	3
EPS 747	Critical Issues in Student Affairs	3
EPS 749	Advanced Seminar in Enrollment Management	3
Practicum		
EPS 754	Practicum: Administration of Higher Education	1-6

M.S.Ed. in Research, Measurement and Evaluation

The curriculum of the M.S. Ed. in RME is structured around three components: (A) a core set of 24 credits (8 courses of 3 credits each) of required coursework covering the fundamentals of research design, measurement, and statistical analysis; (B) 6 credits of elective coursework; and (C) a comprehensive exam occurring upon the completion of the 24 credits of required coursework. The specific details of the curriculum are given below.

Core Courses		24
EPS 700	Introductory Statistics	3
EPS 701	Introduction to Research Methods	3
EPS 702	General Linear Models	3
EPS 703	Applied Multivariate Statistics	3
EPS 704	Computer Applications in Educational and Behavioral Science Research	3
EPS 705	Measurement and Psychometric Theory	3
EPS 706	CATEGORICAL DATA ANALYSIS	3
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	3
Electives ^{1,2}		6
Select two courses from the following for a total of 6 credit hours:		6
EPS 699	Advanced Individual Study	1-6
EPS 707	Item Response Theory	3
EPS 709	Introduction to Multilevel Modeling	3
EPS 710	Meta-analytic methods for research synthesis.	3
EPS 711	Advanced Topics In Research, Measurement, And Evaluation	3
EPS 712	Field Experience in Educational Research	2-6
EPS 714	Qualitative Methods I	3
EPS 715	Qualitative Methods II: Case Studies and Grounded Theory	3
EPS 716	Qualitative Methods II: Interviews and Content Analysis	3
Comprehensive Exam		

Each student must successfully pass a comprehensive exam that covers the content of the core 24 credits. This exam assesses the student’s competency in these core areas of research methodology and use of statistical software, and is based on content that is aligned with the material covered in the core 24 credits.

- ¹ Students work with faculty member(s) to select from a large number of graduate courses relevant to the students’ interests and professional goals. Appropriate courses may be related to advanced statistical modeling or other content areas.
- ² Upon the approval of your academic advisor, you can take the classes from other departments.

Ph.D. in Community Well-Being

The program in Community Well-Being trains community-engaged action-researchers committed to promoting social justice through rigorous theoretical analysis and community-based research. The program is grounded in the discipline of community psychology, and focuses on community-engaged scholarship that involves the researcher in a mutually beneficial partnership with the community. The program prepares scholars for careers in academia, research, and public policy.

Prerequisite		
EPS 622	Community Well-being and Change: Theory and Practice	3
EPS 623	Development & Change in Community Organizations: Theory & Practice	3
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS 624	Essentials of Research in Social and Behavioral Sciences	3
EPS XXX	Multicultural Communities in a Globalized Society	3
EPS 628	Managing Community Organizations	3
EPS 629	Seminar in Community & Social Change	3
EPS 700	Introductory Statistics	3
Foundations		
SOC 601	Classical Sociological Theory	3
	or EPS 781 Social Bases of Human Activity and Flourishing	
EPS 725	Seminar In Community Well-Being	3
EPS 731	FOUNDATIONS OF COMMUNITY PSYCHOLOGY	3
Research Methodology		
EPS 701	Introduction to Research Methods	3
EPS 702	General Linear Models	3
EPS 703	Applied Multivariate Statistics	3
	or EPS 715 Qualitative Research Methods 2: Case Studies and Grounded Theory; or EPS 716 Qualitative Research Methods 3: Interviewing and Content Analysis	
EPS 714	Qualitative Methods I	3
EPS 732	Community Based Participatory Action Research	3
Electives		
Select 6 credit hours of Electives ¹		

Dissertation		12
EPS 830	Pre-Candidacy Dissertation Research	6
EPS 840	Post-Candidacy Dissertation Research	6
Total Credit Hours		72

¹ See Graduate Program Director for assistance.

Ph.D. in Counseling Psychology

The Counseling Psychology Program has been fully accredited by The American Psychological Association since 1989 and has a proud tradition of preparing students as scholars, clinicians and community leaders. Firmly committed to the foundational values of the discipline of counseling psychology, including its emphasis on prevention, optimal human development and the promotion of individual, family and community well-being, the program strives to prepare students who will make a difference in the world through research, scholarship and reflective practice. The mission of the program is to nurture the development of counseling psychology graduate students and faculty as reflective researchers and scientist-practitioners committed to promoting psychological well-being in a multicultural complex world.

Prerequisite Counseling Courses		
EPS 667	Professional, Legal and Ethical Issues in Counseling	3
EPS 674	Lifestyle and Career Counseling	3
EPS 675	Therapeutic Group Procedures	3
EPS 676	Counseling Process and Practice	3
EPS 677	Assessment Strategies for Counselors I	3
EPS 679	Lifespan Human Development	3
EPS 683	Practicum Laboratory I	1-4
Major Field of Study		
Supporting Field of Study		
EPSXXX	Counseling Psychology: Theory, Research and Practice	
EPS 770	Psychological Appraisal I	3
EPS 771	Psychological Appraisal II	3
EPS 775	Doctoral Practicum I	1-9
EPS 776	Doctoral Practicum II	1-9
EPS 779	Internship in Counseling Psychology	1-6
EPS 780	Cultural Diversity and Mental Health	3
EPS 781	The Social Bases Of Human Activity And Flourishing	3
EPS 782	Supervision in Counseling Psychology	3
EPS 785	Preparing Future Faculty Seminar	1-3
Supporting Field of Study		
PSY 604	Cognition and Emotion	3
PSY 605	Cognitive Neuroscience	3
PSY 640	Adult Psychopathology	3
Research Competencies		
EPS 701	Introduction to Research Methods	3
EPS 702	General Linear Models	3
EPS 703	Applied Multivariate Statistics	3
EPSXXX	Elective	

EPSXXX	Elective	
Dissertation		
EPS 830	Pre-Candidacy Dissertation Research	1-12
EPS 840	Post-Candidacy Dissertation Research	1-12

Ph.D. in Research, Measurement, and Evaluation

The curriculum of the Ph.D. in RME is structured around six components: (A) a core set of 36 credits (12 courses of 3 credits each) of required coursework covering the fundamentals of research design, measurement, and statistical analysis; (B) 6 credits of a research apprenticeship, in which students conduct mentored research under the supervision of RME faculty members; (C) 6 credits of field experience in educational research, in which students play active roles in the design and analysis of an applied research or evaluation projects; (D) the doctoral qualifying exam; (E) 12 credits of the doctoral dissertation and (F) 6 credits of electives (12 credits of electives for students who do not hold a master degree);

Specific details of the curriculum are below.

Core Courses		36
EPS 700	Introductory Statistics	3
EPS 701	Introduction to Research Methods	3
EPS 702	General Linear Models	3
EPS 703	Applied Multivariate Statistics	3
EPS 704	Computer Applications in Educational and Behavioral Science Research	3
EPS 705	Measurement and Psychometric Theory	3
EPS 706	CATEGORICAL DATA ANALYSIS	3
EPS 707	Item Response Theory	3
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	3
EPS 709	Introduction to Multilevel Modeling	3
EPS 710	Meta-analytic methods for research synthesis.	3
EPS 711	Advanced Topics In Research, Measurement, And Evaluation	3
Research Apprenticeship		6
EPS 799	Advanced Individual Study ²	1-3
For a minimum of 6 research apprenticeship credits, students work under the mentorship of RME faculty members (or approved faculty members outside of RME) on original studies pertinent to research, measurement, and evaluation. It is expected that the work completed during the apprenticeship culminates in a manuscript that is suitable for publication in an academic journal. The 6 credits of apprenticeship are documented as two 3-credit blocks of EPS799 (Advanced Individual Study, Form for registering for EPS799 can be found in http://www.education.miami.edu/studentintranet/pdfs/grad-gen/appis.pdf); and the research apprenticeship must be completed prior to the commencement of dissertation hours (EPS830).		
Field Experience in Educational Research		6
EPS 712	Field Experience in Educational Research ²	2-6

Students must complete a minimum of 6 credits in field experience related to educational research. The field experience involves providing methodological assistance to a research or evaluation project at the University of Miami or other approved organization (e.g., the evaluation division of Miami-Dade County Public Schools). The nature of the field experience must be approved by the student's advisor prior to commencing the credit hours. The field experience credits are currently documented as EPS712.

Doctoral Qualifying Exam

Students must successfully pass the doctoral qualifying exam prior to the commencement of the doctoral dissertation.

Dissertation Hours		12
EPS 830	Pre-Candidacy Dissertation Research	1-12
EPS 840	Post-Candidacy Dissertation Research	1-12
Electives ^{1 2 3 4}		6
Any combination of the courses below* may be taken for a minimum of 6 credit hours.		
EPS 712	Field Experience in Educational Research	2-6
EPS 714	Qualitative Methods I	3
EPS 715	Qualitative Methods II: Case Studies and Grounded Theory	3
EPS 716	Qualitative Methods II: Interviews and Content Analysis	3
EPS 799	Advanced Individual Study	1-3

- ¹ 6 credits for students with a Master degree; 12 credits for students without a Master degree
- ² EPS 799 (Advanced Individual Study) and EPS 712 (Field Experience in Educational Research) can be repeated over and above the credits fulfilling a student's apprenticeship (6 credits) and field experience (6 credits) requirements.
- ³ Upon the approval of your academic advisor, you can take the classes from other departments.
- ⁴ Additional courses may be substituted upon approval from a student's academic advisor. These options include a variety of graduate courses in the fields of computer science, psychology, education, and other areas of interest.

Kinesiology and Sport Sciences

Dept. Code: KIN

Programs

Doctor of Philosophy (Ph.D.)

- Exercise Physiology (p. 494)

Master of Science in Education (M.S.Ed.)

- Exercise Physiology (NOTE: accelerated tracks are offered in each of the following, pursuant to a BS degree in Exercise Physiology or Athletic Training from the University of Miami.)
 - Clinical and Applied Exercise Physiology (p. 491)
 - Nutrition for Health and Human Performance (p. 492)
 - Strength and Conditioning/Fitness Entrepreneurship (p. 492)

- Sport Administration (p. 493)
- Sports Medicine with a Concentration in Athletic Training (Note: an accelerated track is offered pursuant to a BS degree in Athletic Training from the University of Miami) (p. 493)

Certificate in Kinesiology and Sport Sciences (Non-Degree, Graduate Program)

- Women's Health (p. 491)

Masters

Masters Programs in Kinesiology and Sport Sciences

- M.S.Ed. in Exercise Physiology (p. 491)
- M.S.Ed. in Exercise Physiology - Strength and Conditioning/Fitness Entrepreneurship Track (p. 492)
- M.S.Ed. in Nutrition for Health and Human Performance (p. 492)
- M.S.Ed. in Sports Medicine - Athletic Training Concentration (p. 493)
- M.S.Ed. in Sport Administration (p. 493)

Doctoral

Doctoral Programs in Kinesiology and Sport Sciences

- Ph.D. in Exercise Physiology (p. 494)

Certificates

Certificate in Kinesiology and Sport Sciences

- Women's Health (p. 491)

Certificate in Women's Health

A certificate in women's health (12 credit hours) is available for those wishing to specialize in research issues, trends, and physiological concerns of women across the female lifespan. Students must earn a grade of "C" or higher in this specialty. Students will receive a certificate of completion upon completing all coursework in this specialty area. These courses may be considered as part of a student's outside supporting field in the doctoral program.

KIN 781	Issues Specific to Women's Health	3
KIN 782	Psychosocial Issues in Women's Health	3
KIN 783	Sports Medicine for the Female Athlete	3
KIN 784	Advance Neurological Mechanisms of Metabolism and Weight Regulation	3
Total Credit Hours		12

M.S.Ed. in Exercise Physiology

Graduate students in this program receive a sound scientific education with opportunities for applied physiological research and hands-on clinical experiences.

Clinical and Applied Exercise Physiology

36 credit hours are to be taken from among the following courses:

Required Core in the Major		
KIN 621	Advanced Systemic Exercise Physiology	3
KIN 630	Cellular Exercise Physiology	3
KIN 631	Laboratory Techniques in Functional Evaluation of Skeletal Muscle, Laboratory Experiences in Systemic Exercise Physiology	3
KIN 679	Principles of Exercise Assessment: Cardiovascular	3
KIN 686	Exercise Prescription/Assessment Laboratory	3
KIN 735	Methods in Biomechanical Analysis	3
KIN 740	Neurophysiology in Exercise Science	3
Restricted Electives		
Select 6 credit hours of graduate KIN courses. ¹		
6		
Research Competencies		
9 credit hours		
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
EPS 700	Introductory Statistics	3
	or EPS 702 General Linear Modeling	
KIN 799	Special Project	3
	or KINXXX: Graduate Elective and Comprehensive Exam ²	

¹ For further information, please contact the Graduate Program Director.

² **NOTE:** Those students taking the comprehensive exam must enroll in another KIN elective course to complete their master's degree requirements in exercise physiology.

Accelerated Track

30 credit hours are to be taken from among the following courses:

Required Core in the Major		
KIN 621	Advanced Systemic Exercise Physiology	3
KIN 630	Cellular Exercise Physiology	3
KIN 631	Laboratory Techniques in Functional Evaluation of Skeletal Muscle, Laboratory Experiences in Systemic Exercise Physiology	3
KIN 679	Principles of Exercise Assessment: Cardiovascular	3
KIN 686	Exercise Prescription/Assessment Laboratory	3
KIN 740	Neurophysiology in Exercise Science	3
Restricted Electives		
Select 6 credit hours of graduate KIN courses. ¹		
6		
Research Competencies (9 credit hours)		
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
EPS 700	Introductory Statistics	3
	or EPS 702 General Linear Modeling	
EPS 799	Advanced Individual Study	1-3
	or KINXXX: Elective and Comprehensive Exam ²	

¹ For further information, please contact the Graduate Program Director.

² **NOTE:** Those students taking the comprehensive exam must enroll in another KIN elective course to complete their master's degree requirements in exercise physiology.

M.S.Ed. in Exercise Physiology - Strength and Conditioning/Fitness Entrepreneurship Track

This program is for persons interested in advanced skill in exercise programming and instruction, the fitness entrepreneur, and those looking for administrative positions in the fitness industry.

Regular Track

Select 36 credit hours from the following courses:

KIN 621	Advanced Systemic Exercise Physiology	3
KIN 630	Cellular Exercise Physiology	3
KIN 636	Strength and Conditioning I	3
KIN 637	Strength and Conditioning II	3
KIN 645	Special Sport Populations	3
KIN 646	Elite Conditioning I	3
KIN 647	Elite Conditioning II	3
KIN 661	Facility Management	3
KIN 662	Fitness Facility Management II	3
KIN 669	The Foundations of Exercise Prescription	3
KIN 670	Advanced Programming	3
KIN 677	Advanced Nutrition for Health and Fitness	3
KIN 679	Principles of Exercise Assessment: Cardiovascular	3
KIN 680	Principles of exercise Prescription: Neuromuscular	3
KIN 686	Exercise Prescription/Assessment Laboratory	3
KIN 699	Advanced Programming for Endurance Athletes	3
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
KIN 795	Graduate/Clinical Field Experience in Kinesiology and Sport Sciences	3

Accelerated Track

Select 30 credit hours from the following courses:

KIN 621	Advanced Systemic Exercise Physiology	3
KIN 630	Cellular Exercise Physiology	3
KIN 636	Strength and Conditioning I	3
KIN 637	Strength and Conditioning II	3
KIN 645	Special Sport Populations	3
KIN 646	Elite Conditioning I	3
KIN 647	Elite Conditioning II	3
KIN 661	Facility Management	3
KIN 662	Fitness Facility Management II	3
KIN 669	The Foundations of Exercise Prescription	3
KIN 670	Advanced Programming	3

KIN 677	Advanced Nutrition for Health and Fitness	3
KIN 679	Principles of Exercise Assessment: Cardiovascular	3
KIN 680	Principles of exercise Prescription: Neuromuscular	3
KIN 686	Exercise Prescription/Assessment Laboratory	3
KIN 699	Advanced Programming for Endurance Athletes	3
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
KIN 795	Graduate/Clinical Field Experience in Kinesiology and Sport Sciences	3

M.S.Ed. in Nutrition for Health and Human Performance

This program was designed to develop an interface between Exercise Physiology and Nutrition Science.

Regular Track

KIN 638	Nutrition during the Lifecycle	3
KIN 679	Principles of Exercise Assessment: Cardiovascular	3
KIN 677	Advanced Nutrition for Health and Fitness	3
KIN 669	The Foundations of Exercise Prescription	3
KIN 623	Food Science and Management Principles	3
KIN 634	Integrative & Functional Nutrition	3
KIN 639	Dietary Supplements And Human Performance	3
KIN 645	Special Sport Populations	3
KIN 650	Nutrition Biochemistry	3
KIN 655	Medical Nutrition Therapy	3
KIN 698	Professional Training & Counseling For Integrative Health	3
KIN 784	Advance Neurological Mechanisms of Metabolism and Weight Regulation	3
Total Credit Hours		36

To be eligible to sit for the Florida Licensed Dietitian/Nutritionist (LD/N) students must take an additional 900 hours of KIN727 (Practicum in Nutrition) or outside alternative.

Accelerated Track

KIN 638	Nutrition during the Lifecycle	3
KIN 679	Principles of Exercise Assessment: Cardiovascular	3
KIN 623	Food Science and Management Principles	3
KIN 634	Integrative & Functional Nutrition	3
KIN 639	Dietary Supplements And Human Performance	3
KIN 645	Special Sport Populations	3
KIN 650	Nutrition Biochemistry	3
KIN 655	Medical Nutrition Therapy	3
KIN 698	Professional Training & Counseling For Integrative Health	3

KIN 784	Advance Neurological Mechanisms of Metabolism and Weight Regulation	3
Total Credit Hours		30

To be eligible to sit for the Florida Licensed Dietitian/Nutritionist (LD/N) students must take an additional 900 hours of KIN727 (Practicum in Nutrition) or outside alternative.

M.S.Ed. in Sport Administration

A program for persons interested in athletic sport administration or recreation and leisure sports administration.

Students are required to complete a total of 30 credit hours: 24 required & 6 Electives¹.

Courses include:

KIN 601	Orgnaization and Administration of Sports Programs	3
KIN 602	Fiscal Management in Sport Administration FISCAL MGT SPTS AD	3
KIN 603	Principles of Sport Marketing	3
KIN 604	Essential Leadership in Sport and the Professions	3
KIN 605	Sport Sponsorship and Promotion	3
KIN 606	Ethical Decision Making in Sports and the Professions	3
KIN 607	Legal Aspects of Sports and Exercise Science	3
KIN 608	GLOBALIZATION OF SPORT	3
KIN 609	ADVANCED SPORT INFORMATION MANAGEMENT	3
KIN 610	Facilities and Event Management	3
KIN 611	Field Experience in Sport Administration I	1-9
KIN 612	Field Experience In Sport Administration II	1-3
KIN 613	Field Experience in Sport Administration III	1-3
KIN 615	Practical Approach to Motivation and Ethical Decision Making	1-3
KIN 616	Advanced Sport Governance	3
KIN 617	Creative Approaches to Problem Solving and Conflict Management	3
KIN 620	Contemporary Issues in Kinesiology and Sport Sciences	3
KIN 667	Elements of Sports Psychology	3
KIN 690	Strength And Conditioning Independent Study/ Project, Special Topics in Kinesiology and Sport Sciences	1-3
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
KIN 799	Special Project	1
KIN 810	Master's Thesis	1-6
Restricted Electives		
KINXXX - See advisor for a list of restricted electives.		

¹ See Graduate Academic Advisor to determine which courses are considered core and electives.

M.S.Ed. in Sports Medicine - Athletic Training Concentration

A program for persons interested in the medical aspects of sports injuries including prevention, treatment, and rehabilitation.

Regular Track

Select 36 credit hours from the following courses:

KIN 635	Clinical Biomechanics for Sport Medicine Professionals	3
KIN 688	Advanced Gross Anatomy In Kinesiology And Sport Sciences	3
KIN 657	Diagnostic Imaging Techniques In Sports Medicine	3
KIN 715	Evidence-Based Sports Medicine	3
KIN 716	Advanced Rehabilitation Techniques in Sports Medicine	3
KIN 717	Advanced Evaluation Techniques in Sports Medicine	3
KIN 720	Practicum in Athletic Training	3
KIN 721	Independent Study I	1
KIN 722	Practicum in Athletic Training 2	3
KIN 723	Independent Study 2	1
KIN 724	Practicum in Athletic Training III	3
KIN 725	Independent Study III	1
KIN 726	Practicum in Athletic Training IV	3
KIN 7XX	Independent Study 4	3
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
KIN 791	Practicum in Kinesiology and Sport Sciences/ Master's students	1
KIN 799	Special Project	1-3

Accelerated Track

Select 30 credit hours from the following courses:

KIN 635	Clinical Biomechanics for Sport Medicine Professionals	3
KIN 688	Advanced Gross Anatomy In Kinesiology And Sport Sciences	3
KIN 657	Diagnostic Imaging Techniques In Sports Medicine	3
KIN 715	Evidence-Based Sports Medicine	3
KIN 716	Advanced Rehabilitation Techniques in Sports Medicine	3
KIN 717	Advanced Evaluation Techniques in Sports Medicine	3
KIN 720	Practicum in Athletic Training	3
KIN 721	Independent Study I	1
KIN 722	Practicum in Athletic Training 2	3

KIN 723	Independent Study 2	1
KIN 724	Practicum in Athletic Training III	3
KIN 725	Independent Study III	1
KIN 726	Practicum in Athletic Training IV	3
KIN 7XX	Independent Study 4	3
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
KIN 791	Practicum in Kinesiology and Sport Sciences/ Master's students	1
KIN 799	Special Project	1-3

Ph.D. in Exercise Physiology

Coursework specialization is available in this program for persons interested in clinical and research orientation in the area of exercise physiology.

Required Core in the Major		
KIN 621	Advanced Systemic Exercise Physiology	3
KIN 630	Cellular Exercise Physiology	3
KIN 631	Laboratory Techniques in Functional Evaluation of Skeletal Muscle, Laboratory Experiences in Systemic Exercise Physiology	3
KIN 679	Principles of Exercise Assessment: Cardiovascular	3
KIN 686	Exercise Prescription/Assessment Laboratory	3
KIN 735	Methods in Biomechanical Analysis	3
KIN 740	Neurophysiology in Exercise Science	3
Restricted Electives		
Select 9 credit hours of graduate KIN courses. ¹		9
Unrestricted Electives		
Select 3 credit hours of graduate coursework. ¹		3
Outside Supporting Field		
Select 12 credit hours from relevant supportive field. ²		12
Research Competencies (15 credit hours required)		
KIN 746	Research Methods in Kinesiology and Sport Sciences	3
EPS 702	General Linear Models	3
EPS 703	Applied Multivariate Statistics	3
EPS 708	An Introduction to Structural Equation Modeling for Multivariable Data	3
EPS7XX	Graduate Research Competency Elective	3
Dissertation		
Select 12 credit hours of Dissertation		
KIN 830	Pre-Candidacy to Dissertation Research	6
KIN 840	Post-Candidacy Dissertation Research	6
Total Credit Hours		72

¹ For further information, please contact the Graduate Program Director.

² For guidance, please contact the Graduate Program Director.

Note: 2/3 of all coursework must be at or above the 700 level. Students entering with a Master's degree in Exercise Physiology or a related degree

must take a minimum of 30 credit hours of graduate coursework at the University of Miami in addition to 12 credit hours of dissertation.

Teaching and Learning

Dept. Code: TAL

Programs

Doctor of Philosophy (Ph.D.)

Teaching and Learning with specializations in:

- Language and Literacy Learning in Multilingual Settings (LLMS) (p. 496)
- Science, Technology, Engineering and Mathematics (STEM) Education (p. 497)
- Special Education (p. 497)

This individually-tailored program is designed to help students achieve their professional research-based career goals. A central component of the doctoral program in Teaching and Learning includes work on research projects that support collaboration with faculty and the application of course work as students develop their own research ideas. TAL's Ph.D. program emphasizes an understanding of theory in scholarly inquiry; the intellectual framing and conduct of empirical research; the placement of research within cultural contexts and policy settings; designing, implementing and testing of transformative learning-environments that promote deep learning; and critical analysis of policy, research and practice.

Specialist in Education (Ed.S.)

- Advanced Professional Studies (p. 495)
- Early Childhood Special Education (p. 495)
- Reading (p. 495)
- STEM Education (p. 495)

Master of Science in Education (M.S.Ed.)

- Advanced Professional Studies (p. 495)
- Education and Social Change (p. 495)
- Early Childhood Special Education (p. 495)
- Reading (p. 496)
- STEM Education (p. 496)

Masters

Masters Programs in Teaching and Learning

- M.S.Ed. in Advanced Professional Studies (p. 495)
- M.S.Ed. in Education and Social Change (p. 495)
- M.S.Ed. in Early Childhood Special Education (p. 495)
- M.S.Ed. in Reading (p. 496)
- M.S.Ed. in STEM Education (p. 496)

Specialist

Specialist Programs in Teaching and Learning

- Ed.S. Specialist in Education (p. 495)

Doctoral

Doctoral Programs in Teaching and Learning

- Ph.D. in Teaching and Learning - Language and Literacy Learning in Multilingual Settings (LLLMS) (p. 496)
- Ph.D. in Teaching and Learning - Science, Technology, Engineering and Mathematics (STEM) Education (p. 497)
- Ph.D. in Teaching and Learning - Special Education (p. 497)

Ed.S. Specialist in Education

- Advanced Professional Studies
- Early Childhood Special Education
- Reading
- STEM Education

The Ed.S. degree is a terminal degree, for educators who already have a relevant Master's degree and who wish to increase their proficiency in their chosen field.

The program requires 30 additional credit hours beyond the Masters Degree (minimum) and is individually designed after admission. Some programs for cohorts of teachers feature lock-step curricula. These programs typically combine students pursuing M.S.Ed. degrees with those pursuing Ed.S. degrees. While all students in these programs follow the same curriculum, students pursuing Ed.S. degrees receive additional or different assignments.

Please contact the Department of Teaching and Learning for a program sheet and course listings for the above programs.

M.S.Ed. in Advanced Professional Studies

Periodically, the Department of Teaching and Learning offers various Advanced Professional Studies programs to specific groups of teachers (cohorts). The purpose of these programs is to prepare teachers to assume leadership roles in various disciplines and to enhance the teachers' current knowledge of "best practices" in education. Each cohort's curriculum is designed to meet that cohort's primary mission. Successful completion of these programs leads to conferral of the Master's of Education (M.S.Ed.) or Specialist in Education (Ed.S.) degree.

Please contact the Department of Teaching and Learning for a program sheet and course listings for the above program.

M.S.Ed. in Early Childhood Special Education

Core Courses		
TAL 640	Typical and Atypical Child Development	3
TAL 641	Working with Families of Young Children with Disabilities: Strategies and Medical Issues	3
TAL 642	Evaluation and Assessment in Infant and Early Childhood Special	3
TAL 643	Intervention Strategies in Infant and Early Childhood Special Education	3
TAL 644	Early Childhood Curriculum Development	3
TAL 645	Methods for Communications and Language in Young Children with Disabilities	3

TAL 646	Working with Children who Exhibit Challenging Behaviors	3
TAL 647	Language and Early Reading Instruction	3
TAL 648	Practicum/Internship with Infants and Toddlers with Disabilities (0-3 yrs.)	3
TAL 649	Practicum/Internship with Children with Disabilities (3-5 yrs.)	3
Total Credit Hours		30

M.S.Ed. in Education and Social Change

The Education and Social Change program's conceptual framework focuses on the world of education beyond classroom walls, the classroom context of teaching, and the students in classrooms, comprising a holistic, developmental approach across the three areas. Overall, the goals of the program track are to improve instruction for diverse populations, to prepare teachers for leadership roles within their schools, and to develop capacity to lead future change efforts in support of public education.

There are two tracks with three possible program plans: 1) Teaching Track and 2) Social Change Track. The Teaching Track includes a choice of two program plans (Core Classes plus Teaching Track for those with state teaching certification or Professional Teaching Option for those wishing to pursue a Florida Temporary Teaching Certificate), and the Social Change Track is made up of the Core Classes plus Social Change Track course.

Teaching Track or Social Change Track		
30 - 36 credit hours required		
TAL 601	Classroom Based Assessment	3
TAL 627	Understanding Culture in the Classroom	3
TAL 629	Educating Exceptional Students	3
TAL 634	Language and Reading Instruction	3
TAL 666	Introduction To The Politics Of Education, Teaching, And Learning	3
TAL 668	Human Development, Learning and Schooling	3
TAL XXX	Organizational Well-Being in Education	
Social Change Track (3 credit hours)		
TAL 667	Education Reform, Policy And The Social Organization Of Schooling	3
Teaching Track		
Selection 3 credit hours from the following:		
TAL 660	Instruction and Assessment in the Secondary School.	3
TAL 665	Methods Of Teaching In The Elementary School	3
Electives ¹		
Electives (6 credits): With advisor approval, students may select up to 6 credits (2 courses) to be included in their program plans. -or- Professional Teaching Option: Leading to FL DOE Temporary Teaching Certification upon successful completion of the Teaching Track, along with: ¹		6
Professional Teaching Option		
Core Courses: 30 - 36 credit hours required		

A minimum of 18 credit hours (6 courses) to a maximum of 24 credit hours (8 courses) from among the following:		
TAL 601	Classroom Based Assessment	3
TAL 606	Issues and Strategies for ESOL	3
TAL 612	Classroom and Behavior Management	3
TAL 627	Understanding Culture in the Classroom	3
TAL 629	Educating Exceptional Students	3
TAL 666	Introduction To The Politics Of Education, Teaching, And Learning	3
TAL 668	Human Development, Learning and Schooling	3
TAL XXX	Organizational Well-Being in Education	
Select 3 credit hours (1 course) of the following Teaching Track courses:		
TAL 660	Instruction and Assessment in the Secondary School.	3
TAL 665	Methods Of Teaching In The Elementary School	3
Select 3 credit hours (1 course) from the following:		
TAL 610	Literacy and Learning Strategies in the Content Area	3
TAL 634	Language and Reading Instruction	3
TAL 647	Language and Early Reading Instruction	3
Electives		
Select 6 credits (2 courses) from the following:		
TAL 616	Mathematics in the Elementary School	3
TAL 617	Science in the Elementary School	3
TAL 625	Online Teaching and Leadership	3
TAL 650	Literature for Children and Adolescents.	3

¹ See Graduate Program Advisor for guidance.

M.S.Ed. in Reading

TAL XXX	Classroom Based Research	3
TAL 607	Instructional Leadership	3
TAL 608	Language Development for Linguistically and Culturally Diverse Students	3
TAL 609	Practicum in Reading	3
TAL 630	Instructing Students Who Have Literacy Challenges	3
TAL 631	Assessment of Reading and Related Learning Disabilities	3
TAL 632	Intervention for Reading and Related Learning Disabilities	3
TAL 638	Language Arts and Culture in the Classroom	3
TAL 650	Literature for Children and Adolescents.	3
TAL 732	Seminar in Reading	3
Total Credit Hours		30

M.S.Ed. in STEM Education

30 credit hours required.

15 credit hours (minimum) in the core of STEM education to be selected from among the following courses:		
TAL 677	Diversity And Equity In Stem Education	3
TAL 772	Instructional Design and Technology in STEM Education	3
TAL 773	Stem Teaching And Teacher Education	3
TAL 774	Stem Learning	3
TAL 775	Stem Curriculum And Policy	3
TAL 776	Assessment In Stem Education	3
TAL XXX	Interaction analysis in STEM learning settings	3
15 credit hours of coherent course work in content speciality that is related to a STEM field or specialty area in education.		

Ph.D. in Teaching and Learning - Language and Literacy Learning in Multilingual Settings

60 credit hours of graduate course work, plus 12 credit hours of doctoral-thesis research. Course work provides a foundation that supports students' ongoing research.

Core Courses		
TAL 731	Language Policy And Planning (K-12)	3
TAL 733	Applied Linguistics	3
TAL 734	Theory And Research In Reading	3
TAL 735	Theory And Research In Writing	3
Research Competency Requirement		
Select 15 credit hours of research methods including quantitative, qualitative, and mixed methods approaches ¹		15
Student Diversity Requirement		
9 credit hours on student social, cultural, and demographic diversity including:		
TAL 703	Issues and Trends in Multicultural Education	3
TAL XXX	6 credit hours focused on specific dimensions of diversity from an allied field	6
Foundations Requirement		
6 credit hours of foundations:		
TAL 702	The Social and Cultural Foundation of Education	3
TAL XXX	Theories of Learning	3
Pro-Seminar Requirement		
TAL 700	Professional Seminar	3
Electives Requirement		
Select 15 credit hours of electives meant to provide greater focus on area of specialization. ²		15
Dissertation Requirement		
TAL 830	Pre-Candidacy to Dissertation Research.	6
TAL 840	Post-Candidacy Dissertation Research.	6
Total Credit Hours		72

¹ See Graduate Program Director for a list of required research courses.

² See Graduate Program Director for guidance.

Ph.D. in Teaching and Learning - Science, Technology, Engineering and Mathematics (STEM) Education

60 credit hours of graduate course work, plus 12 credit hours of doctoral-thesis research. Course work provides a foundation that supports students' ongoing research.

STEM Education Core Courses		
Select 15 credit hours from the following:		15
TAL 677	Diversity And Equity In Stem Education	3
TAL 772	Instructional Design and Technology in STEM Education	3
TAL 773	Stem Teaching And Teacher Education	3
TAL 774	Stem Learning	3
TAL 775	Stem Curriculum And Policy	3
TAL 776	Assessment In Stem Education	3
TAL 777	Stem-Education Research Practicum	3
TALXXX	Interaction analysis within STEM learning settings	
Research Competency Requirement		
Select 15 credit hours of research methods including quantitative, qualitative and mixed methods approaches. ¹		15
Student Diversity Requirement		
9 credit hours on student social, cultural and demographic diversity including:		
TAL 703	Issues and Trends in Multicultural Education	3
TAL XXX	6 credit hours focused on specific dimensions of diversity from an allied field	6
Foundations Requirement		
9 credit hours in foundations including courses in (a) the social and cultural foundations of education, (b) a content course in student's area of specialization		9
TAL XXX	Theories of Learning	
Pro-Seminar Requirement		
TAL 700	Professional Seminar	3
Electives Requirement		
Select 9 credit hours of electives meant to provide greater focus on area of specialization. ²		9
Dissertation Requirement		
TAL 830	Pre-Candidacy to Dissertation Research.	6
TAL 840	Post-Candidacy Dissertation Research.	6

¹ See Graduate Program Director for a list of required research courses.

² See Graduate Program Director for guidance.

Ph.D. in Teaching and Learning - Special Education

60 credit hours of graduate course work, plus 12 credit hours of doctoral-thesis research. Course work provides a foundation that supports students' ongoing research.

Special Education Core Courses		
TAL 753	Cognitive Psychology In Special Education	3
TAL 754	Disability And Diversity: Critical Views	3
TAL 755	Current Issues In Special Education	3
TAL 756	Research in Special Education	3
Research Competency Requirement		
Select 15 credit hours of research methods including quantitative, qualitative, mixed methods approaches. ¹		15
Student Diversity Requirement		
Select 9 credit hours on student social, cultural and demographic diversity including:		
TAL 703	Issues and Trends in Multicultural Education	3
TALXXX	6 credit hours focused on specific dimensions of diversity from an allied field.	6
Foundations Requirement		
6 credit hours of foundations:		
TAL 702	The Social and Cultural Foundation of Education	3
TALXXX	Theories of Learning	3
Pro-Seminar Requirement		
TAL 700	Professional Seminar	3
Electives Requirement		
Select 15 credit hours of electives meant to provide greater focus on field of specialization ²		15
Dissertation Requirement		
TAL 830	Pre-Candidacy to Dissertation Research.	6
TAL 840	Post-Candidacy Dissertation Research.	6
Total Credit Hours		72

¹ See Graduate Program Director for a list of required research courses.

² See Graduate Program Director for guidance.

Engineering

<http://www.miami.edu/engineering>

Degree Programs

The College of Engineering offers courses of graduate study leading to the degrees of:

- Master of Science (Environmental Health and Safety),
- Master of Science (Occupational Ergonomics and Safety),
- Master of Science (Management of Technology),
- Master of Science in Architectural Engineering,
- Master of Science in Biomedical Engineering,
- Master of Science in Biomedical Engineering (Medical Physics),
- Master of Science in Civil Engineering,
- Master of Science in Electrical and Computer Engineering,
- Master of Science in Industrial Engineering,
- Master of Science in Industrial Engineering/Master of Business Administration, and
- Master of Science in Mechanical Engineering.

Ph.D. degrees are offered in the areas of:

1. Biomedical Engineering,
2. Biomedical Engineering (Medical Physics),
3. Civil Engineering,
4. Electrical and Computer Engineering,
5. Ergonomics and Human Factors
6. Industrial Engineering, and
7. Mechanical Engineering.

Admission Requirements

Students with an appropriate B.S. degree may seek direct entry to either the M.S. track or Ph.D. track. Admission guidelines for the various tracks are as follows. Please refer to program specific sections of the bulletin for more information with respect to admission and degree requirements.

B.S. to M.S.

In engineering, the master's – not the bachelor's – degree is the first professional degree, so all engineers should seek to obtain an M. S. degree. In order to facilitate the obtainment of an M.S. degree, the University of Miami (UM) College of Engineering (CoE) offers the M.S. degree through a number of possible venues or entry points, as summarized below. Every one of our M.S. degree programs requires 10 courses or 30 credit hours to complete; this can be typically undertaken in one, 9-month academic year (i.e., by enrolling in 15 credit hours per semester).

General Admission Requirements

1. A B.S. degree from an accredited program.
2. Typically a cumulative grade point average of 3.0 on a 4.0 scale.
3. Typically a GRE score of 300 or higher (verbal + quantitative).
4. Typically for international students a TOEFL PBT score of 550 or higher, or a TOEFL iBT score of 80 or higher, or an IELTS score of 6.5 or higher.

Some students may be required to take additional pre-requisite coursework, depending on the nature and content of their B.S. degree. A maximum of 6 credit hours above and beyond those required for a B.S. degree can be transferred into our 30 credit hour M.S. program. Additionally, qualified students may apply for a partial tuition scholarship (which at present is averaging about 25% of the cost). More detailed information can be found in the Prospective Graduate Students section of our website at www.miami.edu/coe (<http://www.miami.edu/coe>).

UM Entry Point	Typical Duration	Comments
1. Freshman Year	4 + 1 years	Students enter UM CoE as a freshman and apply by their junior year to obtain a joint B.S./M.S. degree after 5 years.
2. Transfer Year	2 + 2 + 1 years	Students enter UM CoE as a transfer from another accredited program after 2 years and apply by their junior year to obtain a joint B.S./M.S. degree after 3 years.
3. Summer Semester Before M.S.	4 + 1 year	International students complete their B.S. capstone project at UM CoE as exchange students, then receive their B.S. from their home institution and transition – without leaving U.S. – into the M.S. program, beginning in the Fall semester.
4. First M.S. Semester On-Campus	1 year	Students enter M.S. program either after receiving a B.S. or after being in the workforce following their B.S. degree.
5. First M.S. Semester Off-Campus	1.5 to 3 years	Working professionals enter a specially customized M.S. degree program at an off-campus location.

6. First Semester of An Intensive English Program (IEP)	IEP + 1.5 years	International students with a B.S. in engineering who are unable to meet TOEFL/IELTS requirements and have a minimum 146 or higher score on the quantitative section of the GRE may enter into the IEP and, assuming a minimum score of 450 on TOEFL, must take one required M.S. course per IEP semester; if they graduate from IEP and their M.S. course grades average 3.0 or better, they will not be required to retake the GRE before continuing – as a full-time student – in their chosen M.S. program.
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- M.S. in Environmental Health and Safety in conjunction with the School of Medicine.

The M.S. and Ph.D. programs in Interdepartmental Graduate Studies permit, with approval of the Graduate Council, highly qualified students to pursue a privileged individualized program which cuts across disciplinary lines.

Further details on the various College of Engineering areas of specialization are given under the Departmental and Program headings that follow this section.

Students applying for graduate admission to the College should submit three letters of recommendation from individuals familiar with the applicant's abilities and background.

Students who hold a bachelor's degree in a field other than their proposed major may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate deficiency courses, in addition to the regular requirements for the graduate degree.

A student's overall program is planned by the student and the student's advisory committee. Requirements for the M.S. thesis and non-thesis options (not available in all areas of specialization) are shown below.

Accepted M.S. applicants can apply and be considered on a competitive basis for partial tuition scholarships. Need based aid also can be awarded, as determined through the financial aid process. A minimum graduate GPA of 3.0 must be maintained in order to maintain satisfactory progress.

Accepted Ph.D. applicants financial assistance is available in the form of fellowships, partial tuition scholarships, teaching and research assistantships, and graduate cooperative assistantships combining study and work assignments with private engineering and architectural firms and government agencies. A minimum graduate GPA of 3.3 must be maintained in order to maintain satisfactory progress.

Financial support is provided predominantly to students pursuing Ph.D. degrees.

For further information, contact David T. Poole, Director of Admission, College of Engineering at dtpoole@miami.edu or 305-284-4773.

Degree Requirements

Requirements for the Master of Science Degree (Thesis Option)

- An approved integrated program with a minimum of 30 credit hours with an average grade of B or better and no grade below C.
- At least 6 course credit hours must be at the 700-level.
- 6 credit hours of the required 30 must be earned in thesis work.
- An oral examination in defense of the thesis.

Requirements for the Master of Science Degree (Non-Thesis Option)

- An approved integrated program with a minimum of 30 credit hours with an average grade of B or better and no grade below C.
- At least 12 of the course credit hours must be at the 700 level.
- In most departments a 3 credit hour graduating project is required.

B.S. to Ph.D.

Direct admission to the Ph.D. track by students holding B.S. degrees is limited to students with exceptional credentials. These credentials typically include a minimum GPA of 3.5 on a 4.0 scale and a minimum GRE of 308 (verbal plus quantitative). After completion of the Departmental M.S. requirements, students enrolled in the direct B.S. to Ph.D. track may apply for an M.S. degree.

M.S. to Ph.D.

Criteria for admission into the Ph.D. program for students with an appropriate M.S. degree include a minimum GPA of 3.5 on a 4.0 scale within their M.S. degree program and a minimum GRE of 302 (verbal plus quantitative).

The College offers graduate programs leading to degrees in both traditional and interdisciplinary areas of study. The primary focus of the College lies in those areas and problems that cross traditional lines. Given the interdisciplinary nature of programs, flexibility is provided in course selection which allows each student to pursue a program especially tailored to the goals of the individual. Given the strengths of the University, graduate programs are offered in conjunction with other schools or units. These programs include:

- Biomedical Engineering in conjunction with the School of Medicine
- Engineering Management
Dual M.S. in Industrial Engineering and M.B.A. in conjunction with the School of Business Administration
- M.S. program in Management of Technology in conjunction with the School of Business Administration

Requirements for the Doctor of Philosophy Degree

- The programs leading to the degree of Doctor of Philosophy comply in full with the regulations of the Graduate School concerning admission, residence requirements, qualifying and final examinations and dissertation.
- Applicants for admission to the Ph.D. program will be expected to have superior records in their M.S. and B.S. degree programs, well above average scores on the Graduate Record Examination, and strong letters of recommendation.
- At least 18 credit hours in courses must be taken beyond the requirements for the M.S. degree of which 6 credit hours must be at the 700 level.
- All candidates for the doctorate are expected to complete an appropriate integrated program of studies in preparation for the comprehensive Qualifying Examination.
- Students are expected to take their qualifying exams during the first year of enrollment. Admission to candidacy across College of Engineering Departments includes passing the qualifying exam and successful defense of a proposal for research.
- Minimum of one year beyond admission to candidacy is usually necessary for the completion of an acceptable dissertation (12 credit hours or more), whereupon the student is then expected to defend their Ph.D. thesis during the Final Oral Examination.
- Departments may have requirements in addition to the above general requirements for their own graduate programs.

For further information, contact Office of Admission, College of Engineering (David Poole, dtpoole@miami.edu or 305-284-4773).

Postgraduate Certificate Program

- A Postgraduate Certificate Program is available requiring the completion of a minimum of 15 credit hours of individually planned advanced course work in an area of engineering specialization, or interdisciplinary study.
- Course sequences culminate at an advanced level, but may begin at a basic level if a new area of specialization is to be undertaken.
- The Program must be completed with a grade average of at least C, within a period of five calendar years from the date of enrollment.
- No transfer credit hours will be accepted. International students requiring a student visa must be in a degree program, and cannot obtain a student visa for the Certificate Program; but international students with certain other types of visas may enroll in the Program.
- Basic admission requirement for the Program is a bachelor's degree in a recognized field of engineering or registration as a Professional Engineer by examination.
- Students demonstrating marked ability in the Program may be encouraged to apply for admission to study for the Master's Degree, and may apply up to 6 credit hours toward the M.S. degree.

Customized Engineering Master's Program

The College of Engineering at the University of Miami has a unique graduate admission option for students wishing to be accepted into graduate studies to pursue a Master of Science degree in Engineering, but who are unable to demonstrate acceptable levels of English proficiency at the time of their application for admission. The IEP+ 1.5

Year Program is focused on helping non-native English applicants to obtain a Master of Science degree in Engineering.

Prospective students must complete and submit an application for graduate admission into the College of Engineering, providing all supporting documents as outlined in our graduate admission application and meet the following criteria:

1. Applicants must be academically admissible into graduate studies with appropriate academic credentials. They must have a Bachelor of Science degree in Engineering, or its equivalent, or be a candidate for one at the time of application.
2. Applicants must score a 146 or higher on the quantitative portion of the GRE.
3. Applicants must score a 450 or higher on TOEFL PBT (paper based test), or a 133 on TOEFL CBT (computer based test), or 45 on TOEFL iBT (internet based test) or 4.5 on ILETS (International English Language Testing System).

Students who are accepted under these criteria will enroll in our Intensive English Program (IEP) for a designated time, typically a year. The actual length of time a student will spend in IEP will be determined through a placement exam given once the student has arrived on the University of Miami Coral Gables campus. Students will also be required to enroll in a minimum of one graduate engineering course each semester while enrolled in IEP. Selection of these courses will be done after academic advising has taken place with our Associate Dean for Academics for students in this program.

Full-time enrollment in the M.S. portion of the IEP/M.S. Program will commence when the student has successfully completed Level Five of IEP and has completed two or more approved engineering courses, with a cumulative GPA of 3.0 or higher. Depending on the student's background, the M.S. degree will require the taking of 30 or more credit hours – corresponding to 10 or more 3 credit hour courses – and the achievement of a cumulative GPA of 3.0 or higher in the taken courses. Assuming a 30 credit hour M.S. program, it is anticipated that the IEP and 6 credit hours will be completed in the first year, 18 credit hours the second year (9 credit hours in the Fall and 9 credit hours in the Spring) and a minimum of 6 credit hours in Fall of the third year; thus, the duration is expected to be IEP+1.5 years.

If you have any questions about the CEM Program including cost of the program, please contact David T. Poole, Director of Admission, College of Engineering at dtpoole@miami.edu or 305-284-4773 or Associate Dean for Academics, Dr. Shihab Asfour at sasfour@miami.edu.

Ph.D. Course Exchange with Florida International University

University of Miami Ph.D. students are eligible to enroll in courses at Florida International University for a maximum of 6 credit hours. Enrollment in FIU courses requires approval through the student's program of study committee. See FIU/UM Ph.D. exchange section of the Graduate School section of the bulletin for more details.

Biomedical Engineering

Dept. Code: BME

Degree Programs

The Department of Biomedical Engineering offers graduate programs leading to the degrees of Master of Science (thesis or non-thesis option) and Doctor of Philosophy in Biomedical Engineering. A 5-year BS/MS option is available for qualified undergraduate students enrolled within the Department.

Areas of Research

The areas of research in Biomedical Engineering include:

1. Biomedical instrumentation and devices
2. Medical imaging
3. Diagnostic and therapeutic systems
4. Biomedical signal and image processing
5. Rehabilitation and neural engineering
6. Brain-computer interface
7. Biomedical optics and lasers
8. Medical physics
9. Biomechanics, biofluid dynamics, hemodynamics
10. Biomaterials, tissue and cellular engineering
11. Stem cell research
12. Lab-on-a-chip devices

Admission Requirements

1. The Department of Biomedical Engineering uses the same general graduate admission requirements as the College of Engineering.
2. Students who hold a Bachelor's degree in a field other than engineering may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate courses, in addition to the regular requirements for the graduate degree.

Masters

Masters Programs in Biomedical Engineering

- M.S. in Biomedical Engineering (p. 501)
- B.S./M.S. Five-Year Program in Biomedical Engineering (p. 501)

Doctoral

Doctoral Program in Biomedical Engineering

- Ph.D. in Biomedical Engineering (p. 502)

B.S./M.S. Five-Year Program in Biomedical Engineering

This program is available only to qualified undergraduate students enrolled within the Department as described in the Undergraduate Bulletin (p. 230).

1. This program permits students to receive a baccalaureate degree (BSBE) and a Master of Science (MS) degree in five years.
2. The two degrees are awarded simultaneously when the combined requirements have been met for both degrees.
3. Qualified students who want to be enrolled in this program must apply before the end of their junior year and meet all pertinent graduate school and College of Engineering requirements.

4. In lieu of the senior design requirement, the participants complete one significant BS/MS design project by registering for BME 705 and BME 706.
5. The design project is monitored by at least two mentors, one of the mentors must be a member of the primary faculty in the department.
6. The project is complete upon the mentor's acceptance of a verbal presentation and a written report.

M.S. in Biomedical Engineering

1. The Master of Science degree offers the graduate student an opportunity to obtain advanced training in selected areas of biomedical engineering and to begin independent research.
2. General requirements for the M.S. degree are listed in this Bulletin under Engineering and under Master's Degree-General.
3. Both a 30 credit hour thesis option and a 30 credit hour non-thesis option are available.
4. There is also a 5-year BS/MS option available for qualified undergraduate students enrolled within the Department.
5. The department admits four types of students to its MS program:
 - a. Students with BS degrees in Biomedical Engineering or similar engineering fields
 - b. Students with BS degrees in Electrical, Computer, Mechanical, Chemical, or similar engineering fields
 - c. Students with BS degrees in Physics, Mathematics, Computer Science, Chemistry, Biology or similar fields
 - d. Students with MD or similar degrees
6. Students in the last two groups are generally given conditional admission and required to take additional undergraduate courses in engineering, mathematics and science depending on their previous course work as decided by the graduate program director and the designated advisor.
7. There are three paths to earn a Master of Science degree in Biomedical Engineering:
 - a. The Thesis Option requires a minimum of 30 credit hours beyond the BS degree. These must include a minimum of 6 thesis credit hours (BME 810) and the completion of at least 6 credit hours of appropriate courses at the 700 level.
 - b. The Non-Thesis Option requires a minimum of 30 credit hours beyond the BS degree. These must include at least 3 credit hours for an independent design or research project for which the student enrolls in BME 705. In addition, at least 9 credit hours of appropriate courses at the 700 level must be completed.
 - c. The BS/MS Dual degree Program (see separate section below).
8. The student's overall graduate program is planned by the student, adviser, graduate program director and the thesis committee (for the thesis option).
 - a. The thesis committee consists of a minimum of 3 members.
 - b. Two members, including the chair of the committee, shall be faculty members from the BME Department (primary or secondary), and one member must be from outside the Department.
 - c. Outside members of the thesis committee can include part-time faculty that teach within the Department.
 - d. One of the committee members must be a member of the Graduate Faculty.

9. The three courses of the Unified Medical Sciences sequence (BME 601, BME 602 and BME 603) were designed to apprise the engineer of the basic knowledge in the life sciences necessary to work in the broad field of biomedical engineering.
 - a. MS Students coming from traditional engineering field with no biology/medicine backgrounds are required to complete all of the three Unified Medical Sciences courses.
 - b. Other MS students are required to take at least two of the three courses unless the student holds a degree in medicine (MD, DO or equivalent) or an advanced degree (or its equivalent) in the life sciences.
 - c. Each such exception requires the approval of the department's faculty for the course of concern.

Ph.D. in Biomedical Engineering

1. The goal of the PhD program in Biomedical Engineering at the University of Miami is to prepare graduates for careers in academia, industrial research and development, or government. The program is designed to train students for advanced independent research and technical innovation in biomedical engineering.
2. The general requirements for award of the Doctor of Philosophy degree include:
 - a. Completion of a minimum of 60 credit hours beyond the Bachelor of Science degree.
 - b. Satisfactory completion of a qualifying examination.
 - c. The submission, oral defense, and approval of a dissertation proposal.
 - d. The submission and oral defense and approval of a dissertation. There are no foreign language competency requirements for the PhD in biomedical engineering.
3. The requirements for admission to the PhD program in biomedical engineering usually include:
 - a. In general, the department admits three types of students to its PhD program:
 - i Students with MS degrees in Biomedical Engineering or related science and engineering fields.
 - ii Students with MD degrees with undergraduate degrees in sciences or engineering.
 - iii Highly qualified students with BS degrees in engineering or sciences (direct BS to PhD track).
 - b. The general requirements for admission of BS students to the doctoral degree program are consistent with the admission requirements of the College of Engineering.
 - c. Students in M.S. thesis or non-thesis tracks who wish to pursue a doctoral degree can transfer to the doctoral degree program without completing a thesis or project under the following general requirements:
 - i A letter of support by a faculty member who agrees to serve as the student's Ph.D. dissertation advisor.
 - ii Completion of an application for admission to the PhD program, which will be reviewed by the Department's Graduate Admissions Committee, using the standard admission criteria for the doctoral program.
 - d. Regulations concerning admission, course requirements, residence requirements, qualifying and final examinations, and dissertation are listed in this Bulletin under Engineering and Doctor of Philosophy.
4. The doctoral program in biomedical engineering requires each student to pass a departmental qualifying screening examination.
 - a. The screening examination consists of three written examinations on each of the following broad subjects:
 - i basic engineering;
 - ii applied mathematics and computer science; and
 - iii applied physiology and medical science.
 - b. These examinations are usually offered once or twice each year.
 - c. The examination must be taken the first time it is scheduled after completion of the first two semesters.
 - d. A student may repeat once any or all parts of the examination where the results were found unsatisfactory.
 - e. Students admitted to the doctoral program with a BS degree that do not pass the qualifying examination may complete the MS degree.
5. Following the successful completion of the screening examination, a PhD Supervisory Committee is appointed by the Chairperson of the Department of Biomedical Engineering. The role of the Supervisory Committee is to administer the dissertation proposal, and to make up any additional written or oral examination deemed necessary to complete the qualifying examination.
 - a. The supervisory committee is composed of a minimum of 5 members.
 - b. Three members, including the chair, shall be members of the Graduate Faculty, and one member shall be from outside the Department.
 - c. A minimum of three members, including the chair of the committee, must be primary faculty members from the BME Department.
 - d. A research mentor who is not a Primary Faculty member of the Department of Biomedical Engineering, can serve as Co-Chair of the Supervisory Committee, together with a second Co-Chair who shall be a member of the primary faculty of the Department of Biomedical Engineering.
 - e. A written dissertation proposal is submitted along with an oral presentation to the supervisory committee.
 - f. Acceptance of the dissertation proposal in combination with other examinations as determined by the committee to assure the qualifications of the student for the doctorate leads to candidacy for the Ph.D.
6. When the student is admitted to candidacy, a dissertation committee is formed.
 - a. The Dissertation Committee is nominated by the Department, and is approved and appointed by the Dean of the Graduate School.
 - b. In the Department of Biomedical Engineering, the Dissertation Committee is generally the same as the Supervisory Committee, but it may also be a committee formed anew to undertake the duties of advising and passing upon the dissertation.
 - c. The composition of the Dissertation Committee is subject to the same rules as for the Supervisory Committee (see above).
 - d. The duties of the Dissertation Committee are:
 - i to consult with and to advise students on their research;
 - ii to meet, at intervals, to review progress and expected results;

- iii to read and comment upon the draft dissertation;
- iv to meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.

7. Successful defense of the dissertation leads to the award of the PhD degree.
8. All students in the BME Doctor or Philosophy program are required to complete the following course or credit hour requirements:
 - a. At least two of the following three courses: BME 601, BME 602, BME 603.
 - i Students, who have completed these courses or similar coursework in their previous MS programs, may substitute technical electives for this requirement.
 - ii Students in the direct BS to PhD track and students with no prior exposure to biology/medicine are required to complete all three courses
 - iii This requirement can only be waived for students holding MD degrees.
 - b. A zero-credit hour Biomedical Engineering Seminar course (BME 780). This requirement can not be waived.
 - c. Students admitted with an MS degree must complete at least 18 credit hours of graduate level course work followed by at least 12 credit hours of dissertation work (BME 830 before admission to candidacy or BME 840 after admission to candidacy). A minimum of 6 course credit hours must be at the 700 level.
 - d. Students admitted with a BS degree must complete at least 42 credit hours of graduate level course work followed by at least 18 credit hours of dissertation work (BME 830 before admission to candidacy or BME 840 after admission to candidacy). A minimum of 12 course credit hours must be at the 700 level.

M.S., Ph.D. and Certificate Programs in Medical Physics

Medical Physics Program

The Department of Biomedical Engineering at the University of Miami offers special MS and PhD programs in Medical Physics. The Medical Physics graduate program is accredited by CAMPEP (Commission on Accreditation of Medical Physics Educational Programs). The objective of the Medical Physics program is to provide advanced knowledge in the field of therapeutic medical physics, and to provide the training required for students to become licensed medical physicists. This program is coordinated by the Department of Biomedical Engineering and the Department of Radiation Oncology at the School of Medicine. Students who apply for the Medical Physics program are required to have BS degrees in Engineering, Physics or Science with a Minor in Physics, unless the student is being considered for admission under our BS/MS program.

The program is open to biomedical engineering students enrolled in the PhD program, regular MS program, as well as the dual degree (BS/MS) program. Candidates are required to have completed 9 credits of upper level Physics courses (examples include Electricity and Magnetism, Atomic Physics, Modern Physics, Quantum Mechanics, Optics, Nuclear

Physics, Heat & Thermodynamics, Advanced Mechanics) before they start their course work in the Medical Physics program.

Of the credit hours required for their respective graduate degrees, students enrolled in the Medical Physics Program must complete the following courses:

BME 602	Unified Medical Sciences II	3
BME 620	Medical Imaging System	3
BME 681	Radiation Biology and Physics	3
BME 682	Radiation Therapy Physics	3
BME 683	Radiation Protection	3
BME 729	Advanced Medical Imaging	3
BME 781	Radiation Dosimetry And Physics	3
BME 783	Radiation Therapy Physics Clinical Rotation	3
BME 784	Medical Physics Journal Club	1
Total Credit Hours		25

Any remaining credit hours required to complete the program must satisfy the general requirements of the Biomedical Engineering graduate degrees. In particular, students enrolled in the MS program in Medical Physics need to complete a total of 31 credit hours (non-thesis option) by taking additional 3 credit hours of a Combined Medical Science course and 3 credit hours of a MS project or a total of 34 credit hours (BS/MS and thesis option) by taking additional 3 credit hours of a Combined Medical Science course and 6 credit hours of a MS design project or MS thesis. Students enrolled in the PhD program in Medical Physics need to complete a total of 40 credit hours by taking additional 3 credit hours of a Combined Medical Science course and 12 credit hours in doctoral dissertation.

The topic of the BS/MS project (BME 705/BME 706), MS project (BME 705, non-thesis option), MS thesis or PhD dissertation must be related to medical physics. In general, the project is co-supervised by Faculty from the Department of Biomedical Engineering and the Department of Radiation Oncology.

Certificate Program in Medical Physics

Associated with the Department of Biomedical Engineering's graduate program in Medical Physics, the University of Miami offers a Certificate Program in Medical Physics. The Certificate Program is accredited by CAMPEP (Commission on Accreditation of Medical Physics Educational Programs) and is a non-degree granting program. The objective of this two-semester program is to allow qualified individuals who have obtained PhD degrees in Physics, Engineering or a related field with a physics-minor-equivalent background to transition into a career in medical physics.

Students enrolled in the Certificate Program in Medical Physics must complete at least 18 credit hours from the following courses:

BME 602	Unified Medical Sciences II	3
Select one of the following courses:		3
BME 620	Medical Imaging System	
BME 729	Advanced Medical Imaging	
BME 681	Radiation Biology and Physics	3
BME 682	Radiation Therapy Physics	3

BME 683	Radiation Protection	3
BME 781	Radiation Dosimetry And Physics	3
Optional Course		0-3
BME 783	Radiation Therapy Physics Clinical Rotation	
Total Credit Hours		18-21

Credit hours completed by students enrolled in the certificate program are not eligible for degree application.

Civil, Architectural and Environmental Engineering

<http://cae.miami.edu>

Dept. Code: CAE

Degree Programs

The Department of Civil, Architectural, and Environmental Engineering offers graduate programs leading to the degrees of:

- Master of Science in Architectural Engineering
- Master of Science in Civil Engineering
- Doctor of Philosophy in Civil Engineering

The specialty areas of study in Civil Engineering include:

- structural engineering and structural materials
- environmental engineering
- water-resources engineering
- The specialty areas of study in Architectural Engineering include:
 - integrated building systems
 - MEP systems

In all fields of specialization, up to one-half of the required course work for the selected degree may be taken outside of the Department.

Admission Requirements

All students applying to the graduate program are required to submit GRE scores and three letters of recommendation. Admission criteria are described under Colleges of Engineering – Graduate Admission Requirements.

1. International students should consult the section on admissions.
2. Students who hold a bachelor's degree in a field other than their proposed major may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate deficiency courses, in addition to the regular requirements for the graduate degree.

Research Opportunities - Civil Engineering

- Current research activities in the Department include properties of concrete materials, composite structural systems, fiber-reinforced concrete, modeling and simulation of engineering materials, multi-scale modeling of materials, fracture mechanics, structural steel behavior, structural health monitoring, structural repair and rehabilitation.

Research Opportunities - Architectural Engineering

- Current research activities in the Department include energy, indoor air quality, heating, ventilating and air conditioning (HVAC), environmentally compatible construction materials and systems, life-cycle building systems integration, and sustainable affordable housing.

Research Opportunities - Environmental Engineering

- Current research activities in the Department include development of new physicochemical water and wastewater treatment processes, potable wastewater reuse, solid and hazardous waste management, health and environmental risk analysis, environmental/economic planning for sustainable development, hazardous waste remediation, environmental health studies, water quality studies, ground-water, surface-water, and contaminant-transport processes, hydrologic processes, water resources planning and management, and water policy.

Masters

Masters Programs in Civil, Architectural and Environmental Engineering

- M.S. in Architectural Engineering (p. 504)
- M.S. in Civil Engineering (p. 505)

Doctoral

Doctoral Program in Civil, Architectural and Environmental Engineering

- Ph.D. in Civil Engineering (p. 505)

M.S. in Architectural Engineering

- Requirements for the M.S. degree are listed in this Bulletin under Engineering (p. 498) and under Master's Degree General.
- A total of 6 credit hours of transfer and/or exchange coursework not counted towards the student's bachelor's degree may be taken at another institution and used to satisfy requirements for the M.S. degree.
- Both a thesis option and a non-thesis option are available.
- There is also a 5-year B.S./M.S. option available for qualified undergraduate students enrolled within the Department. For this combined degree program only, students are allowed to transfer up to 9 credit hours of graduate coursework from a semester spent abroad. The coursework resulting in the 9 credit hour transfer is to be approved by the student's M.S. advisor prior to initiating the study abroad program.
- Of 30 required credit hours, up to 6 may be thesis research. At least 12 credit hours must be at the 600 level, of which up to 6 credit hours can be thesis research, independent study, or, for 5-year BS-MS candidates, Capstone Design.
- The student and an advisory committee plan the student's overall program.
 - a. The advisory committee consists of a minimum of 3 members.
 - b. The chair of the committee shall be a full-time faculty member from the CAE Department, one member must be from outside

the Department and hold a Ph.D., and one member other than the chair must be either a full-time or part-time member of the Department.

- c. One of the committee members must be a member of the Graduate Faculty.

M.S. in Civil Engineering

- Requirements for the M.S. degree are listed in this Bulletin under Engineering (p. 498) and under Master's Degree General.
- A total of 6 credit hours of transfer and/or exchange coursework not counted towards the student's bachelor's degree may be taken at another institution and used to satisfy requirements for the M.S. degree.
- Both a thesis option and a non-thesis option are available.
- There is also a 5-year B.S./M.S. option available for qualified undergraduate students enrolled within the Department. For this combined degree program only, students are allowed to transfer up to 9 credit hours of graduate coursework from a semester spent abroad. The coursework resulting in the 9 credit hour transfer is to be approved by the student's M.S. advisor prior to initiating the study abroad program.
- Of 30 required credit hours, up to 6 may be thesis research. At least 12 credit hours must be at the 600 level, of which up to 6 credit hours can be thesis research, independent study, or, for 5-year BS-MS candidates, Capstone Design.
- The student and an advisory committee plan the students overall program.
 - a. The advisory committee consists of a minimum of 3 members.
 - b. The chair of the committee shall be a full-time faculty member from the CAE Department, one member must be from outside the Department and hold a Ph.D., and one member other than the chair must be either a full-time or part-time member of the Department.
 - c. One of the committee members must be a member of the Graduate Faculty.

Ph.D. in Civil Engineering

1. Regulations concerning admission, course requirements, residence requirements, qualifying and final examinations, and dissertation are listed in this Bulletin under Engineering and Doctor of Philosophy.
2. A total of 6 credit hours of transfer and/or exchange coursework beyond those counted towards the student's bachelor's and master's degrees may be taken at another institution and used to satisfy requirements for the Ph.D. degree. Students entering without a previous master's degree may use a total of 12 such credit hours to satisfy requirements for the Ph.D.
3. For students with a previous master's degree, 18 credit hours of coursework are required, six of which must be at the 600 level in courses other than independent study. For students entering without a previous master's degree, 42 credit hours of coursework are required, 12 of which must be at the 600 level in courses other than independent study.
4. The student and a supervisory committee plan the students overall program.

5. A separate dissertation committee may be formed to oversee the progress of the dissertation but, in most instances, the student's supervisory committee also serves as the dissertation committee.
6. The supervisory/dissertation committee shall be composed of a minimum of 4 members.
 - a. Three members, including the chair, shall be members of the Graduate Faculty, and one member shall be from outside the Department and hold a Ph.D.
 - b. A minimum of two members, including the chair of the committee, must be full-time members from the CAE Department.

Electrical and Computer Engineering

Current research interests of the faculty include:

- Machine Learning and Artificial Intelligence
- Biometrics
- Bioinformatics and Computational Biology
- Networks and Information Security
- Network Congestion Control
- Wireless Network
- Network Science
- Databases
- Data Mining
- Evidence and Data Fusion
- Signal Processing and Filtering
- Acoustics, Speech, and Audio Processing
- Big Data Storage Systems
- Learning from Data
- Decision Modeling
- Image Processing and Computer Vision
- Underwater Imaging and Vision
- Grid Computing
- Communications
- Multimedia Systems and Networks
- Systems Engineering
- Photonics and Integrated Optics
- Optoelectronic Devices
- Micro-Electro-Mechanical Systems (MEMS)
- Optical Imaging and Sensing
- Bio-Nanotechnology
- Very Large Scale Integration (VLSI)

The 5-Year B.S.E.E.-M.S.E.C.E Dual Degree Program

This is a structured and integrated program of 152/154 credit hours (depending on the undergraduate option). Students may pursue this program from either of the undergraduate option available for Electrical Engineering Majors. It includes two required courses, ECE 715 and ECE 716, as well as the selection of advanced technical electives.

Note the following:

- At least 30 credit hours must be at the graduate (600 or 700) level. Of these, at least 12 credit hours must be in courses open to graduate students only (700 level).
- Interested ECE Juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.E.E. degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination (G.R.E.) before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable G.R.E. score and a minimum of 3.0 GPA in the 30 credit hours applied towards the M.S.E.C.E. degree.
- The student is awarded both the B.S.E.E. and the M.S.E.C.E. degrees after the requirements for both degrees are satisfied.

The 5-Year B.S.Cp.E. - M.S.E.C.E. Dual Degree Program

This is a structured and integrated program of 154/156 credit hours (depending on the undergraduate option). Students may pursue this program from either of the undergraduate option available for Computer Engineering Majors. It includes two required courses, ECE 715 and ECE 716, as well as the selection of advanced technical electives.

Note the following:

- At least 30 credit hours must be at the graduate (600 or 700) level. Of these, at least 12 credit hours must be in courses open to graduate students only (700 level).
- Interested Computer Engineering juniors with cumulative GPA above 3.0 may declare their intent to participate by submitting an official application to the Departmental Graduate Committee for admission into the M.S.E.C.E. portion of the program.
- A student wishing to drop out of the five-year program without the M.S.E.C.E. degree could receive the B.S.Cp.E. degree after completing all its requirements, including the senior design project.
- All students must take the Graduate Record Examination (G.R.E.) before beginning their fifth-year courses.
- To qualify for the M.S.E.C.E. degree, students must meet all the pertinent Graduate School requirements, including an acceptable G.R.E. score and a minimum of 3.0 GPA in the 30 credit hours applied towards the M.S.E.C.E. degree.
- The student is awarded both the B.S.Cp.E. and the M.S.E.C.E. degrees after the requirements for both degrees are satisfied.

Masters

Masters Programs in Electrical and Computer Engineering

- M.S. in Electrical and Computer Engineering (p. 510)
- Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree - Electrical Engineering Option (p. 264)

- Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree - Audio Engineering Option (p. 263)
- Five-Year B.S.C.P.E.-M.S.E.C.E. Dual Degree - Computer Engineering Option (p. 261)
- Five-Year B.S.C.P.E.-M.S.E.C.E. Dual Degree - Software Engineering Option (p. 262)

Doctoral

Doctoral Program in Electrical and Computer Engineering

- Ph.D. in Electrical and Computer Engineering (p. 510)

Five-Year B.S.C.P.E.-M.S.E.C.E. Dual Degree - Computer Engineering Option

Freshman Year		Credit Hours
Fall		
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
Term Credit Hours:		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		18
Sophomore Year		
Fall		
ECE 304	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics III Lab	1
HA Cognate (Humanities and Arts Elective)		3
Term Credit Hours:		16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MTH 309	Discrete Mathematics I	3

PS Cognate (People and Society Elective) ¹	3
Term Credit Hours:	17
Junior Year	
Fall	
ECE 204 Electrical Circuits Laboratory	1
ECE 305 Electronics I	3
ECE 316 Structured Digital Design	1
MTH 311 Introduction to Ordinary Differential Equations	3
Basic Science Elective ¹	3
Basic Science Lab Elective ¹	1
HA Cognate (Humanities and Arts Elective) ¹	3
Term Credit Hours:	15
Spring	
ECE 306 Electronics II	3
ECE 307 Circuits, Signals And Systems	3
ECE 454 Digital System Design and Testing	2
ECE 455 Design-for-Testability Laboratory	1
ECE 567 Database Design and Management	3
Basic Science Elective ¹	3
PS Cognate (Adv. PS Elective) ¹	3
Term Credit Hours:	18
Fourth Year	
Fall	
ECE 311 Electronics Laboratory	1
ECE 414 Computer Organization and Design	3
ECE 417 Embedded Microprocessor System Design	3
ECE 418 Senior Project Planning ²	1
ECE 322 Systems Programming	3
SE 600 Level Elective ^{1,3}	3
SE 600 Level Elective ^{1,3}	3
HA Cognate (Adv. HA Elective) ¹	3
Term Credit Hours:	20
Spring	
ECE 521 Computer Operating Systems	3
CE Technical Elective ¹	3
CE Technical Elective ¹	3
CE 600 Level Elective ^{1,3}	3
CE 600 Level Elective ^{1,3}	3
ECE Technical Elective ¹	3
Term Credit Hours:	18
Fifth Year (Graduate Credit Hours Only)	
Fall	
ECE 715 M. S. Design Project I	3
CE 600 Level Elective ^{1,3}	3
700 Level Technical Elective ^{1,3}	3
Term Credit Hours:	9
Spring	
ECE 716 M.S. Design Project II	3

CE 600 Level Elective ^{1,3}	3
700 Level Technical Elective ^{1,3}	3
Term Credit Hours:	9
Total Credit Hours:	154

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester

³ Should be taken as Graduate (G) courses.

Five-Year B.S.C.P.E. -M.S.E.C.E. Dual Degree - Software Engineering Option

Freshman Year		
Fall		Credit Hours
ECE 111	Introduction to Engineering I	3
ECE 118	Introduction to Programming	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
Term Credit Hours:		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 218	Data Structures	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 205	University Physics I	3
Term Credit Hours:		15
Sophomore Year		
Fall		
ECE 304	Logic Design	3
ECE 318	Algorithms	3
MTH 210	Introduction to Linear Algebra	3
PHY 206 or 207	University Physics II or University Physics III	3
PHY 208 or 209	University Physics II Lab or University Physics Iii Lab	1
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		16
Spring		
ECE 201	Electrical Circuit Theory	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 315	Digital Design Laboratory	1
MTH 309	Discrete Mathematics I	3
HA Cognate(Humanities and Arts Elective) ¹		3
Term Credit Hours:		17
Junior Year		

Fall		
ECE 204	Electrical Circuits Laboratory	1
ECE 305	Electronics I	3
ECE 322	Systems Programming	3
ECE 512	Software Engineering and Architecture	3
Basic Science Elective ¹		3
Basic Science Lab Elective ¹		1
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		17
Spring		
ECE 316	Structured Digital Design	1
ECE 513	Software Design and Verification	3
ECE 521 or CSC 421	Computer Operating Systems or Principles Of Computer Operating Systems	3
ECE 567 or CSC 423	Database Design and Management or Database Systems	3
SE Technical Elective ¹		3
Basic Science Elective ¹		3
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		19
Senior Year		
Fall		
ECE 414	Computer Organization and Design	3
ECE 417	Embedded Microprocessor System Design	3
ECE 418	Senior Project Planning ³	1
CSC 317	Data Structures And Algorithm Analysis	3
SE 600 Level Elective ^{1,4}		3
SE 600 Level Elective ^{1,4}		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		19
Spring		
ECE 570	Network Client-Server Programming	3
CSC 419	Programming Languages	3
SE Technical Elective ¹		3
SE Technical Elective ¹		3
CE 600 Level Elective ^{1,4}		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		18
Fifth Year (Graduate Credit Hours Only)		
Fall		
ECE 715	M. S. Design Project I	3
CE 600 Level Elective ^{1,4}		3
CE 600 Level Elective ^{1,4}		3
700 Level Technical Elective ^{1,4}		3
Term Credit Hours:		12
Spring		
ECE 716	M.S. Design Project II	3

CE 600 Level Elective ^{1,4}	3
700 Level Technical Elective ^{1,4}	3
Term Credit Hours:	9
Total Credit Hours:	156

¹ See description of electives under the Departmental Electives Section.

² With advisor approval.

³ Offered only in the Fall semester

⁴ Should be taken as Graduate (G) courses.

Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree - Audio Engineering Option

Freshman Year		
Fall		Credit Hours
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
MTC 109	Music Theory Skills I	3
Term Credit Hours:		17
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
MMI 201	Introduction to Music Recording	3
Term Credit Hours:		16
Spring		
ECE 204	Electrical Circuits Laboratory	1
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 307	Circuits, Signals And Systems	3
CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
MTH 210	Introduction to Linear Algebra	3
Term Credit Hours:		17
Junior Year		

Fall		
ECE 306	Electronics II	3
ECE 311	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals And Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
MMI 502	Audio Signal Processing I	3
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		17
Spring		
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 316	Structured Digital Design	1
ECE 436	Digital Signal Processing	3
EE Core Elective ¹		3
MMI 172	Audio Design Workshop III	1
MMI 503	Audio Signal Processing II	3
HA Cognate ²		3
Term Credit Hours:		18
Senior Year		
Fall		
ECE 415	Senior Project I ³	1
ECE 437	Real-Time Digital Signal Processing Laboratory	1
ECE 602	Engineering Acoustics	3
EE Design Elective ¹		3
Technical Elective ^{1,4}		3
PS Cognate (People and Society Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		17
Spring		
MMI 436	Audio Postproduction ⁵	3
MMI 501	Transducer Theory	3
ECE 640	Digital Speech and Audio Processing	3
ECE 600 Level Elective ^{1,4}		3
PS Cognate (People and Society Elective) ¹		3
PS Cognate (Adv. PS Elective) ¹		3
Term Credit Hours:		18
Fifth Year		
Fall		
ECE 715	M. S. Design Project I	3
ECE Elective ^{1,4}		3
700 Level Technical Elective ^{1,4}		3
Term Credit Hours:		9
Spring		
ECE 716	M.S. Design Project II	3
ECE Elective ^{1,4}		3

700 Level Technical Elective ^{1,4}	3
Term Credit Hours:	9
Total Credit Hours:	154

- ¹ See description of electives under the Departmental Electives Section.
- ² Recommended a cognate that includes a Musicology Elective.
- ³ Offered only in the Fall semester
- ⁴ Should be taken as Graduate (G) courses.
- ⁵ Note that MMI 504 could be substituted for MMI 436

Five-Year B.S.E.E.-M.S.E.C.E. Dual Degree - Electrical Engineering Option

The first three years are the same as in the undergraduate B.S.E.E. program with 97 credit hours. The remaining 55 credit hours shown below should include at least ten graduate courses of which, at least four are at the 700 level. Also see description of electives under the Electrical and Computer Engineering Section.

Freshman Year		
Fall		Credit Hours
ECE 111	Introduction to Engineering I	3
ENG 105	English Composition I	3
MTH 151	Calculus I for Engineers	5
PHY 205	University Physics I	3
Term Credit Hours:		14
Spring		
ECE 112	Introduction to Engineering II	2
ECE 118	Introduction to Programming	3
ENG 107	English Composition II: Science and Technology	3
MTH 162	Calculus II	4
PHY 206	University Physics II	3
PHY 208	University Physics II Lab	1
Term Credit Hours:		16
Sophomore Year		
Fall		
ECE 201	Electrical Circuit Theory	3
ECE 218	Data Structures	3
MTH 311	Introduction to Ordinary Differential Equations	3
PHY 207	University Physics III	3
PHY 209	University Physics Iii Lab	1
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		16
Spring		
ECE 204	Electrical Circuits Laboratory	1
ECE 304	Logic Design	3
ECE 305	Electronics I	3
ECE 307	Circuits, Signals And Systems	3
MTH 210	Introduction to Linear Algebra	3

CHM 151	Chemistry for Engineers	3
CHM 153	Chemistry Laboratory for Engineers	1
Term Credit Hours:		17
Junior Year		
Fall		
ECE 301	Electromagnetic Field Theory	3
ECE 306	Electronics II	3
ECE 311	Electronics Laboratory	1
ECE 315	Digital Design Laboratory	1
ECE 336	Discrete-Time Signals And Systems	3
ECE 310 or IEN 310	Introduction to Engineering Probability or Introduction to Engineering Probability	3
PS Cognate (People and Society Elective) ¹		3
Term Credit Hours:		17
Spring		
ECE 312	Processors: Hardware, Software, And Interfacing	4
ECE 316	Structured Digital Design	1
EE Core Elective ¹		3
EE Core Elective ¹		3
ECE Elective ¹		3
HA Cognate (Humanities and Arts Elective) ¹		3
Term Credit Hours:		17
Senior Year		
Fall		
ECE 415	Senior Project I ²	1
ECE Elective ¹		3
ECE 600 Level Elective ^{1,3}		3
ECE Elective ^{1,3}		3
EE Design Elective ¹		3
Technical Elective ¹		3
PS Cognate (Adv. PS Elective)		3
Term Credit Hours:		19
Spring		
Technical Elective ¹		3
Technical Elective ¹		3
ECE 600 Level Elective ^{1,3}		3
ECE Elective ^{1,3}		3
PS Cognate (People and Society Elective) ¹		3
HA Cognate (Adv. HA Elective) ¹		3
Term Credit Hours:		15
Fifth Year		
Fall		
ECE 715	M. S. Design Project I	3
ECE Elective ^{1,3}		3
700 Level Technical Elective ^{1,3}		3
Term Credit Hours:		9
Spring		
ECE 716	M.S. Design Project II	3

ECE Elective ^{1,3}	3
700 Level Technical Elective ^{1,3}	3
Term Credit Hours:	9
Total Credit Hours:	149

¹ See description of electives under the Departmental Electives Section.

² Offered only in the Fall semester

³ Should be taken as Graduate (G) courses.

M.S. in Electrical and Computer Engineering

The Electrical and Computer Engineering Department offers the Degree of Master of Science in Electrical and Computer Engineering (M.S.E.C.E.) with a thesis option (24 course credit hours and 6 thesis credit hours) or a non-thesis option (30 course credit hours and no thesis credit hours).

Ph.D. in Electrical and Computer Engineering

1. The program leading to the degree of Doctor of Philosophy (Ph.D.) complies in full with the requirements of the Graduate School concerning admission, residence requirements, qualifying examinations and the dissertation.
2. Course requirements for the Ph.D. are described under the College of Engineering section.
3. There is no foreign language requirement.
4. The Ph.D. program in the Department will concentrate on a variety of emphasis areas for study and research.

700 level courses and above are open only to graduate students.

Industrial Engineering

Department Mission Statement

The Department of Industrial Engineering mission is to provide contemporary and relevant industrial and systems engineering education and research; impart knowledge and skills necessary to design and to improve a variety of manufacturing and service processes; promote life-long learning; and contribute to emerging societal needs.

Degree Programs

The Department of Industrial Engineering offers graduate programs leading to the:

- Master of Science in Industrial Engineering
- Master of Science in Environmental Health and Safety
- Master of Science in Occupational Ergonomics and Safety
- MSIE/MBA Weekend Executive Program (in conjunction with the School of Business)
- Master of Science in Management of Technology (in conjunction with the School of Business)

The Department also offers:

- a Ph.D. program in Ergonomics and Human Factors

- a Ph.D. in Industrial Engineering.

Masters

Masters Program in Industrial Engineering

- M.S. in Industrial Engineering (p. 511)
- M.S. in Environmental Health and Safety (p. 511)
- M.S. in Management of Technology (p. 512)
- M.S.I.E./M.B.A. Executive Program (p. 512)

Doctoral

Doctoral Program in Industrial Engineering

- Ph.D. in Industrial Engineering (p. 511)
- Ph.D. in Ergonomics and Human Factors (p. 513)

M.S. in Environmental Health and Safety

Master of Science in Environmental Health and Safety

An interdisciplinary **M.S. degree program in Environmental Health and Safety** are offered through the Department of Industrial Engineering in collaboration with the School of Medicine. These programs of study are individually structured to fit the student's interests and career objectives.

1. The program will consist of a 36 credit hours in the areas of environmental health and safety.

2. Core Courses		
EPH 601	Medical Biostatistics I	3
EPH 602	Biostatistics II	3
EPH 621	Fundamentals of Epidemiology	3
EPH 641	Integrated Aspects of Environmental Health	3
IEN 651	Accident Prevention Systems	3
IEN 657	Ergonomics And Human Factors Engineering	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 794	Master's Project	3
Electives (4 courses)		12
Total Credit Hours		36

- 1.

Master of Science in Occupational Ergonomics and Safety

An interdisciplinary **M.S. degree program in Occupational Ergonomics and Safety** are offered through the Department of Industrial Engineering in collaboration with the School of Medicine. These programs of study are individually structured to fit the student's interests and career objectives.

1. The program will consist of a 36 hour Master's degree program in Occupational Ergonomics and Safety in the Department of Industrial Engineering. The program will include 33 hours of course work in the areas of ergonomics and safety and 3 hours on internship in an

industrial or health care related facility. Research areas will include musculoskeletal injuries, occupational stress, automation and design for older workers and special populations.

2. Common Core Courses		
IEN 651	Accident Prevention Systems	3
IEN 657	Ergonomics And Human Factors Engineering	3
IEN 658	Industrial Hygiene I	3
IEN 712	Design of Experiments	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 758	Ergonomics and Special Populations	3
IEN 794	Master's Project	3
EPH 621	Fundamentals of Epidemiology	3
Electives (9 credits)		9
Internship		3
Total Credit Hours		36

M.S. in Industrial Engineering

1. The Master of Science degree in Industrial Engineering includes the following areas of concentration:
 - a. Engineering Management
 - b. Ergonomics and Human Factors
 - c. Health Care Systems
 - d. Management of Technology
 - e. Manufacturing Engineering
 - f. Occupational Health and Safety
 - g. Operations Research
 - h. Productivity Engineering
 - i. Quality
2. Students (other than University of Miami graduates) applying for graduate admission to the College should submit three letters of recommendation from individuals familiar with the applicant's abilities and background. Students who hold a bachelor's degree in a field other than Industrial Engineering may be admitted to the graduate program and to candidacy upon completion of appropriate undergraduate deficiency courses, in addition to the regular requirements for the graduate degree. A student's overall program is planned by the student and the Graduate Advisor.
3. Requirements for the Master of Science Degree (both thesis and non-thesis option):
 - a. An approved integrated program with a minimum of 30 credit hours with a 3.0 average or better on all credit hours attempted and no single grade below "C" at the University of Miami while a graduate student.
 - b. At least 12 course credit hours must be at the 700 level.

Thesis Option¹		
5 Common Core Courses		
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN 757	Ergonomics and Occupational Biomechanics	3

IEN 761	Engineering Cost Management	3
or IEN 763	Project Management Techniques	
or IEN 764	Supply Chain Management	
IEN 765	Advanced Production Systems	3
3 Elective Courses		9
IEN 810	Master's Thesis	6
Total Credit Hours		30

Non-Thesis Option ¹		
5 Common Core Courses		
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 761	Engineering Cost Management	3
or IEN 763	Project Management Techniques	
or IEN 764	Supply Chain Management	
IEN 765	Advanced Production Systems	3
4 Elective Courses		12
IEN 794	Master's Project	3
Total Credit Hours		30

¹ Note: All courses are 3 credit hours unless otherwise indicated

Notes:

- i In addition to the above required courses, the student will have to take other graduate level elective courses to fulfill the degree requirements. A list of approved electives is maintained by the Graduate Advisor in the Department of Industrial Engineering. Substitution of courses is allowed, but must be approved by the Graduate Advisor and the Department Chairman.
 - ii 500-level courses are open to advanced undergraduates and to graduate students; 600-level courses are open only to graduate students.
 - iii 500-level and 600-level courses are also open to qualified graduate students majoring in other disciplines.
4. The Department of Industrial Engineering offers a 5-Year Bachelor of Science in Industrial Engineering and Master of Science in Industrial Engineering Program (BSIE/MSIE Program).
- a. This program is specifically designed for those students who want to pursue their graduate study as soon as they complete their undergraduate study in Industrial Engineering.
 - b. The special conditions for this 5-Year BSIE/MSIE Program are as follows:
 - i The student must declare his/her intent to participate before the end of their Junior year by submitting an official application to the department graduate committee for admission into the MSIE portion of the program. Exceptions to this rule must be approved by the department faculty.
 - ii A student wishing to withdraw from the 5-Year Program without the MSIE degree must complete all the requirements for the BSIE program, including the IEN 694 in order to get his/her BSIE degree.

iii To qualify for the MSIE degree, the student must meet all the pertinent Graduate School requirements, including an acceptable score on the GRE (Graduate Record Examination) and a minimum of 3.0 GPA.

iv The student is awarded both the BSIE and MSIE degrees at the end of the fifth year when all requirements are satisfied.

c. More details can be found in the Undergraduate bulletin (p. 267).

M.S. in Management of Technology

Master of Science in Management of Technology is an academically challenging program that allows you to gain significant training in both technology and management.

1. It is a 36 credit hour curriculum with 12 credits in Technology oriented courses and 12 credits in Management topics
2. A bachelor's degree from a regionally accredited university with a GRE or GMAT score that is acceptable.

3. Industrial Engineering Core Courses		
IEN 672	Management of Technological Innovation	3
IEN 712	Design of Experiments	3
IEN 761	Engineering Cost Management	3
or IEN 764	Supply Chain Management	
or IEN 772	Strategic Management of Technological Innovation.	
Management Core Courses		
MGT 651	Behavioral and Organizational Systems	3
MGT 658	Strategic Management	3
MGT 660	Leadership and Motivation in Organizations	3
Industrial Engineering Electives (3 courses) - 600 or 700 level		9
Management Electives (3 courses) - 600 or 700 level		9
Total Credit Hours		36

M.S.I.E./M.B.A. Executive Program

Dual **MSIE/MBA** Weekend Executive program makes it possible to earn two separate degrees at the same time, a Master of Business Administration Degree (MBA) and a Master of Science in Industrial Engineering (MSIE).

1. It is a 57 credit hour program that starts every January and is completed in two years and one semester. Classes are held on Saturdays and during intersessions.
2. A bachelor's degree in any engineering discipline, an acceptable GRE score, and at least 3 years of work experience is required.

3. MSIE Courses		
IEN 672	Management of Technological Innovation	3
IEN 712	Design of Experiments	3
IEN 742	Linear Programming and Extensions	3
IEN 757	Ergonomics and Occupational Biomechanics	3
IEN 763	Project Management Techniques	3
IEN 765	Advanced Production Systems	3
IEN 794	Master's Project	3

MBA Courses		
ACC 607	Financial Accounting & Reporting	3
ACC 608	Managerial Accounting	3
BSL 695	Legal Implications in Executive Decision Making	3
BTE 621	Management Information Systems	3
ECO 690	Essentials of Economic Theory	3
FIN 602	Fundamentals of Finance	3
MGT 600	Managing Responsible Behavior in Organizations	3
MGT 653	Operations Management	3
MGT 658	Strategic Management	3
MKT 660	Foundations of Marketing Management	3
Electives (2 courses)		6
Total Credit Hours		57

- Safety Engineering,
- Biomechanics, and
- Statistics & Regression analysis

- Upon completing the course requirements, passing the qualifying exams, and successfully defending the Ph.D. proposal, the student is eligible for admission to the Ph.D. candidacy.
- Upon passing the qualifying exams, the student in consultation with his/her selected Ph.D. Dissertation committee chair will decide on the dissertation committee members. The Dissertation committee will consist of not less than four members, three from the Department's graduate faculty, one from outside the Department. The chairman has to be a member of the graduate faculty. The duties of the Dissertation Committee are:
 - To consult with and to advise students on their research.
 - To meet, at intervals, to review progress and expected results.
 - To read and comment upon the draft dissertation.
 - To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.
 - The candidate is well advised to have a final acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work.
- There are no foreign language requirements for the Ph.D. degree.

Ph.D. in Ergonomics and Human Factors

- The Department offers a Ph.D. in Ergonomics and Human Factors for students with a background in engineering and/or related sciences.
- General requirements for award of the Doctor of Philosophy degree include:
 - 60 credit hours beyond the baccalaureate degree are the minimum requirement for the Ph.D.
 - At least 24 must have been taken in residence at the University of Miami. A minimum of 12 dissertation credit hours must be taken.
- Course work requirements depend on the student's background, and are established by the Graduate Advisor and the Department Chairman.
- To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and permission to re-enter must be granted.
- Once a student has completed all course and required research credit hours, he or she must enroll in "Research in Residence" status until the degree has been granted. "Research in Residence" status is considered full time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School.
- A written qualifying examination is to be taken by each doctoral degree candidate during the first year of graduate work. The department may specify that the student must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the Graduate Advisor notifies the Department Chairman that the student has passed or failed the examination. A student who fails the examination may be permitted to retake it, with the permission of the Graduate Advisor and the Chairman. Qualifying examinations normally will not be given during the summer months. The applicant must hold a 3.0 average on all credit hours attempted with no single grade below "C" at the University of Miami while a graduate student.
- Each student in Ph.D. program in Ergonomics and Human Factors has to take and pass 5 qualifying exams in the following areas:
 - Ergonomics and Human Factors,
 - Industrial Hygiene,

Ph.D. in Industrial Engineering

- The Department offers a Ph.D. in Industrial Engineering for students with a background in engineering.
- General requirements for award of the Doctor of Philosophy degree include:
 - 60 credit hours beyond the baccalaureate degree are the minimum requirement for the Ph.D.
 - At least 24 must have been taken in residence at the University of Miami. A minimum of 12 dissertation credit hours must be taken.
- Course work requirements depend on the student's background, and are established by the Graduate Advisor and the Department Chairman.
- To maintain status as a graduate student, registration in each fall and spring semester is required. Otherwise, admission lapses and permission to re-enter must be granted.
- Once a student has completed all course and required research credit hours, he or she must enroll in "Research in Residence" status until the degree has been granted. "Research in Residence" status is considered full time enrollment. Time restrictions on obtaining degrees will be strictly enforced and can be waived only by the Dean of the Graduate School.
- A written qualifying examination is to be taken by each doctoral degree candidate during the first year of graduate work. The department may specify that the student must take an oral examination as well. In those cases, normally, the student shall pass the written examination before the oral examination is conducted. Upon completion of the examination process, the Graduate Advisor notifies the Department Chairman that the student has passed or failed the examination. A student who fails the examination may be

permitted to retake it, with the permission of the Graduate Advisor and the Chairman. Qualifying examinations normally will not be given during the summer months. The applicant must hold a 3.0 average on all credit hours attempted with no single grade below "C" at the University of Miami while a graduate student.

7. Each student in the Ph.D. program in Industrial Engineering has to take and pass 5 qualifying exams in the following areas:
 - Management of Technology,
 - Ergonomics & Biomechanics,
 - Operations Research,
 - Manufacturing Engineering, and
 - Statistics & Regression analysis.
8. Upon completing the course requirements, passing the qualifying exams, and successfully defending the Ph.D. proposal, the student is eligible for admission to the Ph.D. candidacy.
9. Upon passing the qualifying exams, the student in consultation with his/her selected Ph.D. Dissertation committee chair will decide on the dissertation committee members. The Dissertation committee will consist of not less than four members, three from the Department's graduate faculty, one from outside the Department. The chairman has to be a member of the graduate faculty. The duties of the Dissertation Committee are:
 - a. To consult with and to advise students on their research.
 - b. To meet, at intervals, to review progress and expected results.
 - c. To read and comment upon the draft dissertation.
 - d. To meet, when the dissertation is completed, to conduct the final oral examination and to satisfy itself that the dissertation is a contribution to knowledge and that it is written in lucid and correct English and submitted in approved form.
 - e. The candidate is well advised to have a final acceptable typescript of the dissertation in the hands of each member of his/her committee at a time reasonably in advance of the final defense of the work.
10. There are no foreign language requirements for the Ph.D. degree.

- Nano Mechanics
- Heat Transfer
- Hydrogen Energy
- Materials Science,
- Internal Combustion Engines
- Controls and Design
- Aerodynamics and CFD
- Nano-Bio-Systems
- Fuel Cells

3. It is expected that each graduate student will indicate early in his/her graduate work (within the first year), the particular area in which he/she intends to concentrate his/her efforts as well as the faculty advisor for dissertation.

500 level courses are open to advanced undergraduates and to graduate students; 600 level courses are open only to graduate students.

Clean Energy Research Institute

1. The Clean Energy Research Institute in the Department of Mechanical and Aerospace Engineering acts as the focal point of energy and environment related activities in the College of Engineering.
2. Its goals are:
 - to conduct research and to generate research proposals to investigate energy and environmental problems;
 - to organize seminars, workshops and conferences using researchers within and without the University;
 - to assemble, compile, publish and disseminate information on every aspect of energy and environmental problems; and
 - to cooperate with other organs of the University, other academic institutions, government and private organizations in connection with the above listed activities.
3. The current activities of the Institute include research into hydrogen as a clean, inexhaustible synthetic fuel, environmental damage caused by fossil fuels, global warming and its remediation, instabilities in boiling systems, solar cooling and heating, hybrid solar collectors, remote sensing applied to energy related problems and solar energy, system optimization and reliability of solar and wind energy systems, and organization of national and international conferences and symposia on energy and environmental problems.

Mechanical and Aerospace Engineering

Dept. Code: MAE

Degree Programs

The Department of Mechanical and Aerospace Engineering offers courses and provides facilities for two programs of graduate study and research in Mechanical Engineering, leading to the degrees of:

- Master of Science
 - Doctor of Philosophy
1. The program of study must reflect the importance of underlying principles of the physical sciences and mathematical analysis to all phases of modern mechanical engineering.
 2. Within the department, specializations are available in:
 - Fluid Mechanics
 - Biomechanics
 - Solid Mechanics
 - Composite Materials
 - Optimization and Reliability

Research Laboratories

- Advanced Nano Systems Laboratory
- Aerospace Materials Simulation Laboratory
- Center for Advanced Multi-Scale Studies
- Computational Fluid Dynamics Laboratory
- Fuel Cells Laboratory
- Integrated Nano-Bio-Systems Laboratory
- Internal Combustion Laboratory
- Materials Laboratory
- Measurements Laboratory
- Multi-Functional Composite Materials Laboratory
- Optimization and Reliability Laboratory
- Robotics and Intelligent Systems Engineering Laboratory
- Thermo-Fluid Mechanics Laboratory

- Tissue Biomechanics Laboratory
- Wind Tunnel Laboratory

Masters

Masters Programs in Mechanical and Aerospace Engineering

- M.S. in Mechanical Engineering (p. 515)

Doctoral

Doctoral Program in Mechanical and Aerospace Engineering

- Ph.D. in Mechanical Engineering (p. 515)

M.S. in Mechanical Engineering

1. One academic year, or equivalent, spent in full time graduate study will be the minimum time necessary for a student to fulfill the requirements for the degree of Master of Science in Mechanical Engineering.
2. General requirements for the M.S. degree are listed under the Engineering heading of this section and in the general information of this Bulletin.
3. Students applying for acceptance to degree status must comply with the general requirements of the Graduate School.
4. Both a 30 credit hour thesis option and a 30 credit hour non-thesis option are available.
 - a. The student taking the Thesis Option must take an oral examination in defense of the thesis.
 - b. The student taking the Non-Thesis Option must complete a 3 credit hour Graduation Project at the end of the course program.
 - c. The Master of Science Degree in Mechanical Engineering (Management Option) can only be taken under the Non-Thesis Option.
 - i This degree specialization combines 15 credit hours selected from graduate business courses with 15 credit hours in a graduate engineering area of concentration.
 - ii An undergraduate degree in engineering is required.

Ph.D. in Mechanical Engineering

1. The program in the Department of Mechanical and Aerospace Engineering leading to the degree of Doctor of Philosophy complies in full with the regulations of the Graduate School concerning admission, residence requirements, qualifying and final examinations and the dissertation.
2. There is no foreign language requirement.
3. All candidates for the Ph.D. degree are expected to complete an integrated program of studies in mechanical engineering, mathematics, physics and/or chemistry in preparation for the Qualifying Examination.
4. A qualifying examination is to be taken by each doctoral degree student within the first year. In the qualifying examination, the student is expected to demonstrate his/her competence in certain basic courses appropriate to modern mechanical engineering to the satisfaction of the department. A Ph.D. student will be admitted to

candidacy after passing the qualifying examination as well as the defense of dissertation proposal.

5. One or two years beyond admittance to candidacy will usually be found necessary for the completion of an acceptable dissertation, whereupon the student will be required to pass the Final Oral Defense of the Dissertation.
6. The candidate may, if he/she so desires, pursue for his/her dissertation an investigation in connection with any of the research projects in progress in the Mechanical and Aerospace Engineering Department or, in the case of interdisciplinary programs, in other Colleges/Schools such as the School of Marine and Atmospheric Science or the Medical School.

Ocean Engineering

About the Program

The University of Miami has a long history in Ocean Engineering. The University of Miami's College of Engineering together with the Rosenstiel School of Marine and Atmospheric Science offered a Master of Science degree in Ocean Engineering. The program and others of its kind in the nation, were popular in the 1970s and 1980s, but fell into decline during the 1990s as national circumstances and priorities changed. In particular, opportunities in ship building and underwater acoustics, two key sectors in the field, diminished significantly. The activity in the field at UM has been primarily a PhD focused program since the late 1990s.

However, In the past decade, several major incidents – the 2010 Deep Water oil spill in the Gulf of Mexico, a series of devastating hurricanes in 2003-2005 and the Japan Tsunami have turned our collective attention to the vulnerability of the nation's coastal infrastructure. Furthermore there have been significant demands for an increased emphasis on port and harbor security in the post- September 11 era. These events have led to a revival in the field of Ocean Engineering, albeit with a new focus and broader scope. The revival of the MS in Ocean Engineering was approved by the President of the University of Miami was approved for the fall semester of 2014. We are accepting applications for program beginning on November 1, 2013.

OCEAN ENGINEERING

Ocean Engineering concentrates on problems associated with human interaction with the ocean.

1. The ocean engineer combines competence as an engineer with both a practical experience in and theoretical understanding of the ocean.
2. The Ocean Engineering program, offered jointly with the Rosenstiel School of Marine and Atmospheric Science, is intended to lay the foundation of this competence, experience and understanding.
3. The areas of faculty specialization in this program include coastal engineering, off-shore engineering, structures, turbulence, computer modeling of fluids, acoustics, remote sensing and maritime security.

For further information click here. (<http://www.rsmas.miami.edu/academics/graduate-programs/degrees/master-of-science-in-ocean-engineering/about-the-program>)

Marine and Atmospheric Science

<http://www.rsmas.miami.edu/grad-studies>

Introduction

The Rosenstiel School of Marine and Atmospheric Science was established in 1943 as the Marine Laboratory of the University of Miami. It has grown from its modest beginnings in a boathouse to be one of the nation's leading institutions for oceanographic and atmospheric research and education.

Originally a tropical marine biological facility, the Marine Laboratory initiated a program of studies leading to the Master of Science degree in 1949. In 1953, laboratory and classroom buildings were constructed on the School's present campus on Virginia Key, and in the late fifties, the Marine Laboratory expanded its staff and developed its oceanographic capabilities in response to the increased interest in scientific research in the United States. It became the Institute of Marine Science in 1961. Ocean-going research vessels were acquired, and additional buildings were constructed to accommodate new wide-ranging projects. In 1969 the Institute, now a School, was named for Dorothy H. and Lewis Rosenstiel in recognition of a major contribution made through the Rosenstiel Foundation to encourage progress in the marine and atmospheric sciences at the University of Miami. In 1977, the School and College of Arts and Sciences joined together to establish an undergraduate Marine and Atmospheric Science program based on the Coral Gables campus. The degree granting authority for this program was formally transferred to the Rosenstiel School in 2008.

Today the Rosenstiel School has a faculty of 70 scientists who conduct sponsored research while offering graduate studies leading to the Master of Professional Science, Master of Science and Doctor of Philosophy degrees. The School offers curricula in applied marine physics, marine and atmospheric chemistry, marine affairs and policy, marine biology and fisheries, marine geology and geophysics, meteorology and physical oceanography, and ocean sciences. The School also offers undergraduate programs leading to the Bachelor of Science in Marine and Atmospheric Science degree.

The Rosenstiel School uses multiple laboratory and high-performance computing facilities and a state-of-the-art catamaran.

The brand new Marine Technology and Life Sciences Seawater Complex (MTLSSC), opened in 2014, houses studies that rely on seawater for observing air-sea interactions in a controlled environment and for holding, spawning and rearing marine organisms. This complex is the centerpiece of an updated Rosenstiel School campus.

The catamaran, named the F. G. WALTON SMITH, in honor of the founder of the Rosenstiel School has been in service since 2000. The 96-foot-long catamaran is able to explore the deep ocean as well as normally inaccessible shallow environments such as reefs, mangroves and grassbeds.

Degree Programs

The Rosenstiel School is made up of seven academic programs. These are:

- Applied Marine Physics
- Marine and Atmospheric Chemistry

- Marine Affairs and Policy
- Marine Biology and Fisheries
- Marine Geology and Geophysics
- Meteorology and Physical Oceanography
- Ocean Sciences

Please note the Rosenstiel School is currently restructuring all graduate programs to provide broader opportunities and greater flexibility to our students. The new and restructured graduate programs will be effective Spring 2016. Please visit www.rsmas.miami.edu for more details.

The Rosenstiel School of Marine and Atmospheric Science offers three graduate degree programs leading to the Master of Professional Science (M.P.S.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.) degrees. M.S./Ph.D. students can pursue degrees in applied marine physics, marine and atmospheric chemistry, marine biology and fisheries, marine geology and geophysics, meteorology and physical oceanography, and ocean sciences. M.P.S. students can enroll in degree tracks in marine affairs and policy, marine biology and fisheries, meteorology and physical oceanography, and ocean sciences. The division of Marine Affairs and Policy offers interdisciplinary Master of Professional Science and Master of Science degrees only.

In conjunction with the University of Miami School of Law, the Division of Marine Affairs and Policy at the Rosenstiel School also offers a joint degree program in Law and Marine Affairs. Upon completion of this program, a student earns a Juris Doctor degree from the School of Law and a Master of Professional Science in Marine Affairs and Policy from Rosenstiel.

Admission requirements and undergraduate preparation recommendations are both available at www.rsmas.miami.edu.

Degree Requirements

The Master of Professional Science (MPS) Program

The Master of Professional Science (M.P.S.) degree is offered in the disciplines of Marine Affairs and Policy (Aquaculture Management, Coastal Zone Management, Coastal Sustainability, Exploration Science, Marine Conservation, and Underwater Archaeology), Marine Biology and Fisheries (Fisheries Management and Conservation, Marine Mammal Science, Tropical Marine Ecosystem Management, and Oceans and Human Health), Meteorology and Physical Oceanography (Broadcast Meteorology, Computational Meteorology and Oceanography, Weather, Climate and Society, and Weather Forecasting), and Ocean Sciences (Applied Remote Sensing and Natural Hazard and Catastrophes). It is expected that the normal time for completion of degree requirements for the Master of Professional Science degree will be ~ 15 months of full-time study.

Credit Hour Requirements

Students in the Master of Professional Science Program are required to complete 24 course credit hours and 6 internship credit hours. Within each track, there are compulsory classes and electives. Coursework is multidisciplinary and thus will be accepted from multiple departments. As the terminal part of the degree, students must complete an internship with an approved agency, institution, or business, culminating in a final report.

Comprehensive Examination

A comprehensive examination is required of all M.P.S. students after completing at least 18 course credit hours and prior to beginning an internship. In most cases, the exam will be written and will be based on M.P.S. coursework or the common body of knowledge relevant to each track. However, each division determines the content and form of the examination and establishes the test date for its students in a given year-class according to general school guidelines. In the event of a failure, a student may be re-examined once, upon the advice of the student's advisor and at the discretion of the faculty of the division. If granted, the re-examination must be given before the end of the following semester. The Graduate Studies Office should receive written notification of the examination results. Students who fail the re-examination are subject to dismissal from the school.

Internship

Each student will be required to complete an internship with an organization engaged in some activity associated with marine and atmospheric science and identify an Internship Supervisor. Internships can be either paid or unpaid by the organization, or students can complete the internship by formal participation in a University sponsored program. An internship proposal, including contact information for the Internship Supervisor, must be submitted to the academic advisor and mentor for approval before the internship can begin.

Internship Report and Oral Presentation

The final grade will be based on a written report and an oral presentation. The internship report is not a summary of involvement but rather a contributory assessment of the experience, including developmental insight and a summary of any research performed. Internship report guidelines will be provided.

Conference Attendance

Though not mandatory, M.P.S. students are strongly encouraged to attend a scientific conference during their academic residency at RSMAS.

The M.S. Program

The Master of Science degree is offered in the disciplines of applied marine physics, marine affairs and policy, marine biology and fisheries, marine and atmospheric chemistry, marine geology and geophysics, or meteorology and physical oceanography. It is expected that the normal time for completion of degree requirements for the Masters of Science degree will be two years of full-time study.

Credit Hour Requirements

24 graduate course credit hours are required for the Master of Science degree. In addition, the student must enroll for a total of 6 credit hours of thesis research (710). All students are required to take at least one course outside the division of residence.

Comprehensive Examination

A comprehensive examination is required of all students. Each division determines the content and form of the examination and establishes a test date for its students according to general School guidelines. In the event of a failure, a student may be reexamined once, upon the advice of the student's committee and at the discretion of the faculty of the Division. If granted, the reexamination must be given before the end of the following semester. Students who fail the re-examination are subject to dismissal from the School.

Thesis

A thesis is normally required for the Master of Science degree in marine and atmospheric science. A public oral defense of the thesis must take place. The thesis committee must consist of at least three members, one of whom is a regular member of the Graduate Faculty of the University; one member must be from outside the division.

The Ph.D. Program

The Doctor of Philosophy degree is offered in applied marine physics, marine biology and fisheries, marine and atmospheric chemistry, marine geology and geophysics, and meteorology and physical oceanography. It is expected that the total time to complete the requirements for the Ph.D. degree will normally be four years of full-time study from the date of receipt of the M.S. degree or, if the M.S. is bypassed, five years of full-time study from the date of admission with a bachelor's degree.

Credit Hour Requirements

A total of 60 credit hours are required for the Ph.D. and not less than half of the total credit hours must be in work open only to graduate students (i.e. 600 level or above). At least 24 of the 60 credit hours must be course credit hours taken in residence at the University of Miami, and may include those course credit hours taken as part of the Master of Science degree. A minimum of 12 dissertation research credit hours must be taken; however, the course credit hour and research credit hour requirements needed are determined by the individual division. Students transferring into the school with a Master's of Science degree are normally given credit hour for 24 course credit hours. However, individual divisions may require additional course credit hours to remove deficiencies. All students entering the Ph.D. program without a master's degree are required to take at least one course outside the division of residence.

Dissertation Committee

The dissertation committee must consist of at least four members; this includes the committee chair, who shall be a member of the division or share the chair duties with a co-chair from the committee and be a regular member of the Graduate Faculty. Of the remaining members, two shall be from the Graduate Faculty, and one member of each Ph.D. committee must have their primary affiliation outside of RSMAS and that member must also have a Ph.D. degree. (Adjunct and secondary appointments are considered outside if their primary affiliation is not RSMAS).

Comprehensive Examination

A comprehensive examination, oral, written or both, is required of all RSMAS students. In the event of a failure, a student may be re-examined once, upon the advice of the student's committee and at the discretion of the faculty of the division. Students who fail the re-examination are subject to dismissal from the School.

Qualifying Examination

A written qualifying examination is required of all students admitted to the doctoral program. The student's committee will normally prepare and administer the examination within the guidelines established by the faculty of the School and of each division. In the event of a failure, a student may be reexamined once, upon the recommendation of the student's committee and at the discretion of the faculty of the division. If granted, the reexamination must be given before the end of the following semester. Language and other research tools requirements, if applicable,

must be completed prior to taking the qualifying examination. Students who fail the re-examination are subject to dismissal from the School.

Dissertation Proposal

An outline of the dissertation containing the following must be approved by the student's committee and submitted to the RSMAS Graduate Studies Office with a copy to the division academic committee:

1. tentative title
2. statement of the problem and objectives
3. methods of attacking the problem, including equipment and facilities required
4. timetable

A "Proposal Approval" form must accompany the proposal and be signed by the members of the student's committee.

Admission to Candidacy

Upon completion of the following requirements, the student is admitted to candidacy:

1. have an approved committee on file in Graduate Studies
2. successfully pass the comprehensive examination
3. successfully pass the qualifying examination
4. complete the language requirement, if any
5. submit the dissertation proposal
6. have a 3.0 average in all credit hours earned (≥ 12 credit hours)
7. remove all "I" or deficiencies

An application for Admission to Candidacy must be completed. All doctoral students must be admitted to candidacy at least one semester prior to the one they intend to graduate.

Dissertation

A dissertation is required of all doctoral students at the Rosenstiel School. A public oral defense of the dissertation is required. A student must be admitted to candidacy prior to the defense and registered in the semester that he/she defends. Each dissertation must be accompanied by three originals of the Certificate of Approval. This form must be signed by all members of the student's committee and the RSMAS Associate Dean of Graduate Studies.

No student gains the right to be recommended for the degree simply by fulfilling requirements. The right to recommend to the degree is reserved for the student's Committee. Any student who fails to meet the cumulative grade point average requirement and other academic progress standards established by the University and the School is subject to dismissal from the graduate program.

Applied Marine Physics

Dept. Code: AMP

Degree Programs

Master of Science and Doctor of Philosophy degrees in applied marine physics are offered by the Applied Marine Physics Division of the Rosenstiel School of Marine and Atmospheric Science. An approved interdisciplinary program is required for the M.S. degree in applied marine physics which consists of a minimum of 30 credit hours at the graduate level with an average grade of "B" or better and no grade below "C." The

30 credit hours are divided among 24 credit hours in courses and 6 credit hours for thesis research. At least 6 of the required course credit hours must be at the 600 level. For the Ph.D. degree, 60 graduate credit hours are required. These are divided among a minimum of 27 credit hours in courses (9 of which must be at the 600 level) and a minimum of 12 credit hours in dissertation research. Students may include up to 24 credit hours for course taken as part of a Master of Science degree (validation of previous credit hour courses is necessary).

Marine Affairs and Policy

- Dept. Code: MAF

Degree Programs

The Division of Marine Affairs and Policy accepts highly qualified students who wish to pursue an academic degree program (M.P.S. or M.S.) that combines a basic curriculum in marine science with a complementary program in a non-marine science discipline. Student programs are individually designed, and the M.S. curriculum requires a thesis. The program is intended to provide the student with a broadened perspective of marine issues and problem-solving abilities. MAF offers specializations in Aquaculture Management, Coastal Zone Management, Coastal Sustainability, Marine Conservation, Exploratory and Citizen Science, and Underwater Archaeology.

Current division research and teaching focus on integrated coastal zone management, marine resource economics, political and environmental ecology, coastal and ocean law and policy, fisheries and aquaculture management, environmental planning and environmental impact assessment, underwater marine cultural resource management and marine geographic information systems.

M.S.

The M.S. in Marine Affairs and Policy program is geared to students who are interested in the application of science and technology in issues of marine resource management and are willing to carry out independent investigation and to present the results in a thesis.

The M.S. has two tracks:

- the Science/Policy track
- the Policy track.

Students who apply to the Science/Policy track are required to have a B.S. degree in one of the pure sciences. The M.S. curriculum will include courses and training, which will address current marine policy issues and policy analysis techniques. The M.P.S. program is geared to students with diverse academic backgrounds who are interested in careers related to marine resource management and policy and who seek advanced training in marine and atmospheric science.

M.P.S.

There are six Marine Affairs and Policy (<http://mps.rsmas.miami.edu/> requirements) (MAF) tracks for the Master of Professional Science (http://mps.rsmas.miami.edu) degree (M.P.S.).

These are:

1. Aquaculture (<http://mps.rsmas.miami.edu/degree-program/aquaculture/>): The Professional Masters Program in Aquaculture

focuses on the environmental, technological, social, economic, legal, and political aspects of sustainable aquaculture.

2. Coastal Sustainability (<http://mps.rsmas.miami.edu/degree-program/coastal-sustainability>): This track provides students with advanced training in the expanding field of sustainability, with a combined focus on the practical aspects of systems management and the theoretical understanding of whole-systems design and coastal resiliency.
3. Coastal Zone Management (<http://mps.rsmas.miami.edu/degree-program/coastal-management>): Students will be introduced to the legal and governance frameworks on topics such as coastal fisheries management, marine protected areas, port management, tourism development, environmental impact assessment, and oil exploration.
4. Exploration Science (<http://mps.rsmas.miami.edu/degree-program/exploration-science>): Exploration Science is the applied practice and study of field research using a variety of methods, technologies, and approaches to drive question-based scientific endeavors.
5. Marine Conservation (<http://mps.rsmas.miami.edu/degree-program/marine-conservation>): The goal of the track is to advance conservation efforts, scientific literacy and communication, public outreach and integration, and education within the marine realm. Practical aspects of the program will vary between individuals but may include exposure to field methods and techniques, GIS and remote sensing of shallow water marine environments, the development of environmental impact statements, coastal law, the development of social media, scientific communication, and statistics for environmental management.
6. Underwater Archaeology (<http://mps.rsmas.miami.edu/degree-program/underwater-archaeology>): This track focuses on the management of underwater cultural heritage (MUCH), and will introduce participants to the legal and governance frameworks.

B.A. / M.P.S.

Marine Affairs and Policy, in cooperation with the Undergraduate Marine and Atmospheric Science Program, also offers a five-year B.A./M.P.S. Program in Marine Affairs. This program enables qualified students to earn a B.A. in Marine Affairs in four years with the opportunity to earn an M.P.S. with only one additional year. Conditional acceptance to the MPS program is based on the student's GPA at the end of their sophomore year. Students must then take GRE exams and apply for acceptance to the graduate program at Rosenstiel during their junior year.

M.P.S. / J.D.

The Division of Marine Affairs and Policy at the Rosenstiel School and the University of Miami School of Law offer a Joint degree program in Law and Marine Affairs. Upon completion of this program, a student earns a Juris Doctor degree from the School of Law and a M.P.S. in Marine Affairs from Rosenstiel. A student may complete requirements for both degrees within three and one-half years in an intensive program of six semesters and two full summers. This program is geared toward students who want a career in the field of law with a specialization in marine and environmental issues.

Marine Biology and Fisheries

- Dept. Code: MBF

Degree Programs

Students admitted to the program in the Division of Marine Biology and Fisheries are required to have a strong undergraduate preparation in the life sciences, with additional coursework in mathematics (calculus), physics, and chemistry (through organic). The program offers a series of study-options leading to the M.P.S., M.S. or Ph.D. degrees. These are intended to guide the student in a comprehensive study of marine organisms and the marine environment, and to develop areas of specialization within the marine biological sciences. Students are strongly encouraged to contact the faculty member whose area of research is of interest to them.

Areas of faculty interest include biological oceanography, biochemistry and molecular biology, ecology, fisheries, microbiology, physiology, toxicology, systematics, behavior and ecosystem and fisheries management. Students are not restricted to studies in any one study-option, and may (in consultation with their faculty advisor and/or committee) tailor their academic programs to suit individual interests in more than one area of faculty expertise.

M.S. / Ph.D.

Within the Division of Marine Biology and Fisheries there are four major academic tracks for the M.S. and Ph.D. degrees, each of which has one or more sub-specializations. These are:

1. Biological Oceanography, which has an emphasis on near shore and pelagic marine life;
2. Fisheries Sciences, which focuses on fisheries stock assessment, population modeling, and fisheries management;
3. Marine Biomedical Sciences, which has subspecialties in Marine Molecular Biology and Genetics, Marine Diseases, and Marine Physiology and Biochemistry/Toxicology; and
4. Ecological Sciences and Coastal Marine Biology.
This latter academic track offers specialization in Marine Biology, Coral Reef and Coastal-Marine Ecology, and Ecological Systems and Environmental Management.

Individual curricula may blend coursework from one or more tracks depending on the specific interests of the student.

M.P.S.

There are four Marine Biology and Fisheries tracks (<http://mps.rsmas.miami.edu/requirements>) for the Master of Professional Science (<http://mps.rsmas.miami.edu>) degree (M.P.S.).

These are:

1. Fisheries Management and Conservation (<http://mps.rsmas.miami.edu/degree-program/fisheries-conservation-management>): this track allows students to develop the professional skills required to be a fisheries scientist with curriculum options in various relevant areas of interest, such as fisheries management, fisheries surveys, and quantitative fisheries.
2. Marine Mammal Science (<http://mps.rsmas.miami.edu/degree-program/marine-mammal-science>): students in this degree track will prepare for employment in marine mammal management (including associated ecosystems), population assessments, acoustics, and care.

- Oceans and Human Health (<http://mps.rsmas.miami.edu/degree-program/oceans-human-health>): With greater use of marine resources, there is a growing concern over the impact of the oceans on human health via water and vector-borne infectious diseases. In this track, students learn to effectively assess these impacts and develop management tactics for future remediation.
- Tropical Marine Ecosystem Science (<http://mps.rsmas.miami.edu/degree-program/tropical-marine-ecosystem>): this track provides students with advanced training in the theoretical aspects of tropical marine ecology, as well as the practical aspects needed to begin a career in this field.

Marine Geology and Geophysics

- Dept. Code: MGG

Degree Programs

The undergraduate student wishing to prepare for graduate work in marine geology and geophysics must be well trained in the basic sciences. According to the special interests of the individual, the undergraduate major and minor should be in geology, physics, chemistry, and/or mathematics.

The Division of Marine Geology and Geophysics offers M.S. and Ph.D. programs in the following broad areas:

- Environmental Geology and Geochemistry
- Sedimentary Systems and Marine Geology
- Paleoclimatology and Global Change
- Igneous Petrology and Geochemistry
- Geophysics
- Geodesy

Within each discipline, students have considerable flexibility in choice of courses, and "cross-track" courses are possible for students with special interests. Interactions with other divisions are particularly encouraged.

Marine and Atmospheric Chemistry

- Dept. Code: MAC

Degree Program

The program covers the chemistry of the atmosphere and oceans, including geochemical, photochemical and biochemical processes. Undergraduate training should be in chemistry, physics, biology and mathematics; also useful may be courses in geology, biochemistry, oceanography and meteorology.

New students are evaluated for their knowledge of chemistry; deficiencies are corrected by directed study and/or course work and must be remedied within one year. New students can be admitted to the M.A. or the M.S. program, or directly into the PhD program, even without a prior M.S. degree.

Students are assigned a faculty advisor when they are accepted into MAC, and before the end of the second year they form a supervisory committee. The advisor and committee discuss with the student a course of study and research for the student. Students without an MS degree take a written comprehensive examination after course work is

complete. The comprehensive exam tests the basic knowledge of marine and atmospheric science, and is based on course material taken by the student. After passing the comprehensive exam, the student prepares a dissertation research proposal which usually includes an abstract, background material, hypothesis and/or list of objectives, methods, preliminary data, and bibliography. The dissertation research proposal needs to be approved by the advisor and supervisory committee. Ph.D. students also take a written qualifying exam. The qualifying examination is set by the advisor and supervisory committee and is taken after their approval of the dissertation proposal. The qualifying exam tests the student's knowledge of the chosen research topic. An oral examination may be required after the written examination. Students who twice fail the qualifying examination will receive an MS if they present and successfully defend a written thesis. For all students, the seminar (MAC 770) is taken twice for credit hour. However, each student must give one seminar per year and they must attend seminars regularly.

Meteorology and Physical Oceanography

- Dept. Code: MPO

Degree Programs

The Division of Meteorology and Physical Oceanography (MPO) of the Rosenstiel School of Marine and Atmospheric Science (RSMAS) is engaged in research and graduate instruction in the physical processes governing the motion and composition of the ocean and atmosphere. The program ranges from direct observation to theoretical and numerical modeling of the earth-atmosphere system.

Three types of degrees are awarded by the Division:

- Master of Science,
 - which requires 30 credit hours, including 24 credit hours in courses and 6 research credit hours;
- Doctor of Philosophy,
 - which requires 60 credit hours, including a minimum of 30 course credit hours and a minimum of 12 research credit hours; and
- the Master of Professional Science (<http://mps.rsmas.miami.edu>),
 - which requires 30 credit hours, including 24 course credit hours and 6 internship credit hours.

Students applying for admission to graduate study in the Division of Meteorology and Physical Oceanography should have a solid background in mathematics and physics or engineering. Once admitted, students in this Division will take courses in both Meteorology and Physical Oceanography in order to develop an understanding of the ocean and the atmosphere as closely related dynamical systems.

M.S. / Ph.D.

In the first year, students will take 5-6 courses, followed by a comprehensive exam at the end of the spring semester. Based on the results of this exam, students may be given the option to enter the Ph.D. program directly, to enter the M.S. program (leading to subsequent entrance into the Ph.D. program), or they may be required to re-take the comprehensive exam. Typical times for completion are 2-3 years for M.S. degrees, and 4-6 years for Ph.D. degrees.

M.P.S.

There are four Meteorology and Physical Oceanography (<http://mps.rsmas.miami.edu/requirements>) (MPO) tracks for the Master of Professional Science (<http://mps.rsmas.miami.edu>) degree (M.P.S.).

These are:

1. Broadcast Meteorology (<http://mps.rsmas.miami.edu/degree-program/broadcast-meteorology>): This track option prepares student for both on-camera and behind-the-scenes careers in broadcast meteorology, as well as the opportunity to develop the knowledge and training necessary to enter the broader field of science journalism.
2. Computational Meteorology and Oceanography (<http://mps.rsmas.miami.edu/degree-program/computational-meteorology-oceanography>): The degree track in Computational Meteorology and Oceanography is designed to assist students in the pursuit of advanced training in the computational science aspects of meteorology and physical oceanography.
3. Weather, Climate and Society (<http://mps.rsmas.miami.edu/degree-program/weather-climate-society>): This degree track emphasizes the relationship between weather, climate and societal impacts.
4. Weather Forecasting (<http://mps.rsmas.miami.edu/degree-program/weather-forecasting>): This track is designed for students who have an undergraduate degree in meteorology and seek graduate level training and experience in applied weather forecasting.

Medicine

Biochemistry and Molecular Biology

<http://biomed.miami.edu>

Overview

Biochemistry and Molecular Biology are sciences at the epicenter of modern biomedical research. Understanding basic biochemical pathways is key to gaining new knowledge for the prevention and combating of disease, allowing for the expansion of current boundaries in medicine and science. In addition to medical applications, molecular biology is indispensable for the development of tools implemented for environmental and bionanotechnology problems. The Department of Biochemistry and Molecular Biology (BMB) at the University of Miami is committed to maintaining our discipline as a central science and strives for excellence by sustaining the current areas of strength, fostering interdisciplinary and clinical translational research, and expanding the research portfolio to evolving areas of inquiry and discovery. Our expertise in RNA biology, understanding DNA stability and repair, studying the biophysical nature of biomolecules, and gaining insight into cellular signaling pathways has been recently expanded by the arrival of researchers specialized in the design of natural and semi-synthetic biomolecules, as well as molecular-based devices that can be employed in translational medicine and other bionanotechnology applications. The commitment of the Miller School to increase growth in the basic sciences will continue to provide our department with new and exciting opportunities to enhance our prominence in biomedical research.

A chief mission of our department is to educate future generations of investigators and medical students to become critical thinkers and the leaders in their fields. The diverse composition of our department in regards to research interests creates a unique and intellectually stimulating learning environment for students at the undergraduate,

graduate, and postgraduate levels. We offer a host of courses to fulfill the curriculum to obtain a BS in Biochemistry, a MS and a PhD in Biochemistry, as well as the basic science requirements for MD and MD / PhD students. Our courses address the basic principles of biochemistry and molecular biology as well as the emerging science and future of the fields.

The department serves the worldwide scientific community through leadership roles and active participation in national and international conferences, serving in study sections and on federal agency panels. Additionally, our department's faculty roster encompasses editors of journals and members of editorial boards, as well as board members of national and international governmental centers and members of advisory boards of companies in the private sector. Moreover, the Department is committed to serve the community by participating in a variety of outreach events to promote awareness of the importance of science and technology in relation to public health and the environment.

Our department is also unique for hosting the internationally recognized annual Miami Winter Symposium, created by Professor William Whelan, the first leader and Chair of the Department. The Miami Winter Symposium is currently managed by Nature Publishing and features world-renowned speakers in emerging areas of science and technology. This event cements our department's goal of furthering education and discovery in biochemistry and molecular biology on an international level.

Contact Information

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University of Miami Miller School of Medicine
Office of Graduate and Postdoctoral Studies
1600 NW 10th Avenue (M-857), Suite 1128-A
Miami, Florida 33136
305 243 2468

Admission

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: <http://biomed.med.miami.edu/apply>

Program Plan

Program Plan

The BMB graduate program director assists each entering student in tailoring a program to match his or her interests. First year students take courses in a core curriculum taught by the faculties from the basic science departments. Courses are taught not only by formal lectures but also as seminars and informal discussions. The BMB graduate program's curriculum is designed to provide broad knowledge in the various aspects of molecular biology and biochemistry in addition to intensive training in certain specialized areas of research according to the student's interests.

Please note that the following is only a sample curriculum plan. Current students must discuss their plan with their program director to make adjustments as needed. It is the student's responsibility to contact the program to verify the information.

Year One		
Fall		Credit Hours
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	1
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		12
Spring		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1
PIB 783	Professional Development: Skills for Success II	1
EPH 601	Medical Biostatistics I	3
BMB 714	Molecular Genetics (Spring I Course)	2
BMB 715	Structural Biology and Applications to Drug Discovery (Spring II Course)	2
BMB 716	Analysis And Prediction Of Gene Regulation And Prole In Function	4
Term Credit Hours:		14
Summer		
PIB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Year Two		
Fall		

BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 710	Advanced Topics in Biochemistry	3
BMB 830	Doctoral Dissertation	3
Term Credit Hours:		8
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Three		
Fall		
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
BMB 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		5
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Four		
Fall		
BMB 840	Doctoral Dissertation- Post Candidacy	3
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
Term Credit Hours:		5
Spring		
BMB 840	Doctoral Dissertation- Post Candidacy	3
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
Term Credit Hours:		5
Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Five		
Fall		
BMB 840	Doctoral Dissertation- Post Candidacy	3
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
Term Credit Hours:		5
Spring		
BMB 840	Doctoral Dissertation- Post Candidacy	3
BMB 701	Research Journal Club.	1
BMB 702	Biochemical Science Seminar	1
Term Credit Hours:		5

Summer		
BMB 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Total Credit Hours:		64

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Biomedical Sciences

biomed.med.miami.edu

Overview

Programs in Biomedical Sciences (PIBS) at the University of Miami Miller's School of Medicine (UMMSM) provides students a wide variety of research opportunities in the biological sciences across many disciplines and departments.

First-year students take a core curriculum that builds a solid foundation in the biomedical sciences. The common coursework in the first semester ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. Students have the flexibility to select breakout sessions that match their interests. The core curriculum also offers critical learning opportunities in biostatistics, genomic and analytical tools. In the second semester, students select individual modular courses offered in our eight disciplines. These courses cover topics of specific relevance to graduate programs or research topics. Students also complete a course in Biostatistics and a workshop in Bioinformatics.

PhD Program Selection

Students complete three to four laboratory rotations in various disciplines during their first year. This opportunity allows students to explore their interests before selecting a program and dissertation mentor. Students match with mentors in specific programs and achieve program affiliation at the end of their first year in one of the following programs (for years two through five):

- Biochemistry & Molecular Biology (<http://biomed.med.miami.edu/graduate-programs/biochemistry-and-molecular-biology>)
- Cancer Biology (<http://biomed.med.miami.edu/graduate-programs/cancer-biology>)
- Human Genetics & Genomics (<http://biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics>)
- Microbiology & Immunology (<http://biomed.med.miami.edu/graduate-programs/microbiology-and-immunology>)
- Molecular & Cellular Pharmacology (<http://biomed.med.miami.edu/graduate-programs/molecular-and-cellular-pharmacology>)
- Molecular Cell & Developmental Biology (<http://biomed.med.miami.edu/graduate-programs/molecular-cell-and-developmental-biology>)
- Neuroscience (<http://biomed.med.miami.edu/graduate-programs/neuroscience>)
- Physiology & Biophysics (<http://biomed.med.miami.edu/graduate-programs/physiology-and-biophysics>)

Contact Information

Office of Graduate and Postdoctoral Studies

Admission

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: <http://biomed.med.miami.edu/apply>

Program Plan

Plan of Study

Students enrolled in the first year program for the PhD in Biomedical Sciences complete the following core requirements. The curricula for years two through five can be found in the program links above.

Year One		
Fall		Credit Hours
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research (1 credit per lab rotation)	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1

PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		13
Spring		
EPH 601	Medical Biostatistics I	3
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
Program Electives: Select from List Below		
Term Credit Hours:		6-7
Summer		
PIB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Total Credit Hours:		20-21

Program Elective Courses

The following program courses are available to first year students in their spring semester. It is generally recommended that students only take courses in the program they wish to enter. This will put students on a timely path to graduation. Your options will be discussed in your spring course advising appointment.

BMB 714	Molecular Genetics	2
BMB 715	Structural Biology and Applications to Drug Discovery	2
CAB 710	Cancer Biochemistry & Molecular Biology	3
CAB 720	Dialogues with Cancer Clinicians (PIBS Module)	1
HGG 630	Variation and Disease	2
HGG 640	Family Studies and Genetic Analysis	2
MCP 704	Mechanisms of Drug Action	3
MCP 752	Cell Signaling I: Intracellular Signal Transduction.	3
MCP 753	Cell Signaling 2: Cell-to-Cell Communication and Development.	3
MDB 751	Advanced Cell Biology Approaches to Molecular Medicine	2-3
MDB 752	Current Topics in Mammalian Development	2-3
MDB 753	Histology	1
MIC 625	Mechanisms of Microbial Virulence	2
MIC 728	Principles of Immunology	3
NEU 661	Molecular And Cellular Neuroscience	2
NEU 663	Developmental Neuroscience.	2
PHS 610	Cell Physiology Biophysics	2
PHS 620	Neurophysiology	3
PHS 612	Systemic Physiology	4
PHS 741	Principles of Membrane Physiology and Biophysics I	2
PHS 742	Principles of Membrane Physiology and Biophysics II	2

Biostatistics

<http://www.biostat.med.miami.edu/>

Dept. Code: BST

Degree Programs

- Master of Science in Biostatistics (MS)
- Doctor of Philosophy in Biostatistics (PhD)

Masters

Masters Program in Biostatistics

- M.S. in Biostatistics (p. 524)

Doctoral

Doctoral Program in Biostatistics

- Ph.D. in Biostatistics (p. 524)

M.S. in Biostatistics

The Master of Science (MS) in Biostatistics is structured around four pairs of courses: A regression sequence consisting of linear regression and generalized linear regression, an inference sequence consisting of Probability and Distribution Theory and Statistical Inference, a multivariate sequence consisting of Applied Modern Multivariate Methods and Longitudinal Data, and a clinical trials sequence consisting of Survival Analysis and Clinical Trials. Enrichment is provided by regular topics courses and by a Statistical Practicum. A major paper (capstone project) is required to demonstrate satisfactory facility with the major concepts.

The essential background an ideal entering student would have is

1. a minimum of three semesters of calculus including partial derivatives and techniques for solving multiple integrals,
2. one semester of linear algebra,
3. one semester of probability theory, and
4. four undergraduate courses in statistics or biostatistics.

For more information about the MS in Biostatistics **click here** (<http://www.biostat.med.miami.edu/academics/ms-in-biostatistics>).

Ph.D. in Biostatistics

The Ph.D. in Biostatistics, offered through the Division of Biostatistics in the Department of Public Health Sciences at the Miller School of Medicine, provides a flexible curriculum to cover the basics.

Admitted PhD students are expected to take a full suite of courses including several iterations of the seminar course, a consulting practicum (or advanced computing course), and a series of four to six courses that ensure the candidate has studied a subject matter discipline within biomedical research. PhD students are also expected to take high-level courses in statistical theory, survival analysis, and high-dimensional and complex data not generally taken by MS students. A sample program can be found at <http://www.biostat.med.miami.edu/academics/phd-in-biostatistics>.

PhD students are expected to pass a first-year exam between their first two years of study and to be examined on a thesis proposal normally at the end of their third year of study.

To obtain detailed program curricula on the Master of Science and PhD in Biostatistics, please contact our offices at the address below or visit our website at <http://www.biostat.med.miami.edu/>

For further information, please contact:

Hemant Ishwaran, PhD, Graduate Program Director
Division of Biostatistics
Department of Epidemiology and Public Health (R669)
University of Miami Miller School of Medicine
1120 NW 14 Street, Room 1064
Miami, Florida 33136
Tel: 305-243-6312
Fax: 305-243-5544
E-mail: mgomez6@biostat.med.miami.edu
Website: <http://www.biostat.med.miami.edu/>

Cancer Biology

<http://biomed.med.miami.edu/>

Overview

The Sheila and David Fuente Graduate Program in Cancer Biology is a University-wide interdisciplinary training program that involves faculty from the basic science and clinical departments of the University of Miami. The objective of this program is to provide a unique multidisciplinary training environment for highly qualified individuals that will prepare them for independent research and teaching careers. The overall philosophy of the program is to integrate basic and clinical research. The scientific focus is on the biology of cancer and the development of novel diagnostic and therapeutic approaches.

The program emphasizes a multidisciplinary approach which incorporates concepts and state-of-the-art techniques from molecular biology, biochemistry, cell biology, biostatistics, genetics, genomics, immunology, proteomics, structural biology, clinical oncology, and translational research programs at the Sylvester Comprehensive Cancer Center. An important goal of the program is to provide students with a strong background in basic biomedical research coupled with an understanding of clinical aspects of cancer including diagnostic, prognostic, and therapeutic intervention. To achieve this goal, the program utilizes a unique program of study that includes lectures from both basic and clinical researchers. In addition, the program has a two-tier mentoring system in which students receive guidance from both a research mentor and a physician mentor. The research mentor is the dissertation advisor, while the physician mentor will provide the student with a clinical perspective in oncology. Through this dual mentorship, students conduct their doctoral research and obtain clinical knowledge in their area of study. The program aims to instill in students the ability to design multidisciplinary research programs in which scientific research is driven by unmet clinical challenges.

Courses in Cancer Biochemistry and Molecular Biology are prerequisites for all CAB courses. Required courses are Tumor Biology, Student Seminars, Tumor Boards, Special Topics in Cancer Research, Dialogues with Cancer Clinicians, and Logic and Reasoning in Translational Cancer

Research. (Students can also choose electives in cancer epidemiology, cellular and molecular biology, immunology, pharmacology, and microbiology with permission of the CAB Director. After joining the program and choosing a research mentor, students formulate a proposal and take a qualifying exam. Their subsequent research is guided by an individually tailored dissertation committee, including the research advisor and physician mentor.)

Contact Information

Kerry Burnstein, PhD, (kburnstein@med.miami.edu) Graduate Program Director
J.C. Rodriguez, (jxr1037@miami.edu) Senior Program Coordinator
University of Miami, Miller School of Medicine
Sylvester Comprehensive Cancer Center
Sheila and David Fuente Graduate Program in Cancer Biology
1550 NW 10th Avenue, FOX Bldg. Room 406 (M-877)
Miami, Florida 33136
305 243 2287

Admission

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: <http://biomed.med.miami.edu/apply>

Program Plan

Program Plan

Year One			
Fall		Credit Hours	
PIB 701	Introduction to Biomedical Sciences	5	
PIB 702	Scientific Reasoning	3	
PIB 731	Laboratory Research	2	
PIB 700	Journal Club	1	
PIB 780	Research Ethics	1	
PIB 782	Professional Development: Skills for Success I	1	
Term Credit Hours:		13	
Spring			
PIB 700	Journal Club	1	
PIB 731	Laboratory Research	1-2	
PIB 783	Professional Development: Skills for Success II	1	
EPH 601	Medical Biostatistics I	3	
CAB 710	Cancer Biochemistry Molecular Biology	3	
Term Credit Hours:		9-10	
Summer			
PIB 830	Doctoral Dissertation	1	
Term Credit Hours:		1	
Year Two			
Fall			
CAB 701	CAB Student Seminar (Offered In Fall & Spring)	1	
CAB 705	Tumor Boards	1	
MDB 765	Tumor Biology	3	
CAB 830	Dissertation Research - Pre Candidacy	2	
Term Credit Hours:		7	
Spring			
CAB 701	CAB Student Seminar	1	
CAB 712	Special Topics in Cancer Research - Viral Oncology and Tumor Immunology Module (Offered Alternate Years Spring 2015, 2017, 2019)	2	
CAB 713	Special Topics in Cancer Research - Molecular Cancer Therapeutics Module (Offered Alternate Years Spring 2015, 2017, 2019)	2	
CAB 714	Cancer Epidemiology, Prevention and Biobehavioral Oncology (Offered Alternate Years Spring 2016, 2018, 2020)	2	
CAB 715	Special Topics in Cancer Research - Breast and Genitourinary Cancers Module (Offered Alternate Years Spring 2016, 2018, 2020)	2	
CAB 720	Dialogues with Cancer Clinicians (PIBS Module)	1	
CAB 830	Dissertation Research - Pre Candidacy	2	
Term Credit Hours:		12	
Summer			
CAB 840	Doctoral Dissertation- Post Candidacy	1	
Term Credit Hours:		1	
Year Three			
Fall			
CAB 701	CAB Student Seminar	1	
CAB 750	Logic and Reasoning in Translational Cancer Research: Bench to Bedside Part 1	3	
CAB 840	Doctoral Dissertation- Post Candidacy	2	
Term Credit Hours:		6	
Spring			
CAB 701	CAB Student Seminar	1	
CAB 840	Doctoral Dissertation- Post Candidacy	2	
Term Credit Hours:		3	
Summer			
CAB 840	Doctoral Dissertation- Post Candidacy	1	
Term Credit Hours:		1	
Year Four			
Fall			
CAB 701	CAB Student Seminar	1	
CAB 750	Logic and Reasoning in Translational Cancer Research: Bench to Bedside Part 1	3	
CAB 840	Doctoral Dissertation- Post Candidacy	2	
Term Credit Hours:		6	
Spring			
CAB 701	CAB Student Seminar	1	
CAB 840	Doctoral Dissertation- Post Candidacy	2	
Term Credit Hours:		3	
Summer			
CAB 840	Doctoral Dissertation- Post Candidacy	1	
Term Credit Hours:		1	
Year Five			
Fall			
CAB 701	CAB Student Seminar	1	
CAB 840	Doctoral Dissertation- Post Candidacy	2	
Term Credit Hours:		3	
Spring			

CAB 701	CAB Student Seminar	1
CAB 840	Doctoral Dissertation- Post Candidacy	2
Term Credit Hours:		3
Summer		
CAB 850	Research in Residence	1
Term Credit Hours:		1
Total Credit Hours:		70-71

Students are encouraged to take pertinent elective courses under guidance of their Dissertation Committee and research mentor. Electives must be approved by CAB graduate program director.

- Required course credits: 36 cr. [700 level courses (required or elective)]
- Dissertation research: 24 cr.
- **Total All Years: 60 credits**

CAB Core Course Listing

CAB 701	CAB Student Seminar	1
CAB 705	Tumor Boards	1
CAB 710	Cancer Biochemistry & Molecular Biology	3
CAB 712	Special Topics in Cancer Research - Viral Oncology and Tumor Immunology Module	2
CAB 713	Special Topics in Cancer Research - Molecular Cancer Therapeutics Module	2
CAB 714	Cancer Epidemiology, Prevention and Biobehavioral Oncology	2
CAB 715	Special Topics in Cancer Research - Breast and Genitourinary Cancers Module	2
CAB 720	Dialogues with Cancer Clinicians (PIBS Module)	1
CAB 750	Logic and Reasoning in Translational Cancer Research: Bench to Bedside Part 1	3
CAB 830	Dissertation Research - Pre Candidacy	2
CAB 840	Doctoral Dissertation- Post Candidacy	1-12
CAB 850	Research in Residence	1
MDB 765	Tumor Biology	3

Clinical and Translational Investigation

<http://miamictsi.org/education/masters-program>

Overview

This Master of Science in Clinical and Translational Investigation (MSCTI) at the University of Miami has been established to create a structured educational program that offers trainees of diverse cultural and educational backgrounds formal graduate training (<http://mscti.med.miami.edu>) in the principles and practice of translational science and clinical research. Our highly integrated, cross-disciplinary program has been designed to further the new discipline of translational science by providing a foundation for the development of future practitioners and leaders of translational science who are prepared to deal with the perceived bottlenecks that inhibit translational research: institutional culture and practice, scientific complexity of translational research design and methodology, and regulatory and ethical processes.

The overall goal of this curriculum development award is to engage promising new and Early Stage Investigators in the discipline of translational science so that they make the pursuit of academic translational science their own professional goal.

Contact Information

Tatjana Rundek (trundek@med.miami.edu), MD, PhD., Program Director.
Carlos Sandoval (c.sandoval1@med.miami.edu), Program Manager
MS Clinical and Translational Investigation
305 243 6398

Admission

Admissions Requirements

All individuals with strong research backgrounds are eligible to submit an application. Applications will be reviewed in batches, and admittance will be based on those most qualified for the program. We strongly encourage the following to apply:

- Individuals who have completed terminal healthcare degrees (e.g., MD, PhD, DO, RN) who are interested in pursuing additional formal didactic training (<http://mscti.med.miami.edu/program/who-is-eligible>) to become independent investigators in clinical and/or translational science;
- Individuals who have completed (<http://mscti.med.miami.edu/program/who-is-eligible>) terminal scientific degrees (e.g., PhD, DSci) who are interested in pursuing additional formal didactic training to improve knowledge and skills related to translation of basic to clinical applications; and
- Individuals who are currently enrolled in a terminal degree program (<http://mscti.med.miami.edu/program/who-is-eligible>) (e.g., MD, PhD) who are interested in adding a year to their program to obtain a MCTSI concurrent with their terminal degree.
- Students who have completed a Bachelor's degree who have outstanding academic credentials and an interest in obtaining a MS prior to a career in clinical translational research or a graduate program will also be eligible.

Completed (<http://mscti.med.miami.edu/admissions/admissions-requirements>) **application package consist of the following:**

- Completed online application form
- Application fee (US dollars, non-refundable)
- Official transcripts from each college or university attended
- Resume (<http://mscti.med.miami.edu/admissions/admissions-requirements>) or Curriculum Vitae
- Three letters of recommendation
- Personal statement of career goals and interest in degree program (<http://mscti.med.miami.edu/admissions/admissions-requirements>).
- Members of the Admissions Committees examine each application for acceptance into the program. Materials submitted in support of an application are confidential and cannot be released for other purposes nor returned to the applicant.

A GRE is not required

Full application instructions can be found at: biomed.med.miami.edu/apply

Program Plan

Course of Study

The Masters in Clinical and Translational Investigation program can be completed in 1-3 years depending on goals and professional responsibilities the student. This thirty credit hour (<http://mscti.med.miami.edu/program/program-basics>) program that includes completion of structured content courses, participation in small group interactive seminars and completion of a K-award, R21, or R01-type interdisciplinary clinical / translational research proposal. The proposal serves as a thesis or a formal master thesis, to be evaluated by a thesis committee consisting of one member of the Steering Committee, two faculty members, each representing one component of the translational focus (T1, T2, T3, T4) of the student, and another investigator not affiliated with the K30 program.

Successful completion of the MSCTI requires students to maintain a GPA of 3.0 or greater with no grade below C in any courses and successful completion of the thesis project.

Current students must discuss their plan with their program manager to make adjustments as needed. Students on a F-1 visa must enroll in a minimum of nine credits per semester.

Program Plan for Part-time Professional Students

Year One		
Fall		Credit Hours
CTI 601	Introduction To Clinical And Translational Research	2
EPH 621	Fundamentals of Epidemiology	3
EPH 601	Medical Biostatistics I	3
Term Credit Hours:		8
Spring		
CTI 602	Writing for Translational and Clinical Science	2
HGG 630	Variation and Disease	2
Term Credit Hours:		4
Summer I		
EPH 604	Clinical Trials	3
Term Credit Hours:		3
Year Two		
Fall		
CTI 810	Master's Thesis	6
EPH 647	Community-based Participatory Research	3
Term Credit Hours:		9
Spring		
CTI 603	Research Ethics	3
EPH 603	Applied Data Management and Analysis	3
Term Credit Hours:		6
Total Credit Hours:		30

Program Plan for Full-time Students

This plan is ideal for students who want to complete the program full-time as well as students on F-1 visas.

Year One		
Fall		Credit Hours
CTI 601	Introduction To Clinical And Translational Research	2
EPH 601	Medical Biostatistics I	3
EPH 621	Fundamentals of Epidemiology	3
EPH 617	Introduction to Disease Prevention and Health Promotion	3
Term Credit Hours:		11
Spring		
CTI 602	Writing for Translational and Clinical Science	2
HGG 630	Variation and Disease	2
CTI 810	Master's Thesis	6
Term Credit Hours:		10
Summer		
EPH 604	Clinical Trials	3
Term Credit Hours:		3
Year Two		
Fall		
CTI 603	Research Ethics	3
EPH 751	Survival Analysis in Clinical Trials	3
Term Credit Hours:		6
Total Credit Hours:		30

Human Genetics and Genomics

<http://biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics>

Overview

The Interdepartmental PhD Program in Human Genetics and Genomics is a multi-disciplinary program aimed at training scientists broadly in areas of human genetics and genomics relevant to human health and disease. The emerging practice of "precision medicine," whereby clinical treatment decisions are based in part on an individual's genomic profile, depends on "genomic literacy" among practitioners, researchers and patients. Human Genetics and Genomics is a multidisciplinary field that requires training in three core competencies: clinical, molecular, and statistical genetics. Individuals earning PhDs in Human Genetics and Genomics will have various career options, including clinical laboratory (after fellowship training and board certification), research laboratory or computational research in academia, healthcare, and the biotechnology industry.

During the first year PIBS curriculum, students will have the opportunity to take two introductory short courses: Variation & Disease and Family Studies & Genetic Analysis. Rotations through faculty laboratories provide students with hands-on experience in various research areas. The rotations also provide the student the background necessary to select their dissertation advisor and area of research.

During the second year, the curriculum focuses on core coursework in molecular and computational genetics, biostatistics, and seminars and journal clubs.

Also, during the second year, students choose to pursue one of two tracks within the program: molecular genetics or computational genetics. Course requirements differ slightly between these two paths: students in the molecular genetics track will take Advanced Topics in Molecular Genetics while the Computational Genetics track students take Fundamentals of Genetic Epidemiology and Medical Biostatistics II.

During the second and third years of study, students formulate and defend a dissertation proposal. All students participate in a 1-credit hour clinical rotation and complete a teaching practicum during their fourth or fifth years.

Contact Information

We would be pleased to respond to any questions you may have and look forward to your inquiry.

William K. Scott, PhD (W.Scott@med.miami.edu), Graduate Program Director

Dori McLean, (DMclean@med.miami.edu) Senior Program Coordinator

University of Miami, Miller School of Medicine

The Dr. John T. Macdonald Foundation Department of Human Genetics Interdepartmental PhD Program in Human Genetics and Genomics

1501 N.W. 10th Avenue, BRB 432 (M860)

Miami, FL 33136

305 243 8779

biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics (<http://biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics>)

Admission

Applying to the Program

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

Competitive candidates will have the following:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstracts and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

Applicants must submit the following:

- Online Application
- Application Fee

- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: biomed.med.miami.edu/apply (<http://biomed.med.miami.edu/apply>)

Program Plan

Program Plan

The PhD in Human Genetics and Genomics (HGG) curriculum allows candidates to pursue a track in *molecular* or *computational* genetics by their second year of training; however, all students complete a core curriculum in the first three years of graduate study. Students will also participate in seminars and journal clubs in the fall and spring semesters, through all years of study.

First-year students interested in Human Genetics and Genomics are strongly encouraged to take two introductory HGG short courses in the spring semester: HGG 630 – Variation and Disease and HGG 640 – Family Studies and Genetic Analysis which are requirements for completing the HGG degree. Courses in computational / quantitative skills, including biostatistics and bioinformatics will also form part of the first year PIBS curriculum. Each PIBS student completes at least three lab rotations of nine weeks each and chooses a dissertation laboratory (and graduate program) during the latter half of the spring semester. If necessary a fourth rotation may be possible, and in this case a laboratory choice may be deferred until June. All first year students will make short presentations to a group of faculty after each lab rotation. For these presentations the students will be divided into four groups with related research interests.

After choosing a mentor and laboratory at the end of the first year, a student becomes a member of the HGG program. Students select and follow a track in *molecular* genetics or *computational* genetics in the first semester of year 2. At this point course requirements differ slightly between these two paths: Students in the *molecular* genetics track take Advanced Topics in Molecular Genetics (HGG 650) in the second semester, while the *computational* genetics track students take a course in epidemiology, (EPH 621) in the fall, and a second course in biostatistics (EPH 602) and a second course in genetic epidemiology (HGG 621) in the spring.

In addition to the required core courses, all students participate in a clinical rotation and serve one semester as a teaching assistant for a core course, in their fourth or fifth year.

It is expected that on average, students will complete the program in five years. Please review the complete course descriptions on the COURSE tab above. The general core curriculum is shown in the Plan of Study below:

Plan of Study - Molecular Track

Year One		
Fall		Credit Hours
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	2

PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		13
Spring		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
EPH 601	Medical Biostatistics I	3
HGG 630	Variation and Disease (HGG program elective - Spring I)	2
HGG 640	Family Studies and Genetic Analysis (HGG program elective - Spring II)	2
Term Credit Hours:		10-11
Summer		
PIB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Year Two		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 631	Genes in Populations	3
HGG 830	Doctoral Dissertation- Pre Candidacy.	1
Term Credit Hours:		5
Spring		
HGG 601	Seminar/Journal Club	1
HGG 650	Advanced Topics in Molecular Genetics (Molecular Track Requirement)	3
HGG 660	Bioinformatics Theory and Practice	3
HGG 830	Doctoral Dissertation- Pre Candidacy.	1
Term Credit Hours:		8
Summer		
HGG 830	Doctoral Dissertation- Pre Candidacy.	1
Term Credit Hours:		1
Year Three		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 680	Genome Ethics and Public Policy	3
HGG 830	Doctoral Dissertation- Pre Candidacy.	1
Term Credit Hours:		5
Spring		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		2

Summer		
HGG 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		1
Year Four		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 681	Human Genetics Clinical Rotation (Can be taken in Fall or Spring - Year 4 or 5)	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
Term Credit Hours:		4
Spring		
HGG 601	Seminar/Journal Club	1
HGG 689	Human Genetics and Genomics Teaching Practicum (Can be taken in Fall or Spring - Year 4 or 5)	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
Term Credit Hours:		4
Summer		
HGG 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		1
Year Five		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
Term Credit Hours:		3
Spring		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
HGG 850	Research in Residence (Final Semester)	1
Term Credit Hours:		4
Term Credit Hours:		62-63

Plan of Study - Computational Track

Year One		Credit Hours
Fall		
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		13

Spring		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
EPH 601	Medical Biostatistics I	3
HGG 630	Variation and Disease (HGG program elective - Spring I)	2
HGG 640	Family Studies and Genetic Analysis (HGG program elective - Spring II)	2
Term Credit Hours:		10-11
Summer		
PIB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Year Two		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 631	Genes in Populations	3
HGG 830	Doctoral Dissertation- Pre Candidacy.	1
EPH 621	Fundamentals of Epidemiology (Computational Track Requirement)	3
Term Credit Hours:		8
Spring		
HGG 601	Seminar/Journal Club	1
HGG 621	Fundamentals Of Genetic Epidemiology (Computational Track Requirement)	3
HGG 660	Bioinformatics Theory and Practice	3
HGG 830	Doctoral Dissertation- Pre Candidacy.	1
EPH 602	Biostatistics II (Computational Track Requirement)	3
Term Credit Hours:		11
Summer		
HGG 830	Doctoral Dissertation- Pre Candidacy.	1
Term Credit Hours:		1
Year Three		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 680	Genome Ethics and Public Policy	3
HGG 830	Doctoral Dissertation- Pre Candidacy.	1
Term Credit Hours:		5
Spring		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		2
Summer		

HGG 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		1
Year Four		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 681	Human Genetics Clinical Rotation (Can be taken in Fall or Spring - Year 4 or 5)	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
Term Credit Hours:		4
Spring		
HGG 601	Seminar/Journal Club	1
HGG 689	Human Genetics and Genomics Teaching Practicum (Can be taken in Fall or Spring - Year 4 or 5)	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
Term Credit Hours:		4
Summer		
HGG 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		1
Year Five		
Fall		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
Term Credit Hours:		3
Spring		
HGG 601	Seminar/Journal Club	1
HGG 840	Doctoral Dissertation - Post Candidacy	2
HGG 850	Research in Residence (Final Semester)	1
Term Credit Hours:		4
Total Credit Hours:		68-69

MD/PHD Program

<http://mdphd.med.miami.edu/>

Overview

The Miller School of Medicine MD / PhD Program provides a unique training environment for exceptionally qualified individuals who want to pursue careers in academic medicine and research. The curriculum comprises the school's outstanding preclinical and clinical training, rigorous PhD graduate training and several elements, including professional development workshops and other activities, specifically designed to enhance the MD / PhD training experience. There has been a long tradition of research excellence and physician scientist training at the Miller School of Medicine. With the opportunities for basic and

clinical research here, Miami's diverse population and access to Latin America and the Caribbean, the backdrop of a vibrant city, make the Miller School a unique place for MD / PhD training.

PhD Programs

The following doctoral programs, described elsewhere in this bulletin, participate in the MD / PhD Program. The MD / PhD Program office can provide you with further information about these programs and the research interests of their faculty.

- Biochemistry & Molecular Biology (<http://biomed.med.miami.edu/graduate-programs/biochemistry-and-molecular-biology>)
- Biostatistics (<http://www.biostat.med.miami.edu/academics/phd-in-biostatistics>)
- Cancer Biology (<http://biomed.med.miami.edu/graduate-programs/cancer-biology>)
- Epidemiology (<http://publichealth.med.miami.edu/graduate/academic-programs/phd-in-epidemiology>)
- Human Genetics & Genomics (<http://biomed.med.miami.edu/graduate-programs/human-genetics-and-genomics>)
- Microbiology and Immunology (<http://biomed.med.miami.edu/graduate-programs/microbiology-and-immunology>)
- Molecular Cell & Developmental Biology (<http://biomed.med.miami.edu/graduate-programs/molecular-cell-and-developmental-biology>)
- Molecular and Cellular Pharmacology (<http://biomed.med.miami.edu/graduate-programs/molecular-and-cellular-pharmacology>)
- Neuroscience (<http://biomed.med.miami.edu/graduate-programs/neuroscience>)
- Physiology and Biophysics (<http://biomed.med.miami.edu/graduate-programs/physiology-and-biophysics>)
- Prevention Science & Community Health (<http://publichealth.med.miami.edu/graduate/academic-programs/phd-in-prevention-science>)

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www.mdphd.med.miami.edu (<http://www.biomed.miami.edu/mdphd>)

Admission

Admission Requirements

Admission to the MD/PhD Program is highly competitive, and interested applicants are advised to apply early in the fall. AMCAS applications must be received by the Medical Admissions Office no later than December 15. Applicants must complete the minimum course requirements (<http://admissions.med.miami.edu/md-programs/general-md/prerequisites>) of the MD Program to be considered for the MD / PhD Program. The

Graduate Record Examination (GRE) is not required for matriculation into the MD/PhD Program.

Competitive applicants will have the following:

- Completed AMCAS & Secondary Application for MD / PhD
- Excellent academic record
- Strong MCAT scores
- Significant research experience
- Co-authorship on abstracts and / or peer-reviewed papers is desirable
- Strong letters of recommendation from research mentors and other scientists who can specifically address the applicant's potential as a physician scientist
- Motivation to pursue a career as a physician scientist

Applications from under-represented groups, including minorities, individuals with disabilities and women, are encouraged.

All MD / PhD applicants are reviewed by both the MD Program Admissions Committee and the MD / PhD Program Admissions Committee. These evaluations proceed independently, and a student will still be considered for the MD program even after an unfavorable review by the MD / PhD Program. A successful applicant is granted admission to both the MD Program and the MD / PhD Program.

Full application instructions can be found at: mdphd.med.miami.edu/Admissions (<http://mdphd.med.miami.edu/Admissions>)

Program Plan

Program Sequence

The MD / PhD Program provides an integrated experience with exposure to clinical and research training throughout the medical and graduate phases of the program. Students complete the first two years of medical school, which are followed by their PhD training and then the final two years of clinical clerkships. Students are advised to begin the program in June to enable an early start on their research rotations as the MD program courses begin in mid-August. The summers before the second and third year are usually spent in research rotations (3 are required), but some students choose to continue their research rotations during the academic year of the first two years of medical school. It is recommended that students select a graduate program by February of their second year in the program and identify a research mentor no later than the beginning of the third year when they start graduate training. The third year is spent both in class to fulfill the graduate course requirements and in the mentor's research group. Students should plan to take their PhD qualifying exam by the end of the third year. The following two or more years are spent carrying out original research for their dissertation. Students also participate in a clinical skills tutorial during graduate training to expand their exposure to the clinical setting. All PhD requirements must be completed before entry into the third year of medical school but most students continue research upon return to clinical clerkships.

Combined degree programs are long and challenging. To relieve pressure produced by the demands of the medical and graduate curricula, the University of Miami Miller, School of Medicine, MD / PhD Program provides a stimulating and supportive environment in which all combined degree students have frequent opportunities to meet and exchange ideas and for professional development. This includes a first and second year

student journal club, all program clinical case discussions, opportunities to meet other physician scientists, student organized workshops and an annual MD / PhD student research symposium.

Microbiology and Immunology

<http://biomed.med.miami.edu>

Overview

Microbiology and Immunology is a multidisciplinary program encompassing the areas of cellular and molecular immunology, virology, microbial genetics, and pathogenic bacteriology.

The goals of the department's graduate program are to provide each student with the opportunity to acquire the theoretical background and conceptual framework with the technical research skills necessary to attain a PhD. During the first year of study, a broad educational base in all disciplines together with laboratory rotations introduce students to the diverse array of research topics. Students then choose one area of concentration for their research. The varied interests of the faculty provide numerous opportunities for student participation and a broad choice in dissertation research.

Active research in immunology includes the areas of cytotoxicity, programmed cell death, cytokine receptor signaling, clinical and experimental bone marrow transplantation, stem cell biology, gene therapy for cancer treatment, antigen recognition, cell differentiation and communication, aging of the immune system, interleukins, genetic control of immunoglobulin production, gene activation, and evolution of the immune response. Research in other areas includes molecular biology of virus-host interaction in both animal and human systems, control and regulation of bacterial pathogenesis, selective tumor chemotherapy and radiation therapy, and therapy of parasitic infections.

Goals

The goals of the MIC Graduate Program include training and acquisition of:

- A broad scientific reasoning ability and knowledge base in Microbiology and Immunology
- Technical skills required for experiments in the area of specialization
- Presentation skills required for teaching, scientific talks, manuscripts, and grants
- A preparation for a scientific career in academia, industry, or teaching within 5 ½ years

Contact Information

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Miami, FL 33136
305 243 2478

Admission

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: <http://biomed.med.miami.edu/apply>

Program Plan

Program Plan

First Year		
Fall		Credit Hours
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		13
Spring		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1-2
PIB 783	Professional Development: Skills for Success II	1
EPH 601	Medical Biostatistics I	3
MIC 625	Mechanisms of Microbial Virulence	2
MIC 728	Principles of Immunology	3
Term Credit Hours:		11-12
Summer		

PIB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Second Year		
Fall		
MIC 775	Advanced Microbiology and Immunology	3
MIC 830	Doctoral Dissertation	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		6
Spring		
MIC 830	Doctoral Dissertation	3
Teaching Assistant		
Qualifying Examination		
Term Credit Hours:		3
Summer		
MIC 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		1
Third Year		
Fall		
MIC 755	Infectious Agents and the Immune System	3
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		6
Spring		
MIC 751	Advanced Molecular Immunology	3
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		6
Summer		
MIC 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		1
Fourth Year		
Fall		
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		3
Spring		
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		3

Summer		
MIC 840	Doctoral Dissertation - Post Candidacy	1
Term Credit Hours:		1
Fifth Year		
Fall		
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		3
Spring		
MIC 840	Doctoral Dissertation - Post Candidacy	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		3
Summer		
MIC 850	Research in Residence	1
Term Credit Hours:		1
Total Credit Hours:		62-63

Molecular Cell and Developmental Biology

<http://biomed.med.miami.edu/graduate-programs/molecular-cell-and-developmental-biology>

Overview

The graduate program in Molecular Cell and Developmental Biology offers graduate training towards the PhD degree in the fields of molecular cell biology, cell biology, developmental biology and cancer biology. In order to provide a wide range of current research opportunities, this program is interdisciplinary, comprised primarily of faculty from the department of Cell Biology and includes additional faculty from several other Departments and Centers at the Miller School of Medicine. These include: the Departments of Microbiology & Immunology, Molecular & Cellular Pharmacology, Medicine, Ophthalmology, Urology, Surgery, Neurosurgery and Neurology, the Sylvester Comprehensive Cancer Center, and the Miami Project to Cure Paralysis.

Students have the opportunity to do research in the many areas of modern cell, molecular and developmental biology. Research topics including the cytoskeleton, cell surface molecular biology, stem cells, lens, corneal and retinal biology, protein processing and sorting, signal transduction, airway biology, regulation of gene expression in development, podocyte biology, cancer biology, neuromuscular development, malignant transformation, growth factors, epithelial cell biology, organogenesis and tissue repair, pattern formation in early development, RNA localization, mitochondrial molecular biology and cancer therapeutics.

The primary objective of this interdisciplinary graduate program is to prepare students for careers as independent, PhD level researchers and educators, in both academic institutions and in the biotechnology industry and other venues.

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Admission
Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: <http://biomed.med.miami.edu/apply>

Program Plan
Plan of Study

The program's Graduate Studies Committee assists each entering student in tailoring a program to match his/her interests. First year students take courses in a core curriculum taught by faculty from the medical basic science departments. Courses are taught not only by formal lectures, but also as seminars and informal discussions. The curriculum is designed to provide broad knowledge in the various aspects of modern cell biology, developmental biology, molecular biology and biochemistry in addition to intensive training in certain specialized areas

of research according to the student's interests. In the remaining years of student, nearly all of the student's time is spent on original laboratory research. Students are usually admitted in the Fall semester.

Minimum credit requirements for the PhD degree are set by the University at 36 course credits (including specific required courses) and 24 credit hours of research (for a total of 60 credits). The course credits must be earned in graduate level (600 and above) courses. Students may elect to take any of the graduate courses offered by the MDB program, in addition to the mandatory courses, or choose from a large variety of advanced courses offered by other basic science programs at the University of Miami Miller School of Medicine.

Mandatory courses for the program include Biostatistics (EPH 601), Advanced Cell Biology: Approaches to Molecular Medicine (MDB 751), Current Topics in Mammalian Development (MDB 752), Histology (MDB 753), and *Tumor Biology (MDB 765). The latter may be replaced by any graduate level course in human disease or neuronal cell biology. **These courses are electives for MD/PhD students.*

Throughout the program the students are expected to attend department seminars (Tuesdays at noon), journal club (once a month, Wednesday at noon), and student presentations (once a month, Wednesday at noon).

The student should be working in the laboratory where he/she intends to do his/her thesis research by the summer, first year. At the end of the Fall semester of the second year, students are required to take the Qualifying Exam (QE). The goals of the QE are (1) to assess the scientific proficiency of the student, especially his/her ability to design experiments and to write a competitive grant application; and (2) to aid the student and mentor in the process of obtaining extramural funds to support the student's stipend.

The thesis proposal is expected to be passed during the second year, Summer semester. It is important to note that in the MDB program this is not the Qualifying Exam. Rather, it is a collegial meeting with the thesis committee where the student discusses his/her preliminary data and plans for the thesis. Students normally meet with the committee for progress meetings every 6-9 months.

The thesis is defended in front of the entire program and also in a meeting with the committee. The average time-to-completion is 5.5 years.

Please note that the following is a sample curriculum plan. Current students must discuss their plan with their program coordinator to make adjustments as needed.

Year One		Credit Hours
Fall		
PIB 700	Journal Club	1
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research (1 credit per lab rotation)	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		12
Spring		

EPH 601	Medical Biostatistics I	3
PIB 700	Journal Club	1
PIB 731	Laboratory Research (1 credit per lab rotation)	1
PIB 783	Professional Development: Skills for Success II	1
MDB 752	Current Topics in Mammalian Development (Spring A)	3
MDB 751	Advanced Cell Biology Approaches to Molecular Medicine (Spring B)	3
MDB 753	Histology (Spring B)	1
Term Credit Hours:		13
Summer		
PIB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Year Two		
Fall		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 765	Tumor Biology	3
MDB 830	Doctoral Dissertation	3
Term Credit Hours:		8
Spring		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 830	Doctoral Dissertation	3
Students may elect to take an additional basic science graduate course.		
Term Credit Hours:		5
Summer		
MDB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Year Three		
Fall		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 830	Doctoral Dissertation	3
Students may elect to take an additional basic science graduate course.		
Term Credit Hours:		5
Spring		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	3
Students may elect to take an additional basic science graduate course.		
Term Credit Hours:		5
Summer		

MDB 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Four		
Fall		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		5
Spring		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		5
Summer		
MDB 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Five		
Fall		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		5
Spring		
MDB 701	Seminar	1
MDB 710	Readings in Cell Biology	1
MDB 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		5
Summer		
MDB 850	Research in Residence	1
Term Credit Hours:		1
Total Credit Hours:		73

Molecular and Cellular Pharmacology

<http://biomed.med.miami.edu/graduate-programs/molecular-and-cellular-pharmacology>

Overview

Scientists in the Molecular and Cellular Pharmacology Program make use of the knowledge and techniques of biology, chemistry and physics to study the action of drugs, hormones and neurotransmitters on living systems and, more generally, the mechanisms through which signals are recognized and transduced by cells.

The goals of the research in this department are:

- to identify new targets and pathways for development of pharmaceuticals

- to use drugs as tools in the study of basic biological processes
- to develop and study agents that may be beneficial in the treatment of disease

A variety of technical approaches is used, including genetics, molecular biology, protein biochemistry and biophysics, fluorescence microscopy, immunology, computer modeling, cell culture, imaging, gene expression profiling, proteomics and whole animal studies including transgenic and genetically engineered mouse models. The faculty are a mixture of senior scientists who are recognized leaders in their respective fields and more junior faculty with recent training in state-of-the-art approaches to important biomedical problems.

Research interests of the faculty include:

Cardiovascular Pharmacology / Signaling / Muscle Contraction

Investigators in this area study transcriptional regulation of gene expression and intracellular signals associated with the growth and function of the heart. They study ion channels, membrane events, blood vessels, etc. Studies of cardiac muscle contraction and the effect of disease causing mutations in the contractile apparatus of the heart on heart performance and morphology are also being pursued.

Current research areas include structure/function relationships in the proteins of the thin (troponin complex) and thick (myosin) filaments in health and disease, the role of specific ion channels in ventricular hypertrophy and its alleviation, excitation-contraction coupling in skeletal and cardiac muscle, proto-oncogene regulation of cardiac-specific genes, signaling in cardiac myocytes including the characterization of multimolecular enzyme complexes, apoptosis during myocardial ischemia, the role of microRNAs in cholesterol biosynthesis and smooth muscle cell plasticity, and the potential of stem cell based therapy for cardiac disease. A new study has been launched to investigate the effect of bone marrow stem cells in cardiac repair.

Neuropharmacology / Neuroscience

Investigators in this area study the development, function, pharmacology, and diseases of the nervous system.

Current research interests include neuronal signaling through G-proteins, Ca²⁺, and cyclic nucleotides, growth and guidance of axons during development and regeneration after injury, molecular control of dendrite development, control of physiological functions by the nervous system; molecular mechanisms and cell biology of olfaction and phototransduction; the genetic and cellular basis of neural development and degeneration using the fruit fly *Drosophila melanogaster* as a model system.

Cell Biology / Cancer

Investigators in this area study cell cycle control and cancer, gene expression, mechanisms of hormone action, signal transduction, cytoskeleton, membrane transport, stem cells, and novel therapeutics.

Current research interests include steroid hormone regulation of gene expression and cell proliferation; cell cycle checkpoints during DNA replication; protein trafficking including endocytosis and exocytosis; control of cell polarity and morphogenesis; cilia in pulmonary function; molecular basis of human lymphoma; endocrine-related cancers including prostate and breast; stem cell maintenance and therapy; stem

cell differentiation in hematopoiesis and physiochemical and metabolic aspects of drug design.

Model Systems

Many investigators are using model organisms for their studies. These include transgenic and knock-out/knock-in mouse models *Xenopus*, *Drosophila* and yeast models. Yeast and *Drosophila* are important models because of the powerful molecular and genetic approaches and tools available. *Xenopus* provides a unique system for studying development and for protein expression and analysis. These systems are being used to study fundamental processes such as apoptosis, cell cycle, signal transduction, membrane dynamics, cytoskeleton, cell polarity, olfaction, development of the cardiovascular system, neurogenesis and neuronal degeneration. All of these processes are conserved in humans, so these systems serve as important models of human diseases. Investigators are also using these systems to screen for therapeutic agents and to identify targets of toxins and other natural, synthetic or pharmacologically relevant compounds.

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Admission

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)

- Statement of Purpose
- Resume / CV

Full application instructions can be found at: <http://biomed.med.miami.edu/apply>

Program Plan

Plan of Study

In the first year, students receive a solid foundation in biomedical science. The core coursework ranges from molecules to cells to systems of human physiology. Lectures are balanced by breakout sessions, in which faculty members discuss the primary literature with students in small groups. The core curriculum also offers critical learning opportunities in biostatistics and in using genomic and other databases, as well as education in ethics. Students also meet several times in small groups with experienced faculty mentors to discuss important issues of student development. In subsequent semesters, students take core courses encompassing mechanisms of drug action, neuropharmacology, cardiovascular pharmacology and intracellular signal transduction. A variety of elective courses are offered by this program and other basic science programs at the Miller School of Medicine.

Students begin their dissertation research at the end of the first year and complete their course requirements in the second year. In subsequent years, students devote their efforts to original thesis research.

Please note that the following is a sample curriculum plan. Current students must discuss their plan with their program coordinator to make adjustments as needed.

Year One		
		Credit Hours
Fall		
PIB 700	Journal Club	1
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research (1 credit per lab rotation)	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		12
Spring		
EPH 601	Medical Biostatistics I	3
PIB 700	Journal Club	1
PIB 731	Laboratory Research (1 credit per rotation)	1
PIB 783	Professional Development: Skills for Success II	1
MCP 752	Cell Signaling I: Intracellular Signal Transduction. (Spring A)	3
MCP 704	Mechanisms of Drug Action (Spring B)	3
MCP 753	Cell Signaling 2: Cell-to-Cell Communication and Development. (Spring B)	3
Term Credit Hours:		15

Summer		
PIB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Year Two		
Fall		
MCP 701	Seminar	2
MCP 732 or 768	Cardiovascular Pharmacology or Neuropharmacology	3
MCP 830	Dissertation Research-Pre-Candidacy	3
Term Credit Hours:		8
Spring		
MCP 701	Seminar	2
MCP 830	Dissertation Research-Pre-Candidacy	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		5
Summer		
MCP 830	Dissertation Research-Pre-Candidacy	1
Term Credit Hours:		1
Year Three		
Fall		
MCP 701	Seminar	2
MCP 732 or 768	Cardiovascular Pharmacology or Neuropharmacology	3
MCP 830	Dissertation Research-Pre-Candidacy	3
Term Credit Hours:		8
Spring		
MCP 701	Seminar	2
MCP 840	Doctoral Dissertation- Post Candidacy	3
Students may elect to take additional basic science courses.		
Term Credit Hours:		5
Summer		
MCP 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Four		
Fall		
MCP 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Spring		
MCP 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Summer		

MCP 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Five		
Fall		
MCP 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Spring		
MCP 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Summer		
MCP 850	Research in Residence	1
Term Credit Hours:		1
Total Credit Hours:		70

Neuroscience

<http://biomed.med.miami.edu/graduate-programs/neuroscience>

Overview

The Neuroscience Program, established in 1992, is an interdisciplinary / interdepartmental PhD program designed to guide trainees through the process of acquiring the research skills and the intellectual rigor needed to become independent professional neuroscientists. The program achieves these goals through coursework, seminars and journal clubs, dissertation research committee guidance, and outstanding faculty mentorship. The program also provides two annual forums for students to showcase their research: Neuroscience Research Day to celebrate Neuroscience in South Florida, and a 2-day retreat in Marco Island with students, faculty and other researchers.

More than 80 participating faculty are located in several departments and schools, including Cell Biology and Anatomy, Molecular and Cellular Pharmacology, Physiology and Biophysics, Biology, Bioengineering, Psychology, The John P. Hussman Institute for Human Genomics, and the Rosenstiel School of Marine and Atmospheric Sciences, as well as several clinical departments such as Neurological Surgery, Neurology, Ophthalmology, Pathology, Physical Therapy, and Psychiatry.

Neuroscience faculty pursue a wide variety of research interests, including cellular and molecular mechanisms involved in signal transduction, gene expression in electrically excitable cells, synapse formation, neuronal growth and survival, integrative neuroscience, neuroimmunology, stroke, neuronal regeneration, autonomic control, brain metabolism and cerebral blood flow, degenerative changes within specific neural pathways in Parkinson's and Alzheimer's diseases, and genetic analysis of neurological disorders.

Contact Information

Nirupa Chaudhari, PhD (NChaudhari@miami.edu) Graduate Program Director
 Silvia Dominguez (neuroscience@miami.edu) Senior Program Coordinator
 Office of Graduate and Postdoctoral Studies
 Rosenstiel Medical Sciences Building, Suite 1128
 1600 NW 10th Avenue, M857

Miami, FL 33136

neuroscience@miami.edu
 305 243 3368

Admission

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores
- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: <http://biomed.med.miami.edu/apply>

Program Plan

Course of Study

Graduate training is the major goal of the program, with emphasis on cellular, molecular, and genetic approaches to Neuroscience. A single core curriculum provides the didactic scaffold of the program. This curriculum consists of courses in Developmental Neuroscience Membrane Biophysics, Introductory Neuroscience, Neural Systems, and Neuroanatomy. The core courses are supplemented with a variety of Special Topics Short Courses. Students also attend research seminars and a scientific journal club. The Neuroscience Steering Committee guides the students, overseeing their coursework, until they have passed their qualifying exams. From then on, their progress is supervised by individually tailored dissertation committees.

To be eligible to receive the PhD, students are required to complete a minimum of 60 (sixty) credit hours, including at least 36 required graduate course credits and 24 credits of dissertation research.

Typically, at least 18 of the 36 credits for coursework will be in NEU courses.

Required Courses in Neuroscience

NEU 600	Seminar in Neuroscience	1
NEU 631	Special Topics In Neuroscience	1-5
NEU 661	Molecular And Cellular Neuroscience	2
NEU 662	Systems Neuroscience	4
NEU 663	Developmental Neuroscience.	2
NEU 697	Neuroanatomy	3
PHS 741	Principles of Membrane Physiology and Biophysics I	2
PHS 742	Principles of Membrane Physiology and Biophysics II	2

Program Plan

Please note that the following is only a sample curriculum plan. Current students must discuss their plan with their program director to make adjustments as needed. It is the student's responsibility to contact the program to verify the information.

Year One		
Fall		Credit Hours
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		13
Spring		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1
PIB 783	Professional Development: Skills for Success II	1
EPH 601	Medical Biostatistics I	3
PHS 741	Principles of Membrane Physiology and Biophysics I	2
PHS 742	Principles of Membrane Physiology and Biophysics II	2
NEU 663	Developmental Neuroscience.	2
NEU 661	Molecular And Cellular Neuroscience	2
Term Credit Hours:		14
Summer		
NEU 830	Doctoral Dissertation	1
Term Credit Hours:		1
Year Two		
Fall		
NEU 600	Seminar in Neuroscience	1
NEU 697	Neuroanatomy	3
NEU 662	Systems Neuroscience	4

NEU 830	Doctoral Dissertation	3
Term Credit Hours:		11
Spring		
NEU 600	Seminar in Neuroscience	1
NEU 830	Doctoral Dissertation	3
Term Credit Hours:		4
Summer		
NEU 830	Doctoral Dissertation	3
Term Credit Hours:		3
Year Three		
Fall		
NEU 600	Seminar in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		4
Spring		
NEU 600	Seminar in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		4
Summer		
NEU 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Year Four		
Fall		
NEU 600	Seminar in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		4
Spring		
NEU 600	Seminar in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		4
Summer		
NEU 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Year Five		
Fall		
NEU 600	Seminar in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		4
Spring		
NEU 600	Seminar in Neuroscience	1
NEU 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		4
Summer		

NEU 850	Research in Residence	1
Term Credit Hours:		1
Total Credit Hours:		77

Physical Therapy

<http://www.pt.med.miami.edu>

Dept. Code: PTS

The Department of Physical Therapy is committed to providing quality educational experiences that enable its graduates to effectively carry out the expanding responsibilities of physical therapists as autonomous health care providers practicing in preventive, evaluative, maintenance, acute care, rehabilitation, outpatient settings, and in educational and research environments.

The individual and collective efforts of the members of the Physical Therapy faculty are directed toward attaining specific goals and objectives as expressed in the philosophic statement of the American Physical Therapy Association.

The *Mission of the Department of Physical Therapy* (revised in December, 2000; re-affirmed in 2012) in accordance with the Mission of the Miller School of Medicine is to provide excellence in physical therapist education, to expand evidence-based practice of physical therapy through research, to provide high quality care to all who need it, and to be a community partner.

Admission Requirements

Doctor of Physical Therapy (entry level DPT)

Applicants should have a baccalaureate degree in a related field and 3.0, or "B" average or better in the following courses:

English	(5 quarter hours)	3
Composition/ Writing intensive course		
Introduction to Statistics	(5 quarter hours)	3
Psychology	(5 quarter hours)	3
General Biology	(5 quarter hours)	3
General Chemistry I and II each with Lab	(12 quarter hours)	8
General Physics I and II each with Lab	(12 quarter hours)	8
Human Anatomy	(5 quarter hours)	3
Select one of the following:		3-6
Human Physiology	(5 quarter hours)	

Combined (9 quarter hours) Anatomy and Physiology I & II	
Total Credit Hours	34-37

Application Procedure

We are accepting applications through Physical Therapist Centralized Application Service (PTCAS). Please visit www.ptcas.org (<http://www.ptcas.org>) to apply.

The next application cycle will open on July 1. The application deadline is October 15; we encourage you to apply early. Classes begin in May of each year. Application requirements consist of the following:

- Submission of all application materials to PTCAS. Completion of prerequisites or plan to complete by time of matriculation, with a minimum GPA of 3.0 on a 4.0 scale.
- Demonstration of knowledge concerning the physical therapy profession by submitting:
 - A minimum of 100 hours of first-hand observation and/or work experience related to the practice of physical therapy.
 - This experience must be substantiated in writing by a registered/licensed physical therapist. The name and email of the physical therapist(s) is required for verification.
- Submission of three to four (3-4) letters of recommendation from people who can address both the applicant's moral character and potential as a physical therapist.
 - At least one letter must be written by a registered/licensed physical therapist, and one or more from faculty.
- An on-site interview is required and will be offered to those applicants who have met the admission criteria.
- Graduate Record Exam (GRE). Applicants who took the GRE before July 31, 2011 must score a minimum of 1000 on the verbal and quantitative sections combined. As of August 2011 the GRE exam and its scoring scale have changed significantly. Please visit the ETS website at: www.ets.org/s/gre/pdf/concordance_information.pdf (http://www.ets.org/s/gre/pdf/concordance_information.pdf) for the official ETS Concordance Table. Applicants must score a minimum of 147 on the quantitative section and 149 on the verbal section. A minimum score of 3.0 on the analytical section is also required.
- International students are to complete the PTCAS application and submit official transcripts to the DPT program instead of PTCAS. Transcripts that are not in English must include an official translation. International applicants must have all transcripts evaluated by the University of Miami's Office of International Admissions before they can be considered for graduate study. Any transcript not in English must be submitted with an official translation. International applicants must meet ALL the necessary requirements to qualify for a student visa.

For more information contact:

Admissions Office
Department of Physical Therapy
5915 Ponce de Leon Blvd., 5th Floor
Coral Gables, FL 33146
Phone 305-284-4535

Email: physicaltherapy@miami.edu

Website: www.pt.med.miami.edu (<http://www.pt.med.miami.edu>)

Doctor of Philosophy in Physical Therapy (PhD)

Application Requirements

Applicants to the Physical Therapy PhD Studies Program must have a clinical degree in physical therapy from an accredited physical therapy program and be eligible for licensure to practice physical therapy in the United States. Students enrolled in the PhD in Physical Therapy program at the University of Miami work closely with a faculty mentor from their first days in the program. As a first step in the application process, the applicant must identify an area of interest and contact a faculty mentor involved in that area. Students are admitted to the program upon endorsement of a faculty mentor and completion of all admission requirements, with final selection made by the PhD Studies Committee. Stipend and tuition support is potentially available for qualified applicants.

The applicant must meet all the general admissions requirements of the University of Miami Graduate School. Additionally, stipulations include:

- Direct entry into the PhD program is dependent upon having any of the degrees below:
 - An entry-level Master's Degree in Physical Therapy
 - An advanced Master's Degree with a Bachelor's Degree in Physical Therapy
 - A Bachelor's Degree in Physical Therapy.
- An applicant with a Bachelor's Degree in Physical Therapy, though able to commence course work in the PhD Program, will be required to complete additional credit hours before final admission to the PhD Program.
- Official Transcripts of all college work.
- Three completed recommendation forms with at least one form completed by a physical therapist.
- A letter indicating career goals and objectives.
- Licensure or eligibility for licensure, as a physical therapist in the State of Florida (must be licensed within 1 year of admission).
- GRE scores current within the past 5 years (see minimum requirements below)

Applicants who took the GRE before July 31, 2011 must score a minimum of 1000 on the verbal and quantitative sections combined. As of August 2011 the GRE exam and its scoring scale have changed significantly. Please visit the ETS website at: www.ets.org/s/gre/pdf/concordance_information.pdf (http://www.ets.org/s/gre/pdf/concordance_information.pdf) for the official ETS Concordance Table. Graduate Admissions will be using this concordance table when reviewing exam scores. Applicants must score a minimum of 147 on the quantitative section and 149 on the verbal section. A minimum score of 4.0 on the analytical section is also required. International applicants must submit a complete application and have all transcripts evaluated by the University of Miami's Office of International Admissions before they can be considered for graduate study. Any transcript not in English must be submitted with an official translation.

The research areas of the faculty are diverse, reflecting the clinical and scientific emphasizes areas of the faculty. Please refer to the Faculty Section for specifics.

For more information on the PhD degree contact:

Kathryn E. Roach, PhD, PT, Graduate Program Director
 Department of Physical Therapy
 5915 Ponce de Leon Blvd., 5th Floor
 Coral Gables, FL 33146
 phone: 305-284-4535
 email: keroach@miami.edu

Degree Programs

Doctor of Physical Therapy (entry level DPT)

The Department offers the clinical Doctor of Physical Therapy (DPT). The DPT program recognizes the importance of in-depth basic and applied science knowledge and the humanities. As such, the curriculum is carefully sequenced to allow students to develop skills in both classroom and clinical settings.

Faculty also understand the importance of presenting problem-solving skills in conjunction with fundamental physical therapy concepts so that students will develop the professional attitudes and insights required for sustained and continued growth throughout their careers.

The entry-level doctoral program (DPT) is offered under the auspices of the Department of Physical Therapy, University of Miami Miller School of Medicine.

Doctor of Philosophy in Physical Therapy (PhD)

The University of Miami Doctor of Philosophy in Physical Therapy program develops physical therapist students for leadership positions in academic and research settings. Along with guiding students in the development of requisite knowledge and skills, the program promotes professional socialization into the role of academic faculty. We believe preparation to teach and undertake research in a physical therapy curriculum at the university level requires excellence in three dimensions:

1. Expertise in a specified content area;
2. Advanced knowledge and skill in research methods, design, and implementation of analysis and communication of results; and
3. Proficiency in instructional design, teaching methods, and evaluation.

The successful integration of these three dimensions, each complex in its own right, provides the means for the student to develop expertise in testing, analyzing, researching, and teaching about disorders that interfere with function. Unifying these three core areas is the process of socialization to the role of a faculty member, including an awareness of academic responsibilities and sensitivity to the needs of the adult learner.

In keeping with this philosophy, students develop breadth of knowledge through completion of coursework from three basic core areas:

- Concentration Core,
- Research Core, and
- Education Core.

They develop depth by completing elective courses with the intent to build expertise in their respective areas of concentration. The successful graduate of this program will have the requisite knowledge and skills to integrate research findings and scientific theory with clinical observations. On this basis, the graduate will be prepared

to perform original research aimed at developing new knowledge to enhance the scientific basis of clinical practice and theoretical principles that will advance the profession of physical therapy. The program offers opportunities for the student to gain skill in communicating theories, concepts and research findings and to experience the roles and responsibilities of an academic faculty member. Students complete a dissertation project in which they develop and conduct a unique and significant research investigation with the guidance of a Physical Therapy faculty member as research advisor.

For more information contact:

Admissions Office
 Department of Physical Therapy
 5915 Ponce de Leon Blvd., 5th Floor
 Coral Gables, FL 33146
 Phone 305-284-4535
 Email: physicaltherapy@miami.edu
 Website: www.pt.med.miami.edu (<http://www.pt.med.miami.edu>)

Doctoral

Doctoral Programs in Physical Therapy

- D.P.T. Doctor of Physical Therapy (Entry Level) (p. 543)
- Ph.D. in Physical Therapy (p. 543)

D.P.T. Doctor of Physical Therapy (Entry Level)

To receive the Doctor of Physical Therapy degree, the candidate must:

1. Complete all coursework (105 credit hours) as required with an overall GPA of 3.0 or better.
2. Complete at least 3 credit hours of Elective coursework, in addition to the 105 credit hours.
3. Successfully complete the clinical internships (I-IV) required.

The University of Miami, Department of Physical Therapy has affiliations with 350 clinical sites locally and throughout the country.

Distant internships may incur additional expenses for the student.

Ph.D. in Physical Therapy

The curriculum for all three core content areas (Musculoskeletal, Motor Control, and Outcomes Research) consist of:

- 19 - 21 credit hours in a core concentration area (i.e., Motor Control, Outcomes Research, or Musculoskeletal Prosthetics and Amputee Rehabilitation)
- 12 credit hours in core education courses,
- 12 credit hours in core research courses,
- 6 - 21 credit hours in electives in area of concentration and
- 12 credit hours of Doctoral dissertation for a total of 60-75 credit hours.
- Credit hours may vary depending on educational background of applicants.

Physiology and Biophysics

biomed.med.miami.edu

Overview

Physiology and Biophysics is focused on how human organism function by applying principles of physics to the underlying molecules and cells. The training and research emphasis in the Graduate Program in Physiology and Biophysics at the University of Miami School of Medicine is directed at determining the molecular mechanisms underlying physiological functions, such as how does the heartbeat, how does the brain work, and how do we see, smell, and taste, using biophysical techniques and analyses. More specifically, research facilities and guidance for graduate work are available in developmental neurobiology, sensory receptor mechanisms, axonal electrophysiology, ionic mechanism of the nerve impulse, electrophysiological and molecular aspects of synaptic and neuromuscular transmission, mechanisms of ion channel gating, selectivity and conductance, metabolic aspects of nervous function, molecular neuroscience, neuroimmunology, protein structure-function studies, molecular recognition, ligand-receptor interactions, axonal growth, neurotrophic factors, cytokines, gene targeting, neuronal apoptosis, nerve regeneration, molecular adhesion, and regulation of muscle contraction.

The Graduate Program in Physiology and Biophysics trains its students to use and develop state-of-the-art biophysical techniques that address fundamental questions related to molecular and cellular physiology and biophysics and developmental and molecular neuroscience. In addition, the students receive training in related biological disciplines and also in systemic physiology in order to obtain a broad viewpoint. This training prepares the students for future careers in research and teaching in academic institutions and also for careers in industry.

Contact Information

H. Peter Larsson, PhD, (plarsson@med.miami.edu) Graduate Program Director

Diane Dames, (ddames@med.miami.edu) Senior Program Coordinator

Office of Graduate and Postdoctoral Studies
 Rosenstiel Medical Sciences Building, Suite 1128-A
 1600 NW 10th Avenue, M857
 Miami, FL 33136

305 243 6821
physiology@miami.edu

Admission

Admission Requirements

Applicants to biomedical programs should have a bachelor degree in a biological or related discipline (e.g., psychology, chemistry, engineering, physics). Although there are no prerequisite requirements, courses in general biology, cell/molecular biology, calculus, general physics, organic chemistry, physical chemistry, and biochemistry are encouraged. Applications are generally accepted from September to December for fall entry only. Select applicants will be offered an interview.

COMPETITIVE CANDIDATES WILL HAVE THE FOLLOWING:

- Excellent academic record
- Competitive GRE exam scores

- Research experience in a laboratory setting
- Publications of abstract and / or papers
- Co-authorship in a peer-reviewed journal is recommended
- Strong letters of recommendation from research scientists who know the candidate well
- Motivation to pursue state-of-the-art biomedical research

APPLICANTS MUST SUBMIT THE FOLLOWING:

- Online Application
- Application Fee
- Official Academic Transcripts
- GRE General Test
- English Proficiency Exam (non-native speakers)
- Statement of Purpose
- Resume / CV

Full application instructions can be found at: <http://biomed.med.miami.edu/apply>

Program Plan

Program Plan

The Department of Physiology and Biophysics' PhD program trains highly qualified students for successful careers in research, teaching and industry. A high faculty to student ratio assures that each student receives individualized help from the faculty together with access to the latest scientific instrumentation.

Student training is enhanced by research seminars and student-oriented discussions presented by world-renowned visiting scientists, as well as by participation in research seminars and research discussion groups. We seek to provide a congenial and supportive environment in which each student develops to the fullest their abilities to reason critically, design and conduct incisive experiments, and communicate research results effectively in both written and oral formats. Our faculty's wide collective experience as successful researchers, teachers, journal editors, and peer reviewers is available to help graduates prepare for and attain research and teaching positions in academia and industry.

Please note that the following is only a sample curriculum plan. Current students must discuss their plan with their program director to make adjustments as needed. It is the student's responsibility to contact the program to verify the information.

Year One		
Fall		Credit Hours
PIB 701	Introduction to Biomedical Sciences	5
PIB 702	Scientific Reasoning	3
PIB 731	Laboratory Research	2
PIB 700	Journal Club	1
PIB 780	Research Ethics	1
PIB 782	Professional Development: Skills for Success I	1
Term Credit Hours:		13
Spring		
PIB 700	Journal Club	1
PIB 731	Laboratory Research	1-2

PIB 783	Professional Development: Skills for Success II	1
EPH 601	Medical Biostatistics I	3
PHS 610	Cell Physiology Biophysics (Spring I Course)	2
PHS 611	Neurophysiology (Spring II Course)	2
PHS 612	Systemic Physiology (Spring II through Fall Course)	4
PHS 741	Principles of Membrane Physiology and Biophysics I (Spring I Course)	2
PHS 742	Principles of Membrane Physiology and Biophysics II (Spring II Course)	2
Term Credit Hours:		18-19
Summer		
PIB 830	Doctoral Dissertation	1-12
Term Credit Hours:		1-12
Year Two		
Fall		
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	1
PHS 731	Special Work	1-5
PHS 830	Doctoral Dissertation	3
Term Credit Hours:		5-9
Spring		
PHS 731	Special Work	1-5
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	1
PHS 830	Doctoral Dissertation	3
Term Credit Hours:		5-9
Summer		
PIB 830	Doctoral Dissertation	1
Term Credit Hours:		1
Year Three		
Fall		
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	1
PHS 731	Special Work	1-5
PHS 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		5-9
Spring		
PHS 700	Research Seminar in Membrane Biophysics and Neurobiology	1
PHS 731	Special Work	1-5
PHS 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		5-9
Summer		
PHS 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Four		

Fall		
PHS 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Spring		
PHS 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Summer		
PHS 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Year Five		
Fall		
PHS 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Spring		
PHS 840	Doctoral Dissertation- Post Candidacy	3
Term Credit Hours:		3
Summer		
PHS 840	Doctoral Dissertation- Post Candidacy	1
Term Credit Hours:		1
Total Credit Hours:		68-96

<http://publichealth.med.miami.edu/academic-programs/dual-degree-programs>

Admission Requirements

<http://publichealth.med.miami.edu/future-students/admissions>

- **Online Application** applicants must submit their application online through SOPHAS (<http://sophas.org>), the centralized application service of the Association of Schools and Programs of Public Health (ASPPH) (<http://aspph.org>). **All application materials, including transcripts, test scores, personal statement, resume, and letters of recommendation, must be submitted online through SOPHAS** (<http://sophas.org>).
- **Official transcripts** from all previously attended colleges and universities. All foreign transcripts must be official and submitted in the original language. If the original language is not English, an official translation must be submitted along with the transcript. We do not accept evaluations from foreign credentialing service organizations. All non-US transcripts must be evaluated by the World Education Service (WES) using their ICAP Course-by-course evaluation service. For further instructions, visit the WES-SOPHAS website at www.wes.org/sophas/ (<http://www.wes.org/sophas>). Non-US transcripts are evaluated exclusively through WES. For further information visit <http://publichealth.med.miami.edu/graduate/sophas>.
- **Official GRE test scores** Applicants are required to submit GRE general exam (http://www.ets.org/gre/revised_general/about) scores taken within the last five years. Alternatively we accept the MCAT, LSAT, GMAT and DAT for the MPH/MSPH degree programs only. Applicants to the MPH/MSPH program who hold advanced degrees (MD, PhD, JD) are encouraged but not required to submit test scores.
- **TOEFL/IELTS** International students whose native language is not English are required to submit TOEFL (<http://www.ets.org/toefl/ibt/about>) Or IELTS scores. For further information visit <http://publichealth.med.miami.edu/graduate/sophas>.
- **Resume/Curriculum Vitae** including employment, activities, community service, education, academic or professional honors.
- **Statement of purpose** detailing your academic interest in our program as well as your future career goals. This statement should discuss any experience you have in public health including field experience, training, education, or other related qualifications. Discuss how earning this degree will contribute to your future and the future of public health.
- **Three letters of recommendation** from people who are best able to assess your ability to be successful in a public health degree program. Ideally, your recommenders are recent professors, researchers, or employers in a related field. You will be asked for your recommenders' contact information on the online application. They will be sent an online form to complete via email.

To obtain detailed program curricula on the MPH/MSPH, PhD in Epidemiology, and joint degree programs, please contact our offices at the address below or visit our website at <http://publichealth.med.miami.edu/>

For further information, please contact:

David Lee, PhD, Graduate Program Director
Rick del Rosario, Director of Admissions

Public Health

<http://publichealth.med.miami.edu/>

Dept. Code: EPH

Degree Programs

- Master of Public Health (MPH)
- Master of Science in Public Health (MSPH)
- Doctor of Philosophy in Epidemiology (PhD)

The Graduate Programs in the Department of Public Health at the University of Miami Miller School of Medicine are at the forefront of public health science with emphases on research, education, and evidence-based, public health service. The Graduate Programs promote an environment of learning and inquiry, stressing the scientific method as a way of generating knowledge about common pathways in health and illness. The mission of the Graduate Programs in Public Health is to develop leaders who can expand and translate knowledge into policy and practice to promote health and prevent disease in human populations.

Joint Degree Programs

Joint degree programs are also offered in conjunction with the School of Medicine (MD/MPH, MD/PhD), School of Law (JD/MPH), School of Business (MPA/MPH), and the College of Arts and Sciences (MAIA/MPH) and (MALAS).

Graduate Programs Office
 Department of Public Health
 University of Miami Miller School of Medicine (R-669)
 P. O. Box 016069
 Miami, Florida 33101
 Tel: 305-243-0291
 E-mail: GradProgramsEPH@med.miami.edu
 Website: <http://publichealth.med.miami.edu/>

Masters

Masters Programs in Public Health

- M.P.H. Master of Public Health (p. 546)
- M.S.P.H. Master of Science in Public Health (p. 546)

Doctoral

Doctoral Program in Epidemiology and Public Health

- Ph.D. in Epidemiology (p. 546)

M.P.H. Master of Public Health

The MPH degree is a professional degree for students who require a broad general academic experience in public health. Students will acquire competency in the fundamental public health disciplines. This includes research design and conduct, data analysis and policy analysis, communications, program planning and administration, public health systems and the organization of health services in the United States and Latin America, recognition and analysis of ethical issues in public health and professional practice, the needs of special populations, and the integration of these core disciplines in public health decision making. The MPH degree is a 45 credit hour program that is accredited by the Council on Education for Public Health.

The 45 credit hour degree program consists of:

- Core Courses (18 credits)
- Area of Focus (21 credits)
- Capstone/culminating experience (6 credits)

The Capstone Field Experience and the Capstone Project are both vital components of the MPH program, and together form the Capstone Experience. The Capstone Field Experience is designed to provide students with real world work experience in the field of public health. This experience places students in health-related settings (local, national, and international) to work on projects of mutual interest to both the field organization and the student. The Capstone Project is intended to build upon this fieldwork and is geared toward providing the student with an opportunity to apply public health academic theory and acquired skills to community health problems. Students are encouraged to build their Capstone Experience in such a way that supports their academic and professional interests as they advance in their careers as public health professionals.

M.S.P.H. Master of Science in Public Health

The MSPH is an academic research degree designed for students who wish to prepare for further study at the doctoral level, or to prepare for

research or technical positions in government, industry, academia, or private institutions. Studies will include many of the core disciplines included in the MPH degree with an additional emphasis on advanced research methods and quantitative analysis skills. The MSPH program is accredited by the Council on Education for Public Health.

The 45 credit hours degree consists of:

- Required Core Courses (21 credits)
- Required Methods Courses (6 credits)
- Elective Courses (12 credits)
- Research Thesis Project (6 credits)

Full-time students can expect to complete the MPH or MSPH degree requirements within 2 years. A 9-credit hour waiver may be available for students who enter the MPH or MSPH degree programs with an earned advanced degree (e.g., MD, DDS, DVM).

Ph.D. in Epidemiology

The Doctor of Philosophy (PhD) in Epidemiology is an intensive research training program for students with prior training in Epidemiology or related disciplines. It provides advanced education and training for students seeking a professional career in medical and health-related research, as well as for physicians and other persons who have attained professional degrees and are seeking to integrate epidemiological research and methods into their ongoing careers. The program is primarily designed for persons who have an MPH degree, as well as for physicians and others who have a master's or doctoral degree in a related discipline.

All PhD students are required to complete 63 credit hours. There are:

- core courses in epidemiology and biostatistics
- courses in electives
- the dissertation

Please visit <http://publichealth.med.miami.edu/graduate/academic-programs/phd-in-epidemiology> for additional information.

Music

http://www.miami.edu/frost/index.php/graduate_studies/

Frost School of Music, Graduate Studies Office

Maurice Gusman Concert Hall, Suite 110

Phone: 305.284.2241

Frost School of Music Website: www.music.miami.edu (<http://www.music.miami.edu>)

Frost School of Music Graduate Studies Website: http://www.miami.edu/frost/index.php/graduate_studies/

Departments

- DEPARTMENT OF INSTRUMENTAL PERFORMANCE - Dept. Code: MIP
- DEPARTMENT OF KEYBOARD PERFORMANCE - Dept. Code: MKP
- DEPARTMENT OF MUSIC EDUCATION AND MUSIC THERAPY - Dept. Code: MED
- DEPARTMENT OF MUSIC MEDIA AND INDUSTRY - Dept. Code: MMI
- DEPARTMENT OF MUSIC THEORY-COMPOSITION - Dept. Code: MTC
- DEPARTMENT OF MUSICOLOGY - Dept. Code: MCY
- DEPARTMENT OF STUDIO MUSIC AND JAZZ - Dept. Code: MSJ
- DEPARTMENT OF VOCAL PERFORMANCE - Dept. Code: MVP

Admission Requirements

Please consult the general section of the Graduate Bulletin (p. 360) for the Graduate School admission requirements.

For additional information on the Frost School of Music Graduate Admission Requirements, please visit our Graduate Admissions website: <http://www.miami.edu/frost/index.php/frost/admissions/GraduateAdmissions/>

Degree Programs

1. Doctor of Philosophy – Deg. Code: PhD
 - a. Music Education – Conc. Code: MEDU
2. Doctor of Musical Arts – Deg. Code: DMA
 - a. Collaborative Piano – Conc. Code: MKPA
 - b. Choral Conducting – Conc. Code: MCDC
 - c. Composition – Conc. Code: MTCP
 - d. Instrumental Conducting – Conc. Code: MCDI
 - e. Instrumental Performance – Conc. Code: MIPF
 - f. Jazz Composition – Conc. Code: MSJC
 - g. Jazz Performance (Instrumental – Conc. Code: MSJI or Vocal – Conc. Code: MSJV)
 - h. Keyboard Performance and Pedagogy – Conc. Code: KPED
 - i. Multiple Woodwinds – Conc. Code: MIPW
 - j. Piano Performance – Conc. Code: MKPF
 - k. Vocal Pedagogy and Performance – Conc. Code: VPED
 - l. Vocal Performance – Conc. Code: MVPF
3. Master of Arts – Deg. Code: MA
 - a. Arts Presenting & Live Entertainment Management – Conc. Code: MPRS

- b. Arts Presenting & Live Entertainment Management Online
- c. Juris Doctorate & Master of Arts in Arts Presenting & Live Entertainment Management- Conc. Code: JDMA
4. Master of Music – Deg. Code: MM
 - a. Collaborative Piano – Conc. Code: MKPA
 - b. Choral Conducting – Conc. Code: MCDC
 - c. Composition – Conc. Code: MTCP
 - d. Digital Arts and Sound Design – Conc. Code: MTCD
 - e. Instrumental Conducting – Conc. Code: MCDI
 - f. Instrumental Performance – Conc. Code: MIPF
 - g. Jazz Pedagogy – Conc. Code: JPED
 - h. Jazz Performance (Instrumental – Conc. Code: MSJI or Vocal – Conc. Code: MSJV)
 - i. Keyboard Performance and Pedagogy – Conc. Code: KPED
 - j. Media Writing and Production – Conc. Code: MWPD
 - k. Multiple Woodwinds – Conc. Code: MIPW
 - l. Music Business and Entertainment Industries – Conc. Code: MBEI
 - m. Music Business and Entertainment Industries Online Degree
 - n. Juris Doctorate & Master of Music in Music Business and Entertainment Industries - Conc. Code: JDMM
 - o. Music Education – Conc. Code: MEDU
 - i. Music Education with Certification – Conc. Code: MEDC
 - p. Music Therapy – Conc. Code: MTYP
 - i. Music Therapy with Undergraduate Equivalency – Conc. Code: MTYE
 - q. Musicology – Conc. Code: MUSY
 - r. Piano Performance – Conc. Code: MKPF
 - s. Sound Recording Arts - Conc. Code: MSRA
 - t. Studio Jazz Writing – Conc. Code: MSJW
 - u. Vocal Performance – Conc. Code: MVPF
5. Master of Science – Deg. Code: MSMET
 - a. Music Engineering – Conc. Code: MUEE
6. Artist Diploma in Performance – Deg. Code: AD
 - a. Instrumental Conducting – Conc. Code: MCDI
 - b. Instrumental Performance – Conc. Code: MIPF
 - c. Piano Performance – Conc. Code: MKPF
 - d. Vocal Performance – Conc. Code: MVPF

Entrance Exams

The Frost School of Music requires certain incoming graduate students to take entrance exams in Musicology and Music Theory prior to enrolling in courses. Graduate students are expected to be well-prepared for these exams. Any student who does not achieve the designated 80% pass rate must fulfill a remediation requirement prior to completion of the final project as required for the graduate degree. Please access the following link for more information: http://www.miami.edu/frost/index.php/graduate_studies/about_us/current_graduate_students/musicology_placement_exam/

Degree Requirements: Doctoral Degrees

Doctor of Musical Arts (DMA)

The purpose of the Doctor of Musical Arts is to train the most promising musicians at the highest musical and intellectual level for prominent careers in their field. The degree stresses excellence in performance, composition, scholarship, and teaching. By its nature, the Doctor of Musical Arts provides opportunities for students with proven accomplishment to prepare themselves for the professorship.

For the Doctor of Musical Arts in Performance, Keyboard Performance and Pedagogy, Composition, Jazz Composition, Jazz Performance, Vocal Pedagogy and Performance, and Conducting, the candidate must meet all the general requirements for the PhD degree with respect to residence, total minimum credit hours, and written and oral examinations. The main distinction between the two degrees pertains to the required creative activity. The DMA emphasizes performance ability, as well as performance-related research. These creative efforts replace the dissertation requirements traditionally found in the PhD. In addition to specific courses and credit hours listed in the following pages, students pursuing the DMA must meet the requirements listed below.

Doctoral Committee for the DMA

This committee can be the same or different from the student's recital committee. The committee should consist of four members, including three members from the student's major area (one of whom is the committee chair), and one member from another department of the Frost School. The committee chair will be Regular Faculty and/or hold a doctoral degree (i.e., DMA or PhD) as well as graduate faculty status. Two other committee members will be Regular Faculty or members of the Graduate Faculty. At least one member of the committee must hold a doctoral degree (i.e., DMA or PhD). Committees are first approved by the committee chair and then the Associate Dean of Graduate Studies in the Frost School before students apply for candidacy. Requests for exceptions to these committee requirements can be submitted in writing for consideration by the Associate Dean of Graduate Studies in the Frost School.

Responsibilities of the committee shall include the following:

1. Overseeing all of the students work prior to admission to candidacy, including academic program planning and advising as to recital repertoire.
2. Advising the student regarding relevant research competencies (tools) and ensuring that the student demonstrates these competencies prior to admission to candidacy.
3. Adjudging the quality of the student's recitals, pedagogy presentations, or compositions.
4. Overseeing the doctoral essay or lecture recital, including approval of the topic and proposal, supervision of the writing of the essay or lecture recital, assessment of the quality of the final essay or lecture recital, and the quality of the final essay defense. In cases where special faculty expertise

is needed for a particular essay topic, changes in membership of the doctoral committee may be made. Membership of the essay committee is recommended by the department or program concerned, and approved and appointed by the Dean of the Graduate School.

DMA Cognates

Students pursuing a Doctor of Musical Arts degree may select an additional formal area of study known as a cognate. The 12 credit hours devoted to the cognate apply to the 60 credit hours required for the degree. The Department in which the cognate resides administers the cognate. Students must apply to the cognate Department for admission. The admission process may include an audition, interview, portfolio, or testing as determined by the cognate Department. Students must complete all requirements specified for a cognate to be recognized as having completed the cognate. Otherwise, the credit hours will be considered electives. No credits required in the DMA program can apply to the cognate. Any overlap will require approved course substitutions within either the DMA program or the cognate as determined to be most appropriate by the Associate Dean of Graduate Studies. Completion of the cognate will appear on the student's transcript at time of degree conferral.

Procedures for Entering a Cognate

1. Contact the Department in which the cognate resides and obtain written approval of your entrance. The Department should verify student admission to the cognate by emailing the Graduate Studies Office.
2. Visit the Graduate Studies Office in the Frost School of Music to formally enroll in the cognate and to obtain a copy of the Academic Progress Record (APR) for the cognate.

List of Cognates and Respective Departments:

Doctoral Cognate in Accompanying/Chamber Music, Department of Keyboard Performance

Doctoral Cognate in Conducting: Choral, Department of Vocal Performance

Doctoral Cognate in Conducting: Instrumental, Department of Instrumental Performance

Doctoral Cognate in Higher Education, Department of Music Education and Music Therapy

Doctoral Cognate in Instrumental Performance, Department of Instrumental Performance

Doctoral Cognate in Jazz Performance, Department of Studio Music and Jazz

Doctoral Cognate in Keyboard Pedagogy, Department of Keyboard Performance

Doctoral Cognate in Music Business, Department of Music Media and Industry

Doctoral Cognate in Music Education, Department of Music Education and Music Therapy

Doctoral Cognate in Music Technology, Department of Music Theory and Composition

Doctoral Cognate in Music Theory, Department of Music Theory and Composition

Doctoral Cognate in Musicology, Department of Musicology

Doctoral Cognate in Vocal Pedagogy, Department of Vocal Performance

Doctoral Cognate in Vocal Performance, Department of Vocal Performance

Doctoral Cognate in Vocal Accompanying, Department of Vocal Performance

DMA Qualifying Examinations

Qualifying examinations represent a significant milestone in the doctoral degree. All students pursuing the Doctor of Musical Arts degree must pass Doctoral Qualifying Examinations prior to proposing the DMA Essay, and prior to applying for candidacy. These exams represent a comprehensive and in-depth assessment of graduate student knowledge and skill level in the major discipline as acquired over a lifetime of academic and practical experience. Students who fail a qualifying exam (or a portion of the exam) can re-take the exam in the subsequent semester. A student who fails a qualifying examination (or portion of the exam) for a second time will be dismissed from his/her respective degree program.

Students pursuing the DMA in the following degree programs are required to take qualifying examinations in Musicology and Music Theory:

- Collaborative Piano
- Choral Conducting
- Composition
- Instrumental Conducting
- Instrumental Performance, including Multiple Woodwinds
- Keyboard Performance and Pedagogy
- Piano Performance
- Vocal Pedagogy and Performance
- Vocal Performance

Students pursuing the DMA in Jazz Composition or Jazz Performance (Instrumental or Vocal) are required to take qualifying examinations in Musicology, as well as Jazz Studies (i.e., jazz harmony/theory, aural and rhythm proficiency, keyboard harmony proficiency, and jazz arranging).

Students pursuing the DMA in Composition are required to complete qualifying examinations in Musicology and Composition.

Additional information on Doctoral Qualifying Exams can be found on our Graduate Studies website: http://www.miami.edu/frost/index.php/graduate_studies/about_us/current_graduate_students/doctoral_qualifying_exam/

All DMA students are strongly encouraged to contact their advisors and Department Chairs to obtain more information on exam scheduling, expectations, and preparation.

Performance and jazz performance majors must present a qualifying recital during the first semester in residence.

Admission to Candidacy

Doctoral students may apply for candidacy after successful completion of all qualifying examinations. No student may receive the degree in the

same semester or summer session in which he or she is admitted to candidacy.

Performance and Creative Requirements

DMA students in performance, jazz performance, or keyboard performance and pedagogy may present one recital before the qualifying written examination (provided they have passed their qualifying recital). Before the second or third recital, depending upon program, students must have passed the Qualifying Examinations and removed all reservations for the written examinations in music theory, musicology, and music education, as well as having presented a proposal for the doctoral essay to their committee. Before the final recital, the student must be admitted to candidacy. All recitals are to be presented during either Fall or Spring semesters when classes are in session.

Performance Majors

Students accepted into the program must present three full-length (60 minute) doctoral recitals, and may choose from these options as decided in consultation with their studio teacher:

1. Three solo recitals
2. Two solo recitals and one chamber recital
3. Solo recitals may also include some chamber music which features the student's instrument or voice

Vocalists are expected to execute one or more substantial roles in a large scale work, e.g., opera or oratorio in addition to the solo recitals. Students majoring in accompanying and chamber music will present one solo recital, one chamber music recital, and three accompanying recitals. For Keyboard Performance and Pedagogy, an approved combination of recitals and pedagogy presentations is required.

Jazz Performance Majors

Students must present three full-length recitals.

Conducting Majors: Choral

No less than two approved full recitals shall be presented by each candidate.

Conducting Majors: Instrumental

Three approved public recitals (or the equivalent) with suitable performing groups must be given during the period of residency and prior to the oral examination.

Composition Majors

1. The candidate will be required to compose a piece of substantial proportions.
2. The candidate will be required to write a doctoral essay. The text will either detail the doctoral composition or discuss another topic as approved by the doctoral committee chair.
3. A public presentation of the candidate's compositions will be required. A series of smaller performances presented each semester on- or off-campus, a larger festival performance(s), or a cumulative solo recital at the terminal stages of the degree exemplify how this requirement can be fulfilled. Other options are possible with faculty approval.

DMA Final Project

By means of a written Doctoral Essay or Lecture Recital, all DMA candidates are expected to demonstrate their ability to conduct an original scholarly investigation and present its results in an articulate manner. All DMA students must pass a public oral defense of the Doctoral Essay or Lecture Recital. Detailed information on these projects and defense procedures is provided in the Frost School of Music Graduate Student Handbook, found here: http://www.miami.edu/frost/index.php/graduate_studies/about_us/current_graduate_students/student_handbooks/

Doctor of Philosophy (PhD)

The Doctor of Philosophy degree is offered in Music Education, and Music Education with Music Therapy Emphasis. This rigorous curriculum prepares students to become innovative researchers, scholars, and outstanding leaders in these disciplines. Graduates are uniquely-prepared for careers in higher education, research, and administration.

Candidates must meet all general requirements for the PhD degree as defined by the Graduate School of the University of Miami with respect to residence, total minimum credit hours, and written and oral examinations.

In addition to specific courses and credit hours listed in the following pages, students pursuing the PhD must meet the requirements listed below.

PhD Qualifying Examination

All PhD students must complete a qualifying examination that includes two components. The first component consists of writing three scholarly papers that are independent of or significant extensions of documents written as part of other coursework. The second component consists of a one-hour, oral examination focusing on the written papers. Students in the PhD degree program should contact their graduate advisor to obtain detailed guidelines on the entire qualifying examination process. After successfully completing this exam, students can apply for Doctoral Candidacy and defend the dissertation proposal. Students who fail a qualifying exam (or a portion of the exam) can re-take the exam in the subsequent semester, with committee approval. A student who fails a qualifying examination (or portion of the exam) twice will be dismissed from the degree program.

Doctoral Committee for the PhD

All students pursuing the Doctor of Philosophy degree must establish a Doctoral Committee to oversee the dissertation. The committee should consist of five members, including three members from the student's major area (one of whom is the committee chair), and one other member from another department within the Frost School, and one faculty member from outside the Frost School. The committee chair and two other members must be members of the Graduate Faculty. Requests for exceptions to these committee requirements can be submitted in writing for consideration by the Associate Dean of Graduate Studies in the Frost School.

Admission to Candidacy

Doctoral students may apply for candidacy after successful completion of all qualifying examinations. No student may receive the degree in the same semester or summer session in which he or she is admitted to candidacy.

PhD Final Project: the Dissertation

The culminating project for the PhD is the Doctoral Dissertation. A PhD is traditionally considered a research-oriented academic degree, thus the dissertation should consist of independent, original research that demonstrates the candidate's mastery of both subject matter and scholarly method. All PhD students must pass a public oral defense of the Dissertation. Detailed information, including defense procedures, is provided in the Frost School of Music Graduate Student Handbook: http://www.miami.edu/frost/index.php/graduate_studies/about_us/current_graduate_students/student_handbooks/

Degree Requirements: Masters Degrees

Master of Music Degree (MM) in:

- Collaborative Piano
- Conducting, Choral or Instrumental
- Instrumental Performance
- Keyboard Performance
- Jazz Performance
- Vocal Performance

In addition to specific courses and credit hours listed in the following pages, students pursuing these Master of Music degrees must meet all requirements listed below.

Ensemble Requirements

The curricula for Master of Music degrees in performance and conducting include participation in one ensemble during each semester that a student is registered for 7 credit hours or more.

Credit Hours and Grades

A minimum of 30 credit hours of graduate level courses with an average of B and no grade below C. All students must complete the required courses of their major.

Conducting Recital Guidelines

Master's Recital

A compilation on DVD of conducting single or multiple works of live performances of major ensembles spread across the Masters' experience. These performances are arranged in consultation with the major professor who assists in the preparation of the performances.

Master's Advanced Recital

A full-length conducting recital is prepared and presented. The ensemble(s) and repertoire will be selected in close consultation with the major professor who will assist in the preparation process. All aspects of performance preparation including scheduling, venue arrangements, program notes, and the like will be carried out by the student under the guidance of the major professor.

Performance Recital Guidelines

Master's Recital

A full-length recital performed publicly by the student that may include chamber music in which the student's instrument plays a prominent role. Selection of repertoire is determined in consultation with the major professor who assists in the preparation of the performances.

Master's Advanced Recital

A full-length recital in which all music performed features the recitalist as a soloist. The recitalist will prepare extended program notes on the repertoire performed. Portions of the extended program notes are to be included with the recital program distributed to the audience. The performance is to be recorded in both audio and video so that the recitalist presents a DVD as evidence of the recital to the Dean of Graduate Studies prior to the end of the semester in which the recital was given. Repertoire will be selected in consultation with the major professor, who will assist in the preparation process. The student under the guidance of the major professor will carry out all aspects of performance preparation including scheduling, venue arrangements, program notes, and the like.

Recital Papers and Extended Program Notes

Students must complete a scholarly document in the form of either a Recital Paper or Extended Program Notes which must be defended before the masters recital committee. Detailed information on these documents and defense procedures are provided in the Frost School of Music Graduate Student Handbook: http://www.miami.edu/frost/index.php/graduate_studies/about_us/current_graduate_students/student_handbooks/

Master of Music Degree (MM) in:

- **Composition**
- **Digital Arts and Sound Design**
- **Keyboard Performance and Pedagogy**
- **Media Writing and Production**
- **Musicology**
- **Music Education**
- **Music Therapy**
- **Sound Recording Arts**
- **Studio Jazz Writing**

In addition to specific courses and credit hours listed in the following pages, students pursuing these Master of Music degrees must meet all requirements listed below.

Credit Hours and Grades

A minimum of 30 credit hours of graduate level courses with an average of B and no grade below C. All students must complete the required courses of their major.

Masters Thesis or Masters Project

Students in these Master of Music degree programs must complete either a thesis or masters project and must pass a public, oral defense of their work. Detailed information on these documents and defense procedures are provided in the Frost School of Music Graduate Student Handbook: http://www.miami.edu/frost/index.php/graduate_studies/about_us/current_graduate_students/student_handbooks/

Comprehensive Examinations

Certain masters degree programs also require students to take written Comprehensive Examinations. Students should contact their advisors to obtain specific details regarding comprehensive examination requirements. The exam is typically written and evaluated by a

committee of faculty members in the student's department who are familiar with the student's discipline.

Per Graduate School policy, students who fail the comprehensive exam may be given one opportunity to retake the exam, with the committee's approval. The re-take of the comprehensive exam may not be taken during the same semester as the original exam, or during a summer session. Additionally, the re-take must be completed within one calendar year of the original exam.

Master of Music Degree (MM) in:

- **Jazz Pedagogy**
- **Music Business and Entertainment Industries**

In addition to specific courses and credit hours listed in the following pages, students pursuing these Master of Music degrees must meet all requirements listed below.

Credit Hours and Grades

A minimum of 30 credit hours of graduate level courses with an average of B and no grade below C. All students must complete the required courses of their major.

Cumulative Exit Exam

Students must pass a cumulative exit exam as part of the Master of Music degree in Music Business and Entertainment Industries or Jazz Pedagogy.

Master of Arts Degree (MA) in:

- **Arts Presenting and Live Entertainment Management**

In addition to specific courses and credit hours listed in the following pages, students pursuing this Master of Arts degree must meet all requirements listed below.

Cumulative Exit Exam

Students must pass a cumulative exit exam as part of the Master of Arts degree in Arts Presenting and Live Entertainment Management.

Master of Science Degree (MS) in:

- **Music Engineering Technology**

In addition to specific courses and credit hours listed in the following pages, students pursuing this Master of Science degree must meet all requirements listed below.

Masters Research Project

Students pursuing the Master of Science degree in Music Engineering Technology must complete a substantial final project in the form of independent research that is defended before a faculty committee.

Detailed information on this project and defense procedures are provided in the Frost School of Music Graduate Student Handbook: http://www.miami.edu/frost/index.php/graduate_studies/about_us/current_graduate_students/student_handbooks/

Degree Requirements: Artist Diploma

Artist Diploma (AD) in:

- **Instrumental Conducting**
- **Instrumental Performance**

- **Keyboard Performance**
- **Vocal Performance**

The Artist Diploma is an intensive, one-year immersion in performance or conducting study for candidates with highly-developed skills. In addition to specific courses and credit hours listed in the following pages, students pursuing the AD program must also complete two, full-length (60 minute) recitals.

Instrumental Performance

The Frost School of Music's Department of Instrumental Performance has programs tailored to meet the needs and interests of students – like you – who aspire to performance careers. Graduates of these programs often pursue careers as symphony musicians, university professors, concert soloists, or band or orchestra conductors. Many graduates pursue advanced study and graduate degrees for further career preparation.

As an instrumental performance major, you will focus on developing and honing your performance skills on a selected brass, percussion, string, or woodwind instrument with assistance from faculty who have distinguished themselves as outstanding teachers and performing musicians. While the curriculum emphasizes development of tone and musicianship, as well as technical mastery of the instrument, it also includes music theory, music history and literature, orchestral literature and teaching methods. In addition, you will develop expertise in contemporary literature and chamber music performance. For more information, please visit the website for the department of Instrumental Performance at http://www.miami.edu/frost/index.php/instrumental_performance/

Doctoral

Doctoral Programs in Instrumental Performance

- D.M.A. in Instrumental Conducting (p. 552)
- D.M.A. in Instrumental Performance (p. 552)
- D.M.A. in Multiple Woodwinds (p. 552)

Masters

Masters Programs in Instrumental Performance

- M.M. in Instrumental Conducting (p. 553)
- M.M. in Instrumental Performance (p. 553)
- M.M. in Multiple Woodwinds (p. 553)

Artist Diploma

Artist Diploma in Instrumental Conducting or Performance

The Artist Diploma is a program of advanced study designed for the outstanding career-oriented performer. The curriculum emphasizes preparation for major competitions, auditions, apprenticeships, and the development of a performance career. Entrance to the program is limited to those individuals who have demonstrated exceptional skills in performance or conducting by audition. A fully enrolled student can complete the 18 credit hour program in one year.

Applied Lessons	8
Performance Ensembles	2
Two Recitals	2
Approved Studies in Music	6
Total Credit Hours	18

D.M.A. in Instrumental Conducting

Performance Courses		
Applied Conducting Lessons		12
Ensembles (6 large ensemble)		6
Conducting		
Choose from one of the two options		3
MCY 620	History and Literature of the Wind Band (Required for Wind Conductors)	
Approved Elective		
Creative Activities		
MED 702	DMA Essay Proposal	1
MIP 831	Doctoral Essay	5
MIP 832	Doctoral Recital	6
Allied Music Courses		
Musicology Elective		3
MTC 717	Analytical Techniques	3
Performance Seminars		3
Approved Electives		5
MED 790	Teaching Music in College	1
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

D.M.A. in Instrumental Performance

Performance Courses		
Applied Lessons		12
Ensembles (6 large ensemble, 6 small ensemble)		12
Creative Activities		
MED 702	DMA Essay Proposal	1
MIP 831	Doctoral Essay	5
MIP 832	Doctoral Recital	6
Allied Music Courses		
Musicology Elective		3
Performance Seminars		3
MTC 717	Analytical Techniques (or other MTC course)	3
MED 790	Teaching Music in College	1
Electives		2
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

D.M.A. in Multiple Woodwinds

Performance Courses	
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Requirements

Applied Lessons in Flute, Oboe, Clarinet, Bassoon, and Saxophone	12
Ensembles (6 large ensemble, 6 small ensemble)	12
Creative Activities	
MED 702 DMA Essay Proposal	1
MIP 831 Doctoral Essay	5
MIP 832 Doctoral Recital	6
Allied Music Courses	
Musicology Elective	3
MTC 717 Analytical Techniques (or other MTC course)	3
Performance Seminars	3
MED 790 Teaching Music in College	1
Electives	2
Cognate/Electives	
Select 12 credit hours of Cognate/Electives	12
Total Credit Hours	60

M.M. in Instrumental Conducting

Candidates must possess and demonstrate an unquestioned gift of musical leadership based upon broad experience with instrumental ensembles. Advanced orchestration must be included in the program. Admission requirements include a baccalaureate degree in conducting or performance, accumulated practical experience with instrumental ensembles, and experience equivalent to an undergraduate requirement in orchestration. Enrollment in this major is only by special permission.

Major Area	
Applied Conducting Lessons	8
Instrumental Ensembles	4
MIP 812 Master's Recital	1
Select one of the following to match the culminating project:	1
MIP 701 MM Recital Program Notes Preparation	
MED 701 Recital Paper Preparation	
Select one of the following as a culminating project:	2
MIP 811 Master's Recital Paper	
MIP 813 Master's Advanced Recital	
Other Studies in Music	
MCY 628 Music Bibliography	3
MTC 717 Analytical Techniques	3
Electives	
Musicology or Approved Elective	3
Music Education /Pedagogy or Approved Elective	3
Approved Electives	3
Total Credit Hours	31

M.M. in Instrumental Performance

Violin

The candidate must show an adequate technical grounding in scales, arpeggios, bowing and phrasing, demonstrate adequate ability in sight

reading on the instrument, and be able to read at sight simple piano accompaniments.

Harp

The candidate must have a mastery of scales and arpeggios in all octaves in both slow and rapid tempo, and in various rhythms, should have had orchestral and other ensemble experience, should be able to read orchestral parts at sight, and should have developed the ability to transcribe music written for keyboard (or other) instruments for use in orchestra or ensemble or accompanying.

Multiple Woodwinds

The applicant must demonstrate, by audition, proficiency in at least three of the following families of instruments: clarinet, saxophone, flute, and double reed. Applied instruction will include a minimum of 8 credit hours from the above groups as determined by the student's advisor. The recital (the content and evaluation of which are the responsibility of the student's recital committee) will consist of performance on the student's major instrument, and on instruments from at least two other woodwinds. The student is expected to supply his/her own professional quality instruments.

The student must demonstrate a high level of accomplishment on his/her instrument in the areas of tone, technique, and musicality.

Major Area	
Applied Lessons	8
Instrumental Ensembles	7
MIP 812 Master's Recital	1
Select one of the following to match the culminating project:	1
MIP 701 MM Recital Program Notes Preparation	
MED 701 Recital Paper Preparation	
Select one of the following as a culminating project:	2
MIP 811 Master's Recital Paper	
MIP 813 Master's Advanced Recital	
Other Studies in Music	
MCY 628 Music Bibliography	3
MTC 717 Analytical Techniques	3
Electives	
Musicology or Approved Elective	3
Music Education /Pedagogy or Approved Elective	3
Total Credit Hours	31

M.M. in Multiple Woodwinds

Major Area	
Applied Lessons in Flute, Oboe, Clarinet, Bassoon, and Saxophone	8
Instrumental Ensembles	7
MIP 812 Master's Recital	1
Select one of the following to match the culminating project:	1
MIP 701 MM Recital Program Notes Preparation	
MED 701 Recital Paper Preparation	
Select one of the following as a culminating project:	2
MIP 811 Master's Recital Paper	

MIP 813	Master's Advanced Recital	
Other Studies in Music		
MCY 628	Music Bibliography	3
MTC 717	Analytical Techniques	3
Electives		
Musicology or Approved Elective		3
Music Education /Pedagogy or Approved Elective		3
Total Credit Hours		31

Keyboard Performance

The Department of Keyboard Performance at the Frost School of Music is a dynamic center for music scholarship. Regardless if a student is more versed in classical or contemporary repertoire, the performance and academic opportunities are exceptional and for all areas of keyboard study. A degree from the Frost School will ensure broad comprehensive training for a student in a performance-intensive environment. Degree programs incorporate performance, music research, pedagogy, and professional skills to cultivate students for a professional life in music. Graduates may seek careers as concert performers, collaborative pianists/accompanists, and/or as artist teachers. For more information, please visit the website for the department of Keyboard Performance at http://www.miami.edu/frost/index.php/keyboard_performance/

Doctoral

Doctoral Programs in Keyboard Performance

- D.M.A. in Collaborative Piano (p. 554)
- D.M.A. in Keyboard Performance and Pedagogy (p. 554)
- D.M.A. in Piano Performance (p. 555)

Masters

Masters Programs in Keyboard Performance

- M.M. in Collaborative Piano (p. 555)
- M.M. in Keyboard Performance and Pedagogy (p. 555)
- M.M. in Piano Performance (p. 555)

Artist Diploma

Artist Diploma in Piano Performance

The Artist Diploma in Performance is a program of advanced study designed for the outstanding career-oriented performer. The curriculum emphasizes preparation for major competitions, auditions, apprenticeships, and the development of a performance career. Entrance to the program is limited to those individuals who have demonstrated exceptional performance skills by audition. A fully enrolled student can complete the 18 credit hour program in one year.

Requirements	
Applied Lessons	8
Performance Ensembles	2
Two Recitals	2
Approved Studies in Music	6
Total Credit Hours	18

D.M.A. in Collaborative Piano

Accompanying Courses		
Applied Piano	8	
Accompanying	6	
MKP 788	Graduate Seminar in Accompanying (Must take for 4 semesters)	1
Creative Activities		
MED 702	DMA Essay Proposal	1
MKP 832	Doctoral Recital (Must do 3 recitals)	2
MKP 831	Doctoral Essay	5
Allied Music Courses		
Select one of the following Music Theory courses:		3
MTC 717	Analytical Techniques	
MTC 711	Theory Pedagogy	
MTC 713	Twentieth Century Idioms	
Select one of the following:		3
MCY 628	Music Bibliography	
MCY 625	Art Song Literature	
MCY 632	History of Chamber Music	
MED 790	Teaching Music in College	1
MIP 745	String-Keyboard Chamber Music (Must take for 4 semesters)	1
Select 7 credit hours of Electives ¹		7
Cognate		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

¹ Up to 3 credit hours of foreign language electives may be taken by those students who select the Vocal Accompanying cognate or foreign language as a tool subject.

D.M.A. in Keyboard Performance and Pedagogy

Keyboard Pedagogy and Performance		
Select 24 credit hours of Keyboard Pedagogy and Performance courses ¹		24
Creative Activities		
MED 702	DMA Essay Proposal	1
MKP 832	Doctoral Recital	6
MKP 831	Doctoral Essay	5
Other Studies in Music		
Select four of the following:		12
MCY 627	Keyboard Literature II	
MCY 628	Music Bibliography	
MED 662	Psychology of Music I	
MED 762	Music Learning and Curriculum	
MED 763	Music Research Methods	
MED 764	Music Assessment	
MTC 717	Analytical Techniques	
Cognate/Electives		

Select 12 credit hours of Cognate/Electives	12
Total Credit Hours	60

¹ Graduate Keyboard Performance and Pedagogy courses chosen in consultation with the Doctoral Advisor and approval of the student's committee during the first semester of course work.

D.M.A. in Piano Performance

Performance Courses	
Applied Lessons	12
MKP 710 Seminar in Baroque Performance	1
MKP 711 Seminar in Classical Performance	1
MKP 712 Seminar in Romantic Performance	1
MKP 713 Seminar in Contemporary Music	1
Accompanying	3
Creative Activities	
MED 702 DMA Essay Proposal	1
MKP 832 Doctoral Recital	6
MKP 831 Doctoral Essay	5
Allied Music Courses	
Music Theory Electives	6
MCY 626 Keyboard Literature I	3
MCY 627 Keyboard Literature II	3
MIP 745 String-Keyboard Chamber Music	1
MCY 628 Music Bibliography (or other MCY elective)	3
MED 790 Teaching Music in College	1
Cognate	
Select 12 credit hours of Cognate/Electives	12
Total Credit Hours	60

M.M. in Collaborative Piano

The candidate must have had an undergraduate background in accompanying, either as an accompanying major or as a piano major with extensive experience as an accompanist. Candidates for this program should at the time of entrance manifest a pronounced ability in reading at sight. The ability to transpose and improvise is also desirable, as is a pronunciation knowledge of French, German, and Italian.

Major Area	
Applied Lessons	6
MKP 791 Accompanying, Level III (Must take for 4 semesters)	1
MIP 745 String-Keyboard Chamber Music (Must take for 2 semesters)	1
MKP 788 Graduate Seminar in Accompanying (Must take for 3 semesters)	1
Final Project	
MED 701 Recital Paper Preparation	1
MKP 811 Master's Recital Paper	2
MKP 812 Master's Recital	1
Other Studies in Music	
Musicology	3

MTC 717 Analytical Techniques	3
MKP 647 Keyboard Pedagogy	3
Electives	
Electives	3
Total Credit Hours	31

M.M. in Keyboard Performance and Pedagogy

The candidate must complete prescribed courses in keyboard pedagogy and a lecture recital with a supporting paper.

Major Area	
Applied Lessons	8
MKP 647 Keyboard Pedagogy	3
MKP 750 Keyboard Ped Res Sem	2
MKP 780 Keyboard Pedagogy Internship	2
Select one of the following:	3
MKP 648 Intermediate to Advanced Repertoire	
MKP 649 Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics	
MKP 650 Keyboard Pedagogy III: Practice Strategies	
MKP 747 Seminar in Keyboard Pedagogy	
Final Project	
MKP 812 Master's Recital	1
MKP 813 Master's Pedagogy Project	1
Other Studies in Music	
MCY 628 Music Bibliography	3
MTC 717 Analytical Techniques	3
Music Electives	
Approved Music Electives	4
Total Credit Hours	30

M.M. in Piano Performance

The candidate must have acquired the principles of tone production and velocity and their application to scales, arpeggios, chords, octaves, and double notes, and must have a balanced repertoire comprising the principal baroque, classic, romantic, and modern compositions which should include compositions by representative American and foreign composers. Candidates must have had experience in ensemble playing and should be capable sight-readers.

Major Area	
Applied Lessons	8
Accompanying	3
Final Project	
MED 701 Recital Paper Preparation	1
MKP 811 Master's Recital Paper	2
MKP 812 Master's Recital	1
Other Studies in Music	
MTC 717 Analytical Techniques	3
MCY 626 Keyboard Literature I	3

MCY 627	Keyboard Literature II	3
Music Education/Pedagogy Elective		2
Electives		
Approved Music Electives		4
Total Credit Hours		30

Music Education and Music Therapy

The Department of Music Education and Music Therapy boasts two of the most innovative programs in the country and is committed to the preparation of outstanding music educators, therapists and scholars at all degree levels. The department faculty members are cutting edge scholars and researchers, holding leadership positions in internationally prominent organizations. Their contributions to research, scholarship, and pedagogy consistently inspire their students while informing the profession at large.

The music education program seeks to transcend all areas of music teaching and learning, from birth to older adulthood, and from public schools to community programs, allowing the principles of pedagogy to be applied broadly in a wide variety of contexts.

Music Education

A basic premise of the Music Education program is that music teachers must be both musicians and teachers; thus, competency as a musician is equally as important as having a strong theoretical and practical foundation in music education. Carefully coordinated courses emphasize sequencing of instruction in terms of student's musical development and incorporate ideas drawn from theory, research, and the practical experiences of the faculty and other successful practitioners. For more information, please visit the website for the department of Music Education at http://www.miami.edu/frost/index.php/department_of_music_education/

Music Therapy

Music therapy involves using music as a tool to help people regain or develop important life skills, such as communication, physical movement, attention and memory, emotional growth or social skills. Therapeutic techniques are based on scientific knowledge regarding how the human brain and body respond to and utilize musical stimuli.

Music therapists work with individuals of all ages who require treatment due to deficits in physical, cognitive or social/emotional functioning.

Potential employment sites include medical or psychiatric hospitals, clinics, nursing homes, rehabilitation centers, special education or early intervention school settings, hospices, or correctional settings. Music therapy can be a rewarding career for the individual who has a strong musical background and who is interested in a health care profession. For more information, please visit the website for the department of Music Therapy at http://www.miami.edu/frost/index.php/music_therapy/

Doctoral

Doctoral Program in Music Education and Music Therapy

- Ph.D. in Music Education (p. 557)

Masters

Masters Programs in Music Education and Music Therapy

- M.M. in Music Education (p. 556)
- M.M. in Music Education with Teaching Certification (p. 556)
- M.M. in Music Therapy (p. 557)
- M.M. in Music Therapy with Undergraduate Equivalency (p. 557)

M.M. in Music Education

Major Area		
MED 760	Philosophy of Music Education	3
MED 762	Music Learning and Curriculum	3
MED 763	Music Research Methods	3
MED 764	Music Assessment	3
MED 810 or MED 805	Master's Thesis Master's Project	3
MED 715	Graduate Forum	0
Other Studies in Music		
Select 9 credit hours from MTC, MCY, MMI, MSJ, MIP, MVP, MKP courses		9
Electives		
Select 9 credit hours of Approved Electives		9
Total Credit Hours		33

M.M. in Music Education with Teaching Certification

A student holding a B.M. degree in music may work toward certification in Music Education concurrently with the M.M. degree in Music Education. The B.M. degree must have included at least 14 credit hours of music performance, 12 credit hours of music theory, 3 credit hours of conducting, 6 credit hours of music history, and credit hours in performance ensembles. The culminating project for this degree takes place within MED 775. This program is approved by the Florida Department of Education and leads to initial certification as a music teacher for grades K-12.

Major Area		
MED 760	Philosophy of Music Education	3
MED 762	Music Learning and Curriculum	3
MED 764	Music Assessment	3
MED 648 or TAL 604	Music for Special Learners Building Positive Relationships in Inclusive Secondary Schools	3
TAL 606	Issues and Strategies for ESOL	3
TAL 610	Literacy and Learning Strategies in the Content Area	3
TAL 612	Classroom and Behavior Management	3
Final Project		
MED 775	Practicum in Music Education	7
MED 733	Seminar for Teaching Associates	1
TAL 623	Seminar on Teaching	1
Other Studies in Music		

Non-MED Music Electives (MTC, MCY, MIP, MVP, MKP, MMI, MSJ)	9
Music Education Electives	
Select one course dealing with Elementary Methods	3
Select one course dealing with Secondary Methods	3
Total Credit Hours	45

M.M. in Music Therapy

Major Area		
MED 729	Advanced Music Therapy Practice I	3
MED 730	Advanced Music Therapy Practice II	3
MED 759	Music Therapy Graduate Practicum 3	2
MED 710	Graduate Forum in Music Therapy (if on Thesis Track)	0
Comprehensive Exam		
Final Project (Thesis or Clinical Track)		
MED 810	Master's Thesis	3
or MED 805	Master's Project	
Other Studies in Music		
Approved Graduate Level Courses in Music		10
Supportive Studies		
MED 651	Music Therapy Research Methods	3
Approved Neuroscience Elective		3
Select one of the following:		3
Approved Research Elective (if on Thesis Track)		
Approved Clinical Elective (if on Clinical Track)		
Total Credit Hours		30

M.M. in Music Therapy with Undergraduate Equivalency

Major Area		
MED 729	Advanced Music Therapy Practice I	3
MED 730	Advanced Music Therapy Practice II	3
MED 757	Music Therapy Graduate Practicum 1	2
MED 758	Music Therapy Graduate Practicum 2	2
MED 759	Music Therapy Graduate Practicum 3	2
MED 710	Graduate Forum in Music Therapy	0
Final Project (Thesis or Clinical Track)		3
MED 810 Master's Thesis		
or MED 805 Master's Project		
Other Studies in Music		
Approved Graduate Level Courses in Music		10
Supportive Studies		
MED 651	Music Therapy Research Methods	3
Approved Neuroscience Elective		3
Select one of the following:		3
Approved Research Elective (if on Thesis Track)		
Approved Clinical Elective (if on Clinical Track)		
Undergraduate Equivalency Courses		42

MED 10	Music Therapy Forum	
MED 149	Functional Techniques in Music Therapy I	
MED 159	Introduction to Music Therapy	
MED 242	Percussion Techniques	
MED 244	Vocal Techniques	
MED 249	Functional Techniques in Music Therapy II	
MED 259	Music Therapy Pre-Practicum	
MED 359	Music Therapy Practicum 1A	
MED 545	Music in Rehabilitation	
MED 546	Music in Psychotherapy	
MED 562	Psychology of Music I	
MED 576	Music and Development	
PSY 110	Introduction to Psychology	
PSY 220	Psychobiology	
PSY 292	Introduction To Biobehavioral Statistics For Non-Majors	
PSY 230	Child And Adolescent Development	
or EPS 270	Lifespan Human Development	
PSY 240	Abnormal Psychology	
PSY 345	Abnormal Child Psychology	
BIL 109	Human Biology	
Total Credit Hours		76

Ph.D. in Music Education

The Doctor of Philosophy program is offered in Music Education, as well as in Music Education with Music Therapy Emphasis. Requirements for the degree conform to those for the general Doctor of Philosophy degree, listed elsewhere in this Bulletin. The Ph.D. is a research degree requiring 60 credit hours beyond the Master's degree or 90 credit hours beyond a Bachelor's degree. Enrollment for the Ph.D. degree is limited. Acceptance into the program is based on academic credentials, Graduate Record Examination Scores, personal suitability, recommendations, experience, and demonstrated professional competency.

Students are admitted to candidacy after successful completion of at least three semesters of coursework, including MED 795 Doctoral Research Project, as well as the MED Qualifying Examination. Research tools are selected in consultation with the student's advisor, as relevant to the proposed dissertation research.

Requirements

Major Field Core Courses		
MED 763	Music Research Methods	3
MED 780	Doctoral Seminar	2
MED 781	Seminar In Qualitative Research In Music	2
or MED 782	Seminar In Quantitative Research In Music	
MED 795	Doctoral Research Project	1
Music Education/Music Therapy Emphasis		
Select one of the following Emphases:		7
Music Education Emphasis:		
MED 760	Philosophy of Music Education	
MED Course(s) by advisement (see electives)		

MED 790	Teaching Music in College	
Music Therapy Emphasis:		
MED 729	Advanced Music Therapy Practice I	
MED 730	Advanced Music Therapy Practice II	
MED 784	Music Therapy Seminar	
Dissertation		
MED 830	Doctoral Dissertation	12
Other Studies in Music		
Select 9 credit hours from MTC, MCY, MMI, MSJ, MIP, MVP, MKP courses		9
Ph.D. Research Tools/Cognate		
Select 12 credit hours by advisement		12
Advisor Approved Electives		
Select 12 credit hours of the following:		12
MED 662	Psychology of Music I	
MED 720	International Music Education	
MED 725	Cultural Diversity In Music Education	
MED 732	Vocal Methods and Materials in Music Education	
MED 735	Social Issues Music Learn	
MED 740	Community Music Program	
MED 747	Seminar in Instrumental Music Education	
MED 762	Music Learning and Curriculum	
MED 764	Music Assessment	
MED 765	Seminar in Music Education	
MED 773	Seminar on Music in Childhood	
MED 781	Seminar In Qualitative Research In Music	
MED 782	Seminar In Quantitative Research In Music	
MED 796	Doctoral Research Project	
Total Credit Hours		60

Music Media and Industry

Music Business and Entertainment Industries

In today's fast changing, multi-billion dollar international music and entertainment industries, there are more record labels, publishers, media companies, distributors, retailers, and product manufacturers actively promoting the sale and use of music than ever before. As the market for music shifts away from physical products and traditional methods to digital online and mobile, a greater number of competent, highly-skilled executives and entrepreneurs will be needed to meet the specialized demands of the new music industry. Since 1964, the Music Business and Entertainment Industries program has been at the forefront of music business education. The MBEI program has been carefully designed to prepare qualified music business students for these emerging opportunities.

Our graduate program, where students earn a Master of Music, focuses primarily on music business courses, with the opportunity to pursue additional coursework in both the School of Business and School of Communications. We also offer the only joint degree Juris Doctor (J.D.) and Master of Music in Music Business and Entertainment Industries (M.M.). For more information, please visit the website for the

department of Music Business at http://www.miami.edu/frost/index.php/music_business/

Music Engineering Technology

Since 1975, the Music Engineering Technology program at the University of Miami Frost School of Music has pioneered education in music and technology, setting the standard by which the National Association of Schools of Music (NASM) accredits other such programs around the United States. Alumni of the program have contributed significantly to the music and audio industries and upon graduation pursue careers ranging from recording engineer to software designer.

The Music Engineering Technology program offers a two-year Master of Science graduate degree for students who have completed an undergraduate degree in electrical engineering or computer science. These students study the software and hardware design of audio systems and perform independent research that culminates in a thesis project. Upon graduation, these students are widely placed in top corporations that span the audio industry. For more information, please visit the website for the department of Music Engineering at http://www.miami.edu/frost/index.php/music_engineering/

Arts Presenting and Live Entertainment Management

Arts Presenting (AP Live) is a Live Entertainment Management Program with an emphasis on the performing arts and commercial music industries. AP Live offers a curriculum that's distinctly tailored to provide a thorough understanding of marketing, promotion, management, legal aspects, risks and finance of a diversity of live entertainment endeavors.

AP Live students gain hands on experience producing events, marketing and promoting concerts and working with venues on all aspects of a live entertainment performance. For more information, please visit the website for the Arts Presenting Program at http://www.miami.edu/frost/index.php/arts_presenting

Masters

Masters Programs in Music Media and Industry

- M.A. in Arts Presenting (p. 559)
- M.M. in Music Business and Entertainment Industries (p. 559)
- M.S. in Music Engineering Technology (p. 559)

Joint

J.D./M.M. in Music Business and Entertainment Industries

The University of Miami School of Law and the Frost School of Music offer the first ever joint degree program in law and music business. Upon completion of this program, a student earns the Juris Doctor degree from the School of Law and a Master of Music in Music Business and Entertainment Industries degree from the School of Music.

In this specialization, students not only learn the essentials of law, but also the common practices of the music business – essential skills for becoming a successful attorney in the music industry. Through this joint program, students can complete both degrees in less time (3 to 4 years) while studying at a top law school and one of the best music schools in the country. And, as one of the four major music cities in the U.S. and

as the music center for the Latin American Divisions of all major music companies, Miami offers exceptional internship and work opportunities. For more information, please visit <http://www.law.miami.edu/academics/jd-music.php?op=0>

J.D./M.A. – Master in Arts Presenting & Live Entertainment Management

The University of Miami School of Law in partnership with the University of Miami's esteemed Frost School of Music, Department of Music Business and Entertainment Industries, now offers a joint J.D./M.A. in Law and Arts Presenting & Live Entertainment Management.

This combination of degrees is ideal for Law School students looking to:

- Prepare for a career in entertainment law
- Develop a focus on the presentation of concerts, exhibitions, performances, and events
- Apply legal knowledge in the areas of contracts, risk management, marketing, and finance to the live entertainment/performance fields.

This program is similar to the J.D./M.M. program in Music Business and Entertainment Industries, but has a focus on the concert/performance arena. For more information, please visit <http://www.law.miami.edu/academics/jd-ma-entertainment.php?op=0>

M.A. in Arts Presenting

Major Area		
MMI 641	Tour Management And Production	3
MMI 643	Marketing And Promotion In The Entertainment Industry	3
MMI 726	Performing Arts Center and Facility Management	3
MMI 736	Sponsorship, Development And Financial Management In The Live Entertainment Industry	3
MMI 738	Legal Aspects of the Live Entertainment Industry	3
MMI 740	Arts Presenting Project	3
MMI 774	Music Copyright Law	3
Electives		
Select 6 credit hours of approved Graduate Course Electives		6
Final Project		
Choose from:		3
MMI 804	Internship In Arts Presenting	
MMI Elective		
Exit Exam		
Total Credit Hours		30

M.M. in Music Business and Entertainment Industries

Major Area		
MMI 673	International Music Publishing	3
MMI 750	Music Industry Agreements	3

or MMI 738	Legal Aspects of the Live Entertainment Industry	
MMI 752	International Music Licensing	3
MMI 774	Music Copyright Law	3
MMI 714	Graduate Music Business and Entertainment Industries Forum	0
Electives		
Select 9 credit hours of approved Graduate Course Electives		9
Approved MMI Electives		6
Final Project		
Choose from:		3
MMI 802	Internship in Music Industry	
MMI Elective		
Cumulative Exit Exam		
Total Credit Hours		30

M.S. in Music Engineering Technology

Major Area		
MMI 605	Current Trends In Music Engineering I	3
MMI 606	Current Trends In Music Engineering II	3
MMI 610	Computational Psychoacoustics	3
MMI 753	Transducer Workshop	1
MED 662	Psychology of Music I	3
Graduate Level Electives in Music		3
MMI 13	Music Engineering Forum	0
Electives		
Select 12 credit hours of graduate level courses in electrical/computer engineering and/or computer science		12
Final Project		
MMI 813	Master's Research Project	3
Total Credit Hours		31

Music Theory - Composition

Degree Programs

Known for its aesthetic diversity and openness to the ever-changing and progressive world of composition, the Frost School of Music's Department of Music Theory and Composition has a long tradition of distinguished faculty and students. When today's post-baccalaureate composers decide to pursue a Master's Degree in Composition, Digital Arts and Sound Design, or Media Writing and Production, they look to Frost faculty composers for inspiration and mentoring. At Frost, graduate students are well coached to take the next steps toward their professional maturation. They work one-on-one with our dedicated faculty to expand their music portfolios, enter competitions, apply for commissions and network in the music profession. Candidates for the Doctor of Musical Arts in Composition (D.M.A.) develop advanced research and teaching skills that are applicable to careers in higher education. For more information on the Music Theory and Composition department, please visit http://www.miami.edu/frost/index.php/department_of_music_theory_and_composition/

Doctoral

Doctoral Program in Music Theory - Composition

- D.M.A. in Composition (p. 560)

Masters

Masters Programs in Music Theory - Composition

- M.M. in Music Composition (p. 560)
- M.M. in Digital Arts and Sound Design (p. 560)
- M.M. in Media Writing and Production (p. 560)

D.M.A. in Composition

Composition Courses		
MTC 715	Composition Seminar I	8
or MTC 716	Composition Seminar II	
MTC 782	Composition Workshop	4
Creative Activities		
MTC 831	Doctoral Essay	12
Theory/Composition Courses		
MTC 711	Theory Pedagogy	3
Music Theory courses		12
Musicology Courses		
Musicology courses		9
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

M.M. in Digital Arts and Sound Design

Major Area		
MTC 607	Studio Licensing	2
MTC 705	Digital Art And Sound Design	2
MTC 767	Advanced Electronic and Computer Music Seminar	6
Digital Arts Courses		6
MTC 810	Master's Thesis	6
Other Studies in Music		
Ensemble appropriate for Music Technology (based on approval of Department Chair)		4
MMI 610	Computational Psychoacoustics	3
Electives		
Approved Elective in MTC		3
Graduate Level Electives at the 700 level		3
Total Credit Hours		35

M.M. in Media Writing and Production

Major Area		
MMI 620	Audio Technology for Musicians	3
MTC 611	Film Scoring I	3
MTC 612	Film Scoring II	3

MTC 763	Virtual Orchestration	3
MTC 746	Studio Production	6
MTC 796	Studio Production Ensemble	3
MTC 813	Master's Media Writing Project	3
Other Studies in Music		
MMI 630	Entrepreneurship for Musicians	3
MSJ 714	Advanced Orchestration	3
Electives		
Electives		2-3
Total Credit Hours		32-33

M.M. in Music Composition

Major Area		
MTC 715	Composition Seminar I	2
MTC 716	Composition Seminar II	2
MTC 810	Master's Thesis	6
Select two of the following:		6
MTC 711	Theory Pedagogy	
MTC 713	Twentieth Century Idioms	
MTC 717	Analytical Techniques	
Other Studies in Music		
MCY 624	Contemporary Music	3
Music History Electives		3
Applied Lessons		2
Approved Ensembles		2
Electives		
Approved Elective in MTC		3
Graduate Electives at the 700 Level		3
Total Credit Hours		32

Musicology

Degree Programs

Graduate students seeking the M.M. in Musicology at the Frost School of Music enjoy a balanced curriculum of study in music literature, analysis, performance, and research methods.

Our stellar faculty and extensive library resources help students fulfill their musical and academic goals while preparing for advanced study. Musicology majors interact and collaborate with others in a variety of musical disciplines, gaining insight into the role their own specialization plays in a thriving musical environment.

Masters

Masters Program in Musicology

- M.M. in Musicology (p. 560)

M.M. in Musicology

Major Area		
MCY 628	Music Bibliography	3
MCY XXX	Musicology Courses	12

MCY 810	Master's Thesis	6
Other Studies in Music		
MCY 711	Musicology Pedagogy	3
MTC 717	Analytical Techniques	3
Electives		
MCY XXX	Electives	3
Total Credit Hours		30

Musicology students are expected to demonstrate proficiency in a language other than English, normally German, French, or Spanish. Proficiency examinations will be administered by the Department of Modern Languages and will consist of 1-2 passages from representative scholarly readings. Alternatively, enrolling in ITA 625, FRE 625, or an equivalent course at the graduate level may fulfill the requirement. This requirement should be completed by the beginning of the second year to facilitate research on the master's thesis.

Studio Music and Jazz

Degree Programs

The mission of the Studio Music and Jazz Instrumental Degree Programs is to: (1) prepare jazz instrumentalists to enter the music profession or further jazz studies; (2) identify, recruit, and retain high quality students who seek to pursue studio/jazz performance as a career; (3) foster faculty creativity and performance which serves as a role model for students; (4) develop, and revise courses in jazz improvisation, jazz arranging/composition and provide on and off campus performance opportunities; (5) produce in our on campus facility, recordings for the Down Beat Student Music Awards, compact discs, radio and Internet broadcast; and (6) provide a platform of learning that includes performance, composition/arranging, technology, conducting, scholarship and production. For more information on the Studio Music and Jazz department, please visit http://www.miami.edu/frost/index.php/studio_music_and_jazz/

Doctoral

Doctoral Programs in Studio Music and Jazz

- D.M.A. in Jazz Composition (p. 561)
- D.M.A. in Jazz Performance (p. 561)

Masters

Masters Programs in Studio Music and Jazz

- M.M. in Jazz Performance, Instrumental (p. 562)
- M.M. in Jazz Performance, Vocal (p. 562)
- M.M. in Jazz Pedagogy (p. 561)
- M.M. in Studio Jazz Writing (p. 562)

D.M.A. in Jazz Composition

Performance Courses		
Applied Jazz Composition and Jazz Arranging Lessons		14
Creative Activities		
MED 702	DMA Essay Proposal	1
MSJ 831	Doctoral Essay	11

Jazz Courses		
MSJ 644	Jazz Pedagogy and Administration	3
MSJ 720	Analysis of Jazz Styles	3
MED 790	Teaching Music in College	1
Jazz Elective		3
Allied Music Courses		
MCY 628	Music Bibliography	3
MTC 717	Analytical Techniques (or other MTC course)	3
MED 662	Psychology of Music I	3
Musicology/Music Theory Elective		3
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

D.M.A. in Jazz Performance

Performance Courses		
Applied Lessons		6
Ensembles		3
Performance Electives (improvisation, ensembles, applied lessons) ¹		3
Creative Activities		
MED 702	DMA Essay Proposal	1
MSJ 832	Doctoral Recital	3
MSJ 831	Doctoral Essay	8
Jazz Courses		
MSJ 644	Jazz Pedagogy and Administration	3
MSJ 720	Analysis of Jazz Styles	3
MED 790	Teaching Music in College	1
Jazz Performance Ensembles		3
Jazz Electives		2
Allied Music Courses		
MCY 628	Music Bibliography	3
MTC 717	Analytical Techniques (or other MTC course)	3
MED 662	Psychology of Music I	3
Musicology/Music Theory Elective		3
Cognate/Electives		
Select 12 credit hours of Cognate/Electives		12
Total Credit Hours		60

¹ Jazz performance electives may be substituted for applied lesson credit hour with the permission of advisor.

M.M. in Jazz Pedagogy

Major Area		
Applied Lessons		4
Jazz Ensembles		2
Jazz Improvisation		3
MSJ 644	Jazz Pedagogy and Administration	3
MED 662	Psychology of Music I	3
MED 740	Community Music Program	3

MSJ 719	Large Jazz Ensemble Conducting And Repertoire	2
Comprehensive Exam		
Other Studies in Music		
MSJ 715	Jazz Composition Seminar I	2
MSJ 620	Advanced Modern Arranging II	3
MSJ 720	Analysis of Jazz Styles	3
Electives		
Approved Electives		5
Total Credit Hours		33

M.M. in Jazz Performance, Instrumental

Major Area		
Applied Lessons		4
Jazz Ensembles		3
Jazz Improvisation		6
MSJ 715	Jazz Composition Seminar I	2
MSJ 716	Jazz Composition Seminar II	2
MSJ 812	Master's Recital	1
MED 701	Recital Paper Preparation	1
MSJ 811	Master's Recital Paper	2
Other Studies in Music		
MSJ 644	Jazz Pedagogy and Administration	3
MSJ 720	Analysis of Jazz Styles	3
Electives		
Approved Electives		4
Total Credit Hours		31

M.M. in Jazz Performance, Vocal

Major Area		
Applied Lessons		4
Jazz Ensembles		3
Jazz Improvisation		6
MSJ 715	Jazz Composition Seminar I	2
MSJ 716	Jazz Composition Seminar II	2
MSJ 812	Master's Recital	1
MED 701	Recital Paper Preparation	1
MSJ 811	Master's Recital Paper	2
Other Studies in Music		
MSJ 644	Jazz Pedagogy and Administration	3
MSJ 720	Analysis of Jazz Styles	3
Electives		
Approved Electives		4
Total Credit Hours		31

M.M. in Studio Jazz Writing

Major Area		
MSJ 715	Jazz Composition Seminar I	2
MSJ 621	Advanced Modern Arranging III	3

MSJ 714	Advanced Orchestration	3
MSJ 622	Introduction to Midi Sequencing and Digital Workstations	2
MSJ 775	Jazz Writing Ensemble	4
MSJ 813	Master's Jazz Writing Project	3
Other Studies in Music		
MMI 620	Audio Technology for Musicians	2
MMI 630	Entrepreneurship for Musicians	3
MTC 611	Film Scoring I	3
MTC 612	Film Scoring II	3
MTC 715	Composition Seminar I	2
Electives		
Approved Electives		2
Total Credit Hours		32

Vocal Performance

Graduate students seeking a degree in the department of Vocal Performance have already proven themselves to be highly accomplished artists. They come to the Frost School of Music to further hone their skills, to discover new perspectives, and to gain a competitive edge for the next step in their professional careers. Candidates for our advanced degrees in performance, conducting, and pedagogy (http://www.miami.edu/frost/index.php/vocal_performance/degrees) are leaders in the various programs of the Department of Vocal Performance, and they, in turn, go on to become leaders in their respective areas of specialty. For more information please visit the website for the department of Vocal Performance at http://www.miami.edu/frost/index.php/vocal_performance/

Doctoral

Doctoral Programs in Vocal Performance

- D.M.A. in Choral Conducting (p. 563)
- D.M.A. in Vocal Pedagogy and Performance (p. 563)
- D.M.A. in Vocal Performance (p. 563)

Masters

Masters Programs in Vocal Performance

- M.M. in Choral Conducting (p. 563)
- M.M. in Vocal Performance (p. 564)

Artist Diploma

Artist Diploma in Vocal Performance

The Artist Diploma in Vocal Performance is a program of advanced study designed for the outstanding career-oriented performer. The curriculum emphasizes preparation for major competitions, auditions, apprenticeships, and the development of a performance career. Entrance to the program is limited to those individuals who have demonstrated exceptional performance skills by audition. A fully enrolled student can complete the 18 credit hour program in one year.

Requirements		
Applied Lessons		8
Performance Ensembles		2

Recital	2
Approved Studies in Music	6
Total Credit Hours	18

D.M.A. in Choral Conducting

Conducting Courses	
Applied Lessons	4
MVP 772 Choral Conducting: Major Work Emphasis or MVP 773 Choral Conducting Workshop: Smaller Choral Works	2
Ensembles MVP 700 level (1 credit hour each)	4
MVP 608 Choral Score Study	2
MED 732 Vocal Methods and Materials in Music Education	2
MTC 615 Choral Arranging	3
MCY 635 Choral Literature I	2
MCY 636 Choral Literature II	2
MED 790 Teaching Music in College	1
Electives	2
Creative Activities	
MED 702 DMA Essay Proposal	1
MVP 831 Doctoral Essay	8
MVP 832 Doctoral Recital	3
Allied Music Courses	
MTC 717 Analytical Techniques (or other MTC course)	3
Performance Seminars	3
MVP 638 Vocal Pedagogy	2
Applied Voice or Piano Lessons (1 credit hour each)	4
Cognate/Electives	
Select 12 credit hours of Cognate/Electives	12
Total Credit Hours	60

D.M.A. in Vocal Pedagogy and Performance

Performance Courses	
Applied Lessons	8
MVP 788 Opera Theater	2
MVP 652 Vocal Performance Preparation	2
Creative Activities	
MVP 832 Doctoral Recital	2
MED 702 DMA Essay Proposal	1
MVP 831 Doctoral Essay	9
Vocal Pedagogy	
Vocal Literature for Teaching	
Select 18 credit hours of the following:	18
MVP 710 Vocal Literature For Teaching: English	
MVP 712 Vocal Literature for Teaching: German	
MVP 711 Vocal Literature for Teaching: Italian	
MVP 713 Vocal Literature For Teaching: French	
MVP 730 Studio Teaching Techniques	

MVP 714 Vocal Literature for Teaching: Musical Theater	
MVP 738 Advanced Vocal Pedagogy	
MVP 739 Vocal Pedagogy Internship	
MED 780 Doctoral Seminar	
MED 790 Teaching Music in College	
MVP 736 Voice Disorders	
Allied Music Courses	
MED 662 Psychology of Music I	3
MTC 717 Analytical Techniques (or other MTC course)	3
Cognate/Electives	
Select 12 credit hours of Cognate/Electives	12
Total Credit Hours	60

D.M.A. in Vocal Performance

Performance Courses	
Applied Lessons	12
MVP 652 Vocal Performance Preparation	6
MVP 788 Opera Theater	3
Creative Activities	
MED 702 DMA Essay Proposal	1
MVP 831 Doctoral Essay	8
MVP 832 Doctoral Recital	3
Allied Music Courses	
Musicology (Art Song Literature and Opera Literature or other MCY courses)	6
MTC 717 Analytical Techniques (or other MTC course)	3
Performance Seminars	2
MVP 738 Advanced Vocal Pedagogy	3
MED 790 Teaching Music in College	1
Cognate/Electives	
Select 12 credit hours of Cognate/Electives	12
Total Credit Hours	60

M.M. in Choral Conducting

Major Area	
Applied Lessons	2
MVP 608 Choral Score Study	2
MVP 638 Vocal Pedagogy	2
MVP 772 Choral Conducting: Major Work Emphasis or MVP 773 Choral Conducting Workshop: Smaller Choral Works	2
Choral Ensembles	3
MED 701 Recital Paper Preparation	1
MVP 812 Master's Recital	1
MVP 811 Master's Recital Paper	2
Other Studies in Music	
MTC 717 Analytical Techniques (or other MTC course)	3
MCY 635 Choral Literature I	2
MCY 636 Choral Literature II	2

MED 732	Vocal Methods and Materials in Music Education	2
Electives		
Approved electives in Voice Lessons, Piano Lessons or Diction		4
Approved Electives		3
Total Credit Hours		31

M.M. in Vocal Performance

The candidate must demonstrate the ability to sing in English, French, German, and Italian; be knowledgeable of the more difficult arias of opera and oratorio and of recitative in both the free and measured forms; have a thorough acquaintance with the general song literature; and be able to present a creditable recital. Each student who enters the Master of Music Degree Program in Voice must show undergraduate credit hour equivalent, or enroll for the following courses before graduation:

MCY 622	Operatic Literature	3
MCY 625	Art Song Literature	3
MVP 638	Vocal Pedagogy	2-3
MVP 738	Advanced Vocal Pedagogy	3
Two semesters of college-level Italian ¹		
Two semesters of college-level French ¹		
Two semesters of college-level German ¹		
Total Credit Hours		11-12

¹ or demonstrate by departmental examination, acceptable proficiency in these languages

Degree Requirements

Major Area		
Applied Lessons		4
MVP 652	Vocal Performance Preparation	4
Performance Ensembles		4
MVP 738	Advanced Vocal Pedagogy	3
MVP 812	Master's Recital	1
MED 701	Recital Paper Preparation	1
MVP 811	Master's Recital Paper	2
Other Studies in Music		
MTC 717	Analytical Techniques	3
Approved Musicology Course		3
Electives		
Approved Electives		5
Total Credit Hours		30

Nursing and Health Studies

<http://www.miami.edu/nursing>

DEPARTMENT CODE: NUR

The School of Nursing and Health Studies offers three graduate degrees:

- Master of Science in Nursing (MSN)
- Doctor of Nursing Practice (DNP)
- Doctor of Philosophy (PhD) in Nursing

If admitted to an MSN, DNP or PhD program, all students must successfully pass a background check which includes fingerprinting and drug screening, and must also provide proof of current immunizations. These requirements must be met prior to registering for courses.

Note that courses and policies are subject to change throughout the academic year. Please refer to the 2015-2016 Student Handbook for the applicable curriculum and progression policies.

Master of Science in Nursing

The Master of Science in Nursing (MSN) degree program is designed for professional nurses holding a Bachelor of Science degree with a major in nursing (BSN). Registered nurses with baccalaureate degrees in other fields are also eligible to apply for admission. Specialty tracks focus on selected areas of advanced practice nursing and nursing education. The degree requirements may be completed in three semesters of full-time study. Part-time study is also available (five semesters). Further information about each program may be obtained from:

Office of Student Services
School of Nursing and Health Studies
University of Miami
P.O. Box 248153
Coral Gables, FL 33124-3850

Visit us on-line at: http://www.miami.edu/sonhs/index.php/sonhs/academics/master_programs/
E-mail: Nursinggrad@miami.edu
Call: 305-284-4325

The MSN Program is accredited by:

Commission on Collegiate Nursing Education (CCNE)
One DuPont Circle NW, Suite 530
Washington, DC 20036
202-887-6791

Additional national accreditation is from:

Council on Accreditation of Nurse Anesthesia Education Programs (COA)
222 South Prospect Avenue
Park Ridge, Illinois
60068-4001
847-692-7050 (ext. 1154)

Graduate Student Responsibilities

Students in the School of Nursing and Health Studies are responsible for meeting the degree requirements. It is the student's responsibility to comply with all the provisions of the *Bulletin* and written changes to the program of study. Students are provided assistance by faculty advisors

and faculty members. Requests for deviation from the program of study or school requirements are granted only by written approval from the Associate Dean or Dean. Students who are in violation of the provisions of this *Bulletin* may be withdrawn unilaterally by appropriate School officials from classes, deleted as Nursing and Health Studies students or have a stop placed upon their future enrollment. The school reserves the right to change academic requirements to include course offerings to ensure that students are receiving the latest knowledge. Classes may be held on weekdays or weekends, and will be listed as such in the course schedule. Changes are transmitted by written notice in the current year of the School of Nursing and Health Studies Master's Handbook located at www.miami.edu/sonhs (<http://www.miami.edu/sonhs>) or by the Dean.

Progression/Dismissal Policy

In order for MSN students to progress through their programs to completion, the academic policy is as follows:

1. Any graduate student who receives a "C" or lower in a nursing course will be dismissed from his or her program.
2. A grade of "B-" or "C+" for a course is below graduate standards, and the student must repeat that course. However, a student may only repeat one course, one time. The student will be dismissed if he/she fails a second course even if he/she retook and passed the previous failed course.
3. A passing grade in all clinical experiences is required to pass a course having a clinical component (generally listed as a "lab section" by UM). Students who are not making satisfactory progress may also receive an academic alert at mid-semester or mid-course.
4. All grades are included in the computation of the UM overall grade point average including those that are failed or repeated.

MSN Admission Requirements (Advance Practice Specialties)

Admission to graduate programs in the School of Nursing and Health Studies is subject to the rules, regulations, and procedures as determined by each graduate nursing program and the Graduate Bulletin of the University of Miami. Admission to the master's program requires:

- Submission of a complete University of Miami Graduate School application for admission
- A Baccalaureate degree (BSN preferred) from a regionally-accredited institution
- Official transcripts from all undergraduate and graduate institutions attended, unless the applicant is a graduate of the University of Miami
- Three letters of reference, at least one of which is from an academic source
- Statement of professional goals for graduate study
- Current resume
- One year of Critical Care Experience is required for the Adult-Gerontology Acute Care Nurse Practitioner program
- Prerequisite: Introductory Statistics Course
- Current (unrestricted) RN license (once admitted to the program, students must provide a Florida RN license)
- Photocopies of the following certifications:

Adult-Gerontology	BLS
Primary Care NP	

Adult-Gerontology Acute Care NP	BLS	ALS
Family NP	BLS	
Nurse Education	BLS	

- Applicants for whom English is not the native language must comply with the Minimum Score Requirement in the University's policy on Examinations for International Students located at: http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements/
- Interviews are part of the admissions process, and candidates selected for interviews will be notified.

Students must submit to drug screening and background checks. See the School of Nursing and Health Studies Student Handbook 2015-16 for further information.

MSN SPECIALTY TRACKS

- Adult-Gerontology ACUTE CARE Nurse Practitioner
- ADULT-Gerontology Primary Care NURSE PRACTITIONER
- FAMILY NURSE PRACTITIONER
- NURSE EDUCATION

Programs leading to the Master of Science in Nursing (MSN) degree prepare students for Advanced Practice Nursing in Adult-Gerontology Acute Care Nurse Practitioner, Adult-Gerontology Primary Care Nurse Practitioner, Family Nurse Practitioner, and Nurse Education.

Doctor of Nursing Practice

The DNP degree is a practice-focused doctorate designed for nurses seeking a terminal degree in nursing practice. The DNP Program is accredited by:

Commission on Collegiate Nursing Education (CCNE)
One DuPont Circle NW, Suite 530
Washington, DC 20036
202-887-6791

The program is offered in two formats: the MSN-DNP and the BSN-DNP Nurse Anesthesia track. The Nurse Anesthesia track is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs (COA), Park Ridge, Illinois.

The outcome objectives for graduates of the DNP program are to:

- Integrate knowledge, theories, and concepts from the biophysical, psychosocial, analytical, and organization sciences to develop ethical health care systems and new frontiers for nursing practice that address health care disparities.
- Evaluate research methods and findings to create an evidence base for nursing practice and health care delivery systems that reflect best practices and alleviate health care disparities.
- Synthesize knowledge gained from traditional and innovative learning methods to lead quality, cost-effective health care collaborations addressing health care disparities.
- Demonstrate expert clinical judgment and knowledge of health care systems to design, deliver and evaluate evidence-based care interventions to reduce health care disparities.

- Model expert nursing practice and serve as mentors to nursing colleagues in their efforts to improve nursing practice and health care systems.
- Employ knowledge of health care policy and economics to develop and evaluate programs to address health care disparities.

MSN-DNP Admission Requirements

- A baccalaureate degree and a master's degree, preferably in nursing, from an accredited institution. Individuals without an MSN are evaluated on a case-by-case basis for admission.
- Minimum 3.0 GPA from MSN program.
- Official transcripts from all undergraduate and graduate institutions attended, unless the applicant is a graduate of the University of Miami.
- Two (2) letters of recommendation, at least one of which is from an academic source, and preferably from individuals with an earned doctorate in nursing.
- Statement of professional goals for graduate study.
- Current resume.
- National specialty certification in an area of nursing practice.
- Current (unrestricted) RN license¹.
- Current Basic Life Support certification (i.e., CPR or BLS).
- Applicants for whom English is not their native language must comply with the minimum score requirement in the University's policy on Examinations for International Students located at http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements/.
- Interviews will be scheduled as requested by faculty.
- Documentation of completion of a minimum of 440 precepted clinical hours or supervised residency hours in master's level program. An applicant who cannot provide such documentation may submit a portfolio for evaluation of equivalent clinical hours. Contents of the portfolio should include:
 1. Descriptions of any supervised internship or residency experiences in their master's program.
 2. Descriptions of any supervised internship or residency experiences they may have had after their master's programs.
 3. Descriptions of nursing practice-related supervised projects in their master's programs.
 4. Descriptions of nursing practice-related supervised projects they accomplished after their master's programs (community or service sector). Any of the projects must have been accomplished outside of work hours.
 5. Signed statement from supervisor of project with the number of hours in the project.
 6. Names and contact information of the supervisors who can be contacted to describe the experiences listed above.

Final assignment of portfolio clinical hours is non-negotiable and is based on the level and nature of the supervision, the type, and applicant's responsibilities in the project.

Students must submit to drug screening and background checks. See the School of Nursing and Health Studies Student Handbook 2015-16 for further information.

- ¹ International and out-of-state students are welcome in the DNP program. They must have a degree equivalent to a U.S. baccalaureate degree in nursing. However, some assignments are limited to students holding current Florida RN licenses and BLS certification.

Doctor of Nursing Practice - Nurse Anesthesia Track

The BSN-DNP Nurse Anesthesia program is available as an entry into practice degree, meaning it is available to post-baccalaureate nurses, with or without a master's degree in nursing. The DNP anesthesia track degree is a practice-focused doctorate. The program is a lock-step program; students must successfully complete a semester to progress to the next semester.

BSN-DNP Nurse Anesthesia Track Admission Requirements

- Bachelor's degree in nursing from an NLN or CCNE accredited program of nursing is preferred. Registered nurses with a bachelor's degree in other relevant science fields will be considered on an exception basis.
- Official transcripts from undergraduate and graduate institutions, unless the applicant is a graduate of the University of Miami.
- A current, unrestricted license to practice nursing in the state of Florida, or the state or territory of current practice (once admitted to the program, must obtain Florida licensure).
- Nursing GPA 3.0.
- Statistics course within 5 years.
- **Minimum** of 2 years critical care experience within the last five years.
- Current resume/curriculum vitae.
- Written personal goal statement which describes your future role as a DNP within the health care system.
- 3 letters of recommendation: 1 from a current clinical supervisor, 1 from a former/current academic faculty member, 1 from a community leader or professional colleague.
- Current Basic Life Support (BLS), Advanced Cardiac Life Support (ACLS), & Pediatric Advanced Life Support (PALS) certificates.
- Applicants for whom English is not their native language must comply with the minimum score requirement in the University's policy on Examinations for International Students located at http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements/.
- Successful completion of a pre-admission interview (personal interview).
- Interviews will be scheduled as requested by faculty.

Students must submit to drug screening and background checks. See the School of Nursing and Health Studies Student Handbook 2015-16 for further information.

Doctor of Philosophy

The Ph.D. with a major in Nursing Science requires a minimum of 41 credit hours of coursework beyond the master's degree or 62 credit hours of coursework beyond the bachelor's degree. The principal goal of the PhD with a major in Nursing Science is to prepare scholars and researchers who will contribute to the growth of science in nursing through recognized methods of scholarly inquiry. Admission to the doctoral program is competitive.

PhD Admission Requirements

- Baccalaureate or a master's degree in nursing from an accredited college or university (or equivalent for international applicants), with a minimum 3.0 GPA.
- Official transcripts from all undergraduate and graduate institutions attended, unless the applicant is a graduate of the University of Miami.
- Statement of professional goals for graduate study, including research interests and fit with faculty.
- Resume/CV.
- Three (3) letters of recommendation, one of which must be from an academic source.
- Licensed as a professional nurse (not required for international applicants).
- Competitive GRE scores.
- International applicants for whom English is not their native language must comply with the minimum score requirement in the University's policy on Examinations for International Students located at http://www.miami.edu/admission/index.php/undergraduate_admission/apply/international_applicants/toefl_or_other_english_proficiency_requirements/.
- Interviews will be scheduled as requested by faculty.

Students must submit to drug screening and background checks. See the School of Nursing and Health Studies PhD Student Handbook 2015-16 for further information.

Financial Assistance

Full-time PhD students are considered for support which may include:

1. Tuition Scholarships. These awards vary in amount and are intended to assist the recipient in pursuit of study and research as required by the degree. These scholarships are awarded on a competitive basis.
2. Graduate Stipends. These cash awards, paid monthly, are intended as part of an educational assistance program for PhD degree students. The stipends require service in the form of teaching, research assistance, or other appropriate educational activities that may be designated by the supervisor of the recipient.

For further information, contact:

Office of Student Services
 School of Nursing and Health Studies
 University of Miami
 P.O. Box 248153
 Coral Gables, FL 33124-3850
 Phone: 305-284-4325

Masters

Master of Science in Nursing with Specialty Tracks in:

- Adult-Gerontology Acute Care Nurse Practitioner (p. 573)
- Adult-Gerontology Primary Care Nurse Practitioner (p. 574)
- Family Nurse Practitioner (p. 575)

Doctoral

- Doctor of Nursing Practice MSN-DNP (p. 569)
- Doctor of Nursing Practice - Nurse Anesthesia Track (BSN-DNP) (p. 568)
- Ph.D. in Nursing Science (p. 576)

Doctor of Nursing Practice - Nurse Anesthesia Track (BSN-DNP)

BSN-DNP Completion Requirements

To receive the Doctor of Nursing Practice Degree, the student must:

1. Complete all course work as required with an overall GPA of 3.0 or better.
2. Complete all required clinical and practice immersion hours.
3. Successfully complete the capstone project before graduation.
4. Successfully complete annual benchmark exams, before progressing into next phase of the program.
5. Successfully pass the DNP comprehensive examination. The exam is an integrative experience to demonstrate students' mastery of the outcome objectives of the program.
6. Pass a comprehensive clinical nurse anesthesia oral board examination.

BSN-DNP Nurse Anesthesia

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 611	Foundations Of Anesthesia Science Technology For Nurse Anesthetist	5	4	1	56
NUR 612	Physiology/ Pathophysiology for Advanced Practice Nursing	3	3	0	0

NUR 613	Advanced Health Assessment and Diagnostic Reasoning	3	2	1	28
Total for Semester		14	12	2	84
Summer I					
NUR 614	Basic Concepts In Anesthesia Nursing	5	4	1	56
NUR 617	Pharmacology For Anesthesia Nursing		3	0	0
NUR 654	The Evolution Of Nursing Practice Application Of Theory In Nursing Practice	3	3	0	0
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0
Total for Semester		14	13	1	56
Fall I					
NUR 619	Advanced Concepts Of Anesthesia Nursing I	7	3	4	224
NUR 655	Health Care Management Economics, Financing, And Ethics	3	3	0	0
NUR 664	Research Ii: Biostatistical Applications For Nursing Practice	3	3	0	0
Total for Semester		13	9	4	224
Spring II					

NUR 620	Advanced Concepts Of Anesthesia Nursing Ii	9	3	6	336
NUR 658	Structure and Processes in Health Care Organization and Health Care Policy	3	3	0	0
NUR 676	Practice Immersion Experience I	2	0	2	112
Total for Semester		14	6	8	448
Summer II					
NUR 645	Interdisciplinary Anesthesia Nursing I	3	3	5	280
NUR 660	Translation Science	3	3	0	0
NUR 688	Health Systems Development And Leadership Practice Immersion Ii	2	1	1	56
Total for Semester		13	7	6	336
Fall II					
NUR 646	Interdisciplinary Anesthesia Nursing II	3	3	7	392
NUR 656	Global Health	3	3	0	0
NUR 659	Technology In Health Care	3	2	1	56
NUR 689	New Method Of Implementa Practice Immersion Experience Iii	2	0	2	112
Total for Semester		18	8	10	560
Spring III					

NUR 615	Professional Aspects of Anesthesia Nursing	2	2	0	0
NUR 650	INTERDISCIPLINARY ANESTHESIA NURSING III	3	3	8	448
NUR 672	Capstone I	3	1	2	112
Total for Semester		16	6	10	560
Summer III					
NUR 657	Population Based Health And Health Care Disparities	3	3	0	0
NUR 694	Clinical Practicum For Dnp Nurse Anesthesia	6	0	6	336
Total for Semester		9	3	6	336
Fall III					
NUR 673	Capstone II	3	1	2	112
NUR 695	Clinical Practicum For Dnp Nurse Anesthesia	6	0	6	336
Total for Semester		9	1	8	448
Total Program		120	65	55	3052

¹ SIM (1 credit=2 lab hours)

Doctor of Nursing Practice MSN-DNP

MSN-DNP Degree Requirements

To receive the Doctor of Nursing Practice degree, the candidate must:

1. Complete all coursework as required with an overall GPA of 3.0 or better.
2. Complete all required clinical hours.
3. Successfully complete the capstone project.
4. Successfully pass a comprehensive examination. The exam is an integrative experience to demonstrate students' mastery of the outcome objectives of the program.

One Year MSN-DNP Plan

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 654	The Evolution Of Nursing Practice Application Of Theory In Nursing Practice	3	3	0	0
NUR 658	Structure and Processes in Health Care Organization and Health Care Policy	3	3	0	0
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0
NUR 664	Research II: Biostatistics Applications For Nursing Practice	3	3	0	0
NUR 676	Practice Immersion Experience I	4-12	1	3-11	168-608
Total for Semester		16-24	13	3-11	168-608
Summer I					
NUR 660	Translational Science		3	0	0
NUR 657	Population Based Health And Health Care Disparities	3	3	0	0
NUR 672	Capstone I	3	1	2	112
NUR 688	Health Systems Development And Leadership Practice Immersion II	2	0	2	112
Total for Semester		11	7	4	224
Fall I					

NUR 655	Health Care Management Economics, Financing, And Ethics	3	3	0	0
NUR 656	Global Health	3	3	0	0
NUR 659	Technology In Health Care	3	2	1	56
NUR 673	Capstone II	3	1	2	112
Total for Semester		12	9	3	168
Total Program		39-47	29	10-18	560-1000

Two Year MSN-DNP Plan - Fall Entry

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0
NUR 664	Research II: Biostatistics Applications For Nursing Practice	3	3	0	0
Total for Semester		6	6		
Spring I					
NUR 654	The Evolution Of Nursing Practice Application Of Theory In Nursing Practice	3	3	0	0
NUR 658	Structure and Processes in Health Care Organization and Health Care Policy	3	3	0	0
Total for Semester		6	6		
Summer I					

NUR 657	Population Based Health And Health Care Disparities	3	3	0	0
NUR 660	Translation Science	3	3	3	0
Total for Semester		6	6	3	
Fall II					
NUR 655	Health Care Management Economics, Financing, And Ethics	3	3	0	0
NUR 659	Technology In Health Care	3	2	1	56
NUR 656	Global Health	3	3	3	0
Total for Semester		9	8	4	56
Spring II					
NUR 672	Capstone I	3	1	2	112
NUR 676	Practice Immersion Experience I	4-12	1	3-11	168-608
Total for Semester		7-15	2	5-13	280-720
Summer II					
NUR 688	Health Systems Development And Leadership Practice Immersion li	2-12	0	2	112
NUR 673	Capstone II	3	1	2	112
Total for Semester		5-15	1	4	224
Total Program		39-57	29	16-24	560-1000

One Year Plus MSN-DNP Plan (Part-Time to Full-Time)

Fall I	Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 655	Health Care Management, Economics, Financing, And Ethics	3	0	0

NUR 659	Technology In Health Care	3	2	1	56
Total for Semester		6	5	1	56
Spring I					
NUR 654	The Evolution Of Nursing Practice Application Of Theory In Nursing Practice	3	3	0	0
NUR 658	Structure and Processes in Health Care Organization and Health Care Policy	3	3	0	0
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0
NUR 664	Research li: Biostatistical Applications For Nursing Practice	3	3	0	0
NUR 676	Practice Immersion Experience I	4-12	1	3-11	168-608
Total for Semester		16-24	13	3-11	168-608
Summer I					
NUR 660	Translation Science	3	3	0	0
NUR 657	Population Based Health And Health Care Disparities	3	3	0	0
NUR 672	Capstone I	3	1	2	112

NUR 688	Health Systems Development And Leadership Practice Immersion li	2	0	2	112
Total for Semester		11	7	4	224
Fall II					
NUR 656	Global Health	3	3	0	0
NUR 673	Capstone II	3	1	2	112
Total for Semester		6	4	2	112
Total Program		39-47	29	10-18	560-1000

Two Year MSN-DNP Plan - Spring Entry

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 654	The Evolution Of Nursing Practice Application Of Theory In Nursing Practice	3	3	0	0
NUR 658	Structure and Processes in Health Care Organization and Health Care Policy	3	3	0	0
Total for Semester		6	6		
Summer I					
NUR 688	Health Systems Development And Leadership Practice Immersion li	2	0	2	112
Total for Semester		2		2	112
Fall I					

NUR 655	Health Care Management Economics, Financing, And Ethics	3	3	0	0
NUR 656	Global Health	3	3	0	0
Total for Semester		6	6		
Spring II					
NUR 663	Research I: Evaluating the Evidence for Practice	3	3	0	0
NUR 664	Research Ii: Biostatistics Applications For Nursing Practice	3	3	0	0
NUR 676	Practice Immersion Experience I	4-12	1	3-11	168-608
Total for Semester		10-18	7	3-11	168-608
Summer II					
NUR 672	Capstone I	3	1	2	112
NUR 657	Population Based Health And Health Care Disparities	3	3	0	0
NUR 660	Translational Science		3	0	0
Total for Semester		9	7	2	112
Fall II					
NUR 659	Technology In Health Care	3	2	1	56
NUR 673	Capstone II	3	1	2	112
Total for Semester		6	3	3	168
Total Program		39-47	29	10-18	560-1000

MSN in Nursing - Adult-Gerontology Acute Care Nurse Practitioner

One Year Plan of Study

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 610	Adult Gerontology Acute Care I	4	2	2	112
NUR 612	Physiology/3 Pathophysiology for Advanced Practice Nursing	3	3	0	0
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0
Total for Semester		13	10	3	112
Spring I					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 621	Diagnostics and Nursing Interventions for Acute Care Nursing	3	2	1	56
NUR 625	Adult Gerontology Acute Care II	7	3	4	224
Total for Semester		13	8	5	280
Summer I					
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0

NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
NUR 638	Adult Gerontology Acute Care III	6	2	4	224
Total for Semester		11	7	4	224
Total Program		37	25	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

Two Year Part-Time Plan

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 612	Physiology/3 Pathophysiology for Advanced Practice Nursing	3	3	0	0
Total for Semester		6	6		
Summer I					
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
Total for Semester		5	5		
Fall I					
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0

NUR 610	Adult Gerontology Acute Care I	4	2	2	112
Total for Semester		7	4	3	112
Spring II					
NUR 621	Diagnostics 3 and Nursing Intervention for Acute Care Nursing	3	2	1	56
NUR 625	Adult Gerontology Acute Care Ii	7	3	4	224
Total for Semester		10	5	5	280
Summer II					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 638	Adult Gerontology Acute Care Iii	6	2	4	224
Total for Semester		9	5	4	224
Total Program		37	25	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

MSN in Nursing - Adult-Gerontology Primary Care Nurse Practitioner

One Year Plan of Study

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 612	Physiology/ Pathophysics for Advanced Practice Nursing	3	3	0	0

NUR 613	Advanced Health Assessment and Diagnostic Reasoning I	3	2	1	0
NUR 628	Adult Gerontology I	4	2	2	112
Total for Semester		13	10	3	112
Spring I					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 631	Adult Gerontology Ii	7	2	5	280
Total for Semester		10	5	5	280
Summer I					
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
NUR 647	Advanced Practice Nursing Integration	7	3	4	224
Total for Semester		12	8	4	224
Total Program		35	23	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

Two Year Part-Time Plan

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0

NUR 612	Physiology/3 Pathophysic for Advanced Practice Nursing	3	0	0	
Total for Semester		6	6		
Summer I					
NUR 609	Professiona2 in Advanced Practice Nursing	2	0	0	
NUR 630	Research Methods and Evidence- Based Practice	3	3	0	0
Total for Semester		5	5		
Fall I					
NUR 613	Advanced Health Assessment and Diagnostic Reasoning 1	3	2	1	0
NUR 628	Adult Gerontology I	4	2	2	112
Total for Semester		7	4	3	112
Spring II					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 631	Adult Gerontology li	7	2	5	280
Total for Semester		10	5	5	280
Summer II					
NUR 647	Advanced Practice Nursing Integration	7	3	4	224
Total for Semester		7	3	4	224
Total Program		35	23	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

MSN in Nursing - Family Nurse Practitioner

One Year Plan

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 612	Physiology/3 Pathophysic for Advanced Practice Nursing	3	3	0	0
NUR 613	Advanced Health Assessment and Diagnostic Reasoning 1	3	2	1	0
NUR 628	Adult Gerontology I	4	2	2	112
Total for Semester		13	10	3	112
Spring I					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 623	MATERNAL CHILD HEALTH IN PRIMARY CARE PRACTICE	5	3	2	112
NUR 631	Adult Gerontology li	4	2	2	112
Total for Semester		12	8	4	224
Summer I					
NUR 609	Professiona2 in Advanced Practice Nursing	2	2	0	0

NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
NUR 647	Advanced Practice Nursing Integration	7	2	5	280
Total for Semester		12	7	5	280
Total Program		37	25	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

Two Year Part-Time Plan

Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 601	Advanced Pharmacology	3	3	0	0
NUR 612	Physiology/ Pathophysics for Advanced Practice Nursing	3	3	0	0
Total for Semester		6	6		
Summer I					
NUR 609	Professionalism in Advanced Practice Nursing	2	2	0	0
NUR 630	Research Methods and Evidence-Based Practice	3	3	0	0
Total for Semester		5	5		
Fall I					
NUR 613	Advanced Health Assessment and Diagnostic Reasoning ¹	3	2	1	0

NUR 628	Adult Gerontology I	4	2	2	112
Total for Semester		7	4	3	112
Spring II					
NUR 608	Concepts in Advanced Practice Nursing	3	3	0	0
NUR 623	MATERNAL CHILD HEALTH IN PRIMARY CARE PRACTICE	5	3	2	112
NUR 631	Adult Gerontology II	4	2	2	112
Total for Semester		12	8	4	224
Summer II					
NUR 647	Advanced Practice Nursing Integration	7	2	5	280
Total for Semester		7	2	5	280
Total Program		37	25	12	616

¹ NUR 613 includes 28 lab hours that are not included in clinical hours.

Ph.D. in Nursing Science

Degree Requirements

To receive the Doctor of Philosophy degree, the candidate must meet all the general requirements for the PhD degree with respect to course work, residency, the qualifying examination, 12 credit hours of dissertation, and successful defense of the dissertation.

Students in the School of Nursing and Health Studies are responsible for meeting the degree requirements. It is the student's responsibility to understand fully and comply with all the provisions of the *Bulletin* and written changes to their program of study. Students are provided assistance by advisors and faculty members. Requests for deviation from the program of study or school requirements are granted only by written approval from the Dean. Students who are in violation of the provisions of this *Bulletin* may be withdrawn unilaterally by appropriate school officials from classes, or have a stop placed upon their future enrollment. The school reserves the right to change academic requirements to ensure that students are receiving the latest knowledge. Changes are transmitted by written notice in the current year of the *School of Nursing and Health Studies PhD Student Handbook* located at www.miami.edu/sonhs (<http://www.miami.edu/sonhs>) or by the Dean.

MSN to PhD Plan

Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 662	Nursing Epistemology	4	4	0	0
NUR 665	Quantitative Research Methods	3	3	0	0
NUR 670	Qualitative Methods In Research	3	3	0	0
Total for Semester		10	10		
Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 674	Applied Statist:Gnrl Linear Mdl(Glm),Generalized Liner Mdls (Gzlm), And Gnrl Estmtng Equations (Gee)	4	4	0	0
NUR 671	Scientific and Theoretical Writing	3	3	0	0
NUR 696	Crafting the Dissertation Proposal	3	3	0	0
Total for Semester		10	10		
Fall II		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 681	Measurement of Nursing Phenomenon	3	3	0	0
NUR 679	Applied Statistics: Structural Equation Modeling and Hierarchical Linear Modeling	3	3	0	0
Elective		3	3	0	0
Total for Semester		9	9		
Spring II		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 830	Doctoral Dissertation	4	4	0	0
Summer II		Hours	Class Credits	Clinical Credits	Clinical Hours

NUR 830	Doctoral Dissertation	4	4	0	0
Fall III		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 830	Doctoral Dissertation	4	4	0	0
Total Dissertation Credits		12	12		
Total Course Credits		29	29		
Total Program		41	41		

BSN to PhD Plan

Summer I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 652	Introduction To Clinical Inquiry I	1	1	2	
NUR 698	Selected Topics	3	3	0	0
Total for Semester		6	4	2	
Fall I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 662	Nursing Epistemology	4	4	0	0
NUR 665	Quantitative Research Methods	3	3	0	0
NUR 670	Qualitative Methods In Research	3	3	0	0
Total for Semester		10	10		
Spring I		Hours	Class Credits	Clinical Credits	Clinical Hours
NUR 674	Applied Statist:Gnrl Linear Mdl(Glm),(Liner Mdls (Gzlm), And Gnrl Estmtng Equations (Gee)	4	4	0	0
NUR 671	Scientific and Theoretical Writing	3	3	0	0

NUR 696	Crafting the Dissertation Proposal	3	3	0	0
Total for Semester		10	10		
Summer II					
Summer sessions 1 and 2					
NUR 653	Introduction to Clinical Inquiry II		1	5	0
Total for Semester		6	1	5	
Fall II					
NUR 681	Measurement of Nursing Phenomenon		3	0	0
NUR 679	Applied Statistics: Structural Equation Modeling and Hierarchic Linear Modeling	3	3	0	0
Elective		3	3	0	0
Total for Semester		9	9		
Spring II					
Elective		3	3	0	0
Elective		3	3	0	0
Elective		3	3	0	0
Total for Semester		9	9		
Summer III					
NUR 830	Doctoral Dissertation	4	4	0	0
Fall III					
NUR 830	Doctoral Dissertation	4	4	0	0
Spring III					

NUR 830	Doctoral Dissertation	4	4	0	0
Total Dissertation Credits		12	12		
Total Course Credits		50	43	7	
Total Program		62	55	7	

GRADUATE STUDENT HANDBOOK FOR ONLINE STUDENTS

Message from the Dean

Graduate school at the University of Miami is a place where students gain proficiency in a specialty with the guidance of dedicated faculty in the presence of a community of world-class scholars. UM students are thought leaders and innovators whose accomplishments are showcased on a global stage. Our students represent the best and the brightest and their engagement with our faculty continues to elevate the University.

University of Miami
Graduate School
1252 Memorial Drive
235 Ashe Administration Bldg.
Coral Gables, FL 33146
Tel: 305-284-4154
Fax: 305-284-5441
Website: www.miami.edu/grad (<http://www.miami.edu/grad>)

University of Miami
Online Enrollment Office
1320 South Dixie Highway
Suite 902, Loc. 2991
Coral Gables, FL 33146
Tel: 1-800-411-2290
Website: www.miami.edu/online (<http://www.miami.edu/online>)
Email: onlineinfo@miami.edu

The Graduate Student Handbook for Online Students

The *Graduate Student Handbook for Online Students* is an excellent resource for graduate online students at the University of Miami. The Handbook contains all applicable policies and valuable information for graduate online students compiled into one comprehensive manual. Online graduate student enrollment is governed by this Handbook. This handbook describes policies and procedures pertaining to the Graduate School and online graduate study at the University of Miami. Policies or procedures for online graduate students may vary from policies or procedures of campus-based graduate students. This Graduate Student Handbook is applicable to Online Students only. In the event of a conflict between this handbook for online graduate students and any other applicable University policies or procedures, the terms of this handbook shall control. It is the student's responsibility to be aware of and comply with all policies, procedures and deadlines. Although the Handbook contains general information, students should be aware of regulations and policies that directly pertain to individual graduate programs, as many programs have additional requirements of their own, as well as a program handbook.

Policies Modification

This is the official University of Miami source for the enrollment, business, and financial policies associated with the University's UOnline programs. The University reserves the right to amend and update these policies at any point in the future. Amendments to these policies will be published on the University Registrar's website.

Please also consult these additional University of Miami policies:

- Our privacy statement (http://www.miami.edu/index.php/privacy_statement) for our privacy and data collection policies.
- Technology policies
 - http://www.miami.edu/it/index.php/a060_acceptable_use_of_info_tech_resources_by_students/
 - http://www.miami.edu/it/index.php/a046_use_of_university_computing_facilities/

About the Graduate School

About the Graduate School

The Graduate School is the administrative body overseeing all master's and doctoral programs.

Mission and Goal Statement

The mission of the Graduate School is to promote graduate education, scholarship and research; to support individuals, departments and programs in the pursuit of excellence; to foster innovative, multidisciplinary, and interdisciplinary activities; and to maintain high ethical and academic standards in graduate studies.

The standards of study and conduct in the Graduate School are high. They are not set and maintained by the Graduate School but rather by the faculty who determine the standards for their individual program. The Graduate School through its Council sets no course requirements for a degree. It does set certain general residence, grade and examination standards. Fundamentally, the Graduate School delegates responsibility to the student and his/her program. Within this broad responsibility the recommendation for the degree rests with the faculty.

Academic Calendar

Please visit the **Office of the Registrar** website for the most recent academic calendar for online programs.

Definitions

New Student

A new student is a student who has been admitted to a program and paid the enrollment deposit but not yet completed the first 7 days of the first program course.

Continuing Student

A continuing student is a student who has completed **at least** the first 7 days of the first course in their program and not yet graduated from the program.

Course

A course is an educational component made up of academic content, assignments and activities, the successful completion of which earns a student credit hours toward completion of a program. A course is delivered and accessed online via a learning management system (LMS). A course is 7 weeks long.

Academic Plan/Program of Study

A series of courses that make up a full degree or certificate program. All courses in a program must be successfully completed for a student to be considered for graduation.

Academic Year

The academic year is August through July and consists of 3 terms (Fall, Spring, Summer).

Term

A term is the discrete length of time in which courses are offered. A term is 15-weeks long and encompasses two 7-week sessions with a 1-week break in between them.

- Fall Term is August – December
- Spring Term is January – April
- Summer Term is May – July

Session

A session is the discrete length of time during which a single course is completed. A session is 7-weeks long.

General Academic Requirements and Regulations

All graduate work (except for the master's degree in Law, J.D. in Law, and M.D. degree) at the University of Miami is under the direction of the Dean of the Graduate School and the Graduate Council.

All graduate students at the University of Miami are subject to the general standards and requirements of their programs in regard to attendance, examinations, payment of fees and conduct, as well as to the specific requirements of the Graduate School. The graduate student is expected to assume the initiative in completing all requirements in the time specified.

Prospective students should note that "graduate study" means an integrated program of advanced, specialized study, based on an undergraduate major and/or adequate background, presupposing academic and personal maturity, and making much more than average demand upon the industry, initiative and scholarship of the student. The term must be distinguished from "post-graduation study" which means merely that courses, not necessarily of graduate level, are taken after the student has received a bachelor's degree.

To preserve its ideals of scholarship, conduct, and character, the Graduate School reserves the right and the student by his/her registration concedes the right, to require the withdrawal of any student for any reason deemed sufficient by the Graduate School at any time.

Time to Completion

Time to completion starts when a student begins any program in the Graduate School. All work must be completed within three (3) years of the start date to the graduate program, for those studying for the various master's degrees. Individual programs may set a shorter time period. Exceptions may be granted by the Dean of the Graduate School at the request of the Graduate Program Director. Course availability may vary by program and term; therefore students who may need to withdraw or

take a break from their program should work directly with their Academic Advisor to ensure timely completion within the three (3) year window.

A student is ineligible for financial aid when it becomes mathematically impossible for him/her to complete the program within 150% of the length of the program. The length of the program is the amount of time necessary for a student to complete all requirements for a degree or certificate.

Each online degree program has a *minimum* time within which a student may complete the degree if the student takes the courses on a continually enrolled basis. Online degrees are flexible, and the actual time to completion, within the three-year limit, can vary by student. However, if a student is not continuously enrolled for a period greater than one year, he or she must reapply to the program and will lose any tuition discounts previously applied to their account. A student may be eligible for any tuition discounts available to new students at the time of the student's re-admission, and should contact the Online Enrollment Office to see if they qualify.

Graduate Transfer Credits

- Transfer credits from an outside institution may not be applied toward any online degree in the School of Business.
- A maximum of 6 credit hours may, with the permission of Program Director, be applied to the M.S. Ed. in Sport Administration degree online.
- Certain UOnline business courses may be transferable to other UOnline business programs. Students should contact their Academic Advisor at uonlineadvising@miami.edu to see if their courses are eligible to transfer.
- Graduate credit hours transferred from another university may not be applied toward a graduate degree at the University of Miami if their age at the time of acceptance into the University of Miami program exceeds six years. On an individual basis, students may be permitted to validate over-aged credit hours by examination, with program approval.
- Students in the UOnline degree programs may not transfer or transfer credit hours from the online degree version of these programs to the campus based versions of the programs without the permission of the Program Director and the Dean of the school.
- Students may not transfer to transfer any credits from any campus-based program to any of the UOnline programs without the permission of the Program Director and the Dean of the school.
- Students may not take any individual UOnline course and transfer into an existing campus program using the online course as an elective course option.
- Transfer credit hours grades will not be factored into a student's cumulative grade point average at the University. Transfer credit hours only impact the number of credit hours earned.

Registration

Registration and Online Course Access

Registration starts about **2 weeks** before each term. Each term contains two 7-week sessions with about a 1-week break in between each course. Students will have access to their online course approximately four (4) days before the first day of class. New and continuing students will be automatically registered by their advisor, and are only registered for

classes at the beginning of each semester. UOnline programs currently do not allow for students to only enroll for one course per term. Students may take time off from their program, but must do so in term increments at this time. Students who wish to take time off should contact their Academic Advisor prior to their withdrawal to ensure appropriate course availability and to determine their ability to complete their degree program in the required time frame upon the student's return.

New Student Registration

Students will be eligible for registration once the University has received their enrollment deposit, paid in full. Students will be registered into courses for the entire first term, both first and second sessions (2 courses per term), by the Registrar's Office. Students will have access to the online course approximately **4 days before** each session start date.

Continuing Student Registration

Students will be eligible for registration provided they have no financial or other holds on their account or are not withdrawn. If a student has previously withdrawn from their UOnline program, and it has been less than one year since they have been enrolled, the student should contact their Academic Advisor at uonlineadvising@miami.edu to re-enroll for the upcoming term. Please refer to the UOnline Academic Calendar for important deadlines regarding registration for continuing students. Students will be registered into courses for the entire term, both first and second sessions (2 courses per term), by the Registrar's Office. Students will have access to their course approximately **4 days before** each session start date.

Financial, Academic and Other Holds

If students have any financial or other holds, they will not be registered into a course until they have met the requirements to remove the hold. Please refer to the UOnline Academic Calendar for important dates regarding registration for continuing students and readmission.

Full-Time Study

All students are considered full time. At this time, only students who do not require financial aid are eligible for part time status. Students should contact their academic advisor for further information on part time status.

In all cases, determination as to whether or not a student is in full-time study is the privilege of the Dean of the Graduate School and the Registrar's Office.

No full-time faculty member may be a full-time online student, whether or not working toward a degree. Nor may a full-time online student be a full-time faculty member.

No full-time online student will be a principal investigator on any grant or contract, whether in name or fact. And no principal investigator will be a full-time online student.

Admissions

Applying to the Online Programs

If students would like to apply to a UOnline program, they will need to create a profile and apply online via our on line application portal found at <https://myonline.miami.edu>. Here students will be assigned a personal Enrollment Advisor who will help guide them as the student submits all

the components and required documents for their application. Students' Enrollment Advisors will also guide them through the onboarding process and be available to answer any questions.

TOEFL (Test of English as a Foreign Language)

If students do not hold a U.S. undergraduate degree, they may be required to take the TOEFL exam. If they are required to submit a TOEFL score, students should visit <http://www.ets.org/toefl> to arrange to take the test. The TOEFL code for the University of Miami is **5815**.

The University will consider candidates with these minimum TOEFL scores; however, TOEFL score requirements may vary by program:

TOEFL Internet Minimum Score	94
TOEFL Computer Minimum Score	240
TOEFL Paper Minimum Score	600

The TOEFL requirement may be waived for non-native English speakers provided they meet one of the following criteria:

- Students earned their undergraduate degree in a country where the official language is English (this does not include degrees from just English-speaking institutions or just a country where English is spoken).
- Students studied in the United States at an undergraduate level for at least one year or the equivalent of 30 consecutive credit hours.
- Students have lived **and** worked in an English-speaking country for the past two or more years.

Letters of Recommendation

Letters of Recommendations must be submitted directly by the student's recommender to the student's Enrollment Advisor and are **not submitted** through the Online Application. Letters of Recommendation submitted by the student through the Online Application will not be accepted. The student's Enrollment Advisor will provide the student with the Letter of Recommendation guidelines and submission criteria that the student can give to their recommenders.

Letters of Recommendation will only be accepted in a **pdf** format sent directly from the recommender to the student's Enrollment Advisor and must have all of the required components as per the submission criteria provided. Letters of Recommendation received in a Word document, body of an email, or any other format will not be accepted.

Admissions & Admissions Decisions

Once the University receives the student's complete application with all required documents, the admissions review process will start.

Regular Admit (with Official Transcripts)

If the application meets the standard admissions requirements and the University has received all official transcripts (please see the Transcripts (p. 25) section), the student will receive an offer of full admission **in approximately 48 business hours** after the University has received the completed application. The student will receive an official email from the Enrollment Advisor and be able to view the admissions decision via their Online Application portal.

Conditional Admit (with Unofficial Transcripts and/or Test Scores)

If the application fully meets the standard admissions requirements, the student may be conditionally admitted if the University has received and accepted the unofficial transcripts for all institutions attended and/or the student's unofficial test scores (if required). Unofficial transcripts may be considered acceptable ONLY IF ALL the following items are legible on the transcript document:

- Name of the institution
- Student name
- Cumulative Grade Point Average (preferred)
- Course numbers
- Course names
- Credit hours earned
- Grades earned
- Degree conferred with date (if applicable)
- No other documents will be accepted

Students receive notification typically **within 48 business hours** after the University has received a complete application (including other required documentation) that the student has been Conditionally Admitted. The notification of Conditional Admission will also address the requirements the student will have to satisfy in order to be officially admitted. The failure to meet any of these conditions will be grounds for the withdrawal of the Conditional Admission and/or the withdrawal from all programs. The student will receive an official email from his/her Enrollment Advisor and be able to view the admissions decision via your Online Application portal.

Students MUST pay their tuition bill or have accepted their Financial Aid Award, no later than by the payment due date. Once students are fully admitted and have paid their non-refundable enrollment deposit, they can receive financial aid within the same term, provided the University has granted the student full admission during the same academic year. Students may start their course and continue through the term as long as they have been awarded Financial Aid, and have accepted their Financial Aid award no later than the first day of class. Student's Financial Aid funds will not be disbursed until all official admissions documents and all required Financial Aid documents have been received.

Students will not be registered for the next term until their current balance is paid in full. In the event the student's financial aid award is delayed, students should work directly with their Enrollment Advisor to determine the appropriate next steps and ensure they meet the appropriate payment deadlines. Students should refer to the Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) for important deadlines regarding Financial Aid Application due dates. Students may submit their FAFSA after the Financial Aid application priority consideration due date, but may have to use an alternative form of payment if their Financial Aid is not processed by the required payment deadlines.

Students should review the Monthly Payment Plan (MPP) section for guidance on setting up a monthly payment plan. Also, the Payment Policies section for payment options and consequences for non-payment. Monthly payment plans are available for students at the beginning of

each term. Fall and Spring MPP consist of four (4) payments; however, Summer MPP consist of three (3) payment options.

Students should review the Transcripts section for official transcripts deadlines and consequences if the University has not received all official transcripts. Students should also review the UOnline Academic Calendar (<http://www.miami.edu/index.php/registrar/calendar>) for official transcript deadlines.

Accepting Admission

When a student's admission decision has been made, the student will receive an official Admissions decision email from the Enrollment Advisor. Students can also view the admissions decision and receive next steps via the online application portal found at <https://myonline.miami.edu>.

A student's Enrollment Advisor will guide him/her through the next steps to accept their offer of admission and pay their non-refundable enrollment deposit. A student's offer of admission has not been accepted until their non-refundable enrollment deposit has been paid.

Offer of Admission Expiration

Offers of Admission are **valid 1 calendar year (or 365 days) from the date of the admission offer** as noted on their official admission letter sent via email. To officially accept the offer of admission, a student must log into Canelink and pay their non-refundable enrollment deposit. If a student has not accepted an offer of admission within a year of issuance, he/she must reapply to the University and program. Student should contact the Online Enrollment Office to verify what documents must be submitted for consideration.

Reapplying/Readmission

There are a few situations in which students have to reapply to a program. Students will have to reapply to a program if:

- A student's original Offer of Admission has expired and he/she never started the online program.
- A student requests to change to a different program.
- A student has been withdrawn from his/her program for more than 1 year.
- A student failed to meet the requirements of a Conditional Admission.

To reapply, students can login and start the Online Application (<https://applyonline.miami.edu/SignIn>) using their previous log-in credentials. A student should contact the Online Enrollment Office at 1-800-411-2290 if they have questions regarding the application.

Not Admitted

If a student's application does NOT meet the standard admissions requirements, he/she will receive a notification that he/she has not been admitted into the program typically **within 48 business hours** after the University received the student's completed application. Students will receive an email from their Enrollment Advisor and be able to view their admissions decision via their Online Application portal (<https://applyonline.miami.edu/SignIn>).

If a student is not admitted into a program, he/she will receive an explanatory email from the Enrollment Advisor and will be able to view their admissions decision via their Online Application portal.

Students may be eligible to reapply once they have met the admission requirements or choose to apply to a new program. A student's Enrollment Advisor will contact a student to discuss their options.

Transcripts for Admissions

Official Transcripts

- MUST Arrive in a sealed envelope with the school's stamp/seal across the back or on the institution's official envelope
- Be opened only by a member of the University of Miami admission staff
- Have a Registrar's signature and/or watermark and/or indented seal which appears on the transcript

Mailing Address for submission of transcripts:

University of Miami Online Enrollment Office 1320 South Dixie Highway
Gables One Tower –Suite 902, **Locator Code: 2991**
Miami, FL 33146

Please ensure that the locator code is included in the address.
Transcripts may not be received if address is missing the locator code.

Electronic Transcripts

Electronic transcripts will be considered official if they are sent directly from the accredited institution and received directly by the Online Enrollment Office at etranscripts@miami.edu. A transcript sent directly to the student's Enrollment Advisor will be considered as unofficial and will need to be re-sent to the official etranscripts@miami.edu address.

Official Transcripts, Scores & Conditional Admission

The University must receive official transcripts for all institutions attended before any student can be considered fully admitted into the University.

Official Transcripts Due Date

If a student was Conditionally Admitted into a program with unofficial transcripts, the University **MUST receive the student's official transcripts from all institutions attended by the last day of the 1st session of the first term** as entered on their online application. A student's Admissions letter will provide the exact due date for the official transcript(s) and he/she may check Canelink to verify that the University has received the student's official transcripts. Students should refer to the Academic Calendar for important due dates.

Official Test Scores Due Date

If a student was Conditionally Admitted into a program with unofficial test scores and is required to submit official GRE, GMAT or TOEFL official test scores, the University **MUST receive their official test scores by the last day of the 1st session of their first term**. A student's Admissions letter will provide the exact due date for the student's official test score(s) and he/she may check Canelink to verify that the University has received the student's official test scores. Students should refer to the Academic Calendar for important due dates.

Financial Aid & Tuition Payment

If students apply for Financial Aid, Financial Aid will be NOT be awarded until the University has received the official transcripts from all

institutions attended and/or test scores, if required. Please see the Financial Aid (p. 31) section for more information about Financial Aid eligibility and awarding.

Because Financial Aid will not be awarded until official transcripts from all institutions attended and test scores are received, a student **MUST** pay the tuition bill by the payment due date. Students should review the Payment policies for payment options and consequences for non-payment.

Official Transcripts and Test Scores Not Received

If Official Transcripts and/or Test Scores (if required) are NOT received by the due date:

- A student will be removed from the next course
- A student will be administratively withdrawn and may be reinstated if the University receives the student's official transcripts.

Enrollment Deposit

Once students have received their offer of admission or conditional admission, they will pay a **non-refundable** enrollment deposit in order to accept their offer of admission. Once the deposit in full has been received, students will be registered for their online orientation and first courses by their Enrollment Advisor.

What the Enrollment Deposit Is

The enrollment deposit payment is:

- Paid one time per UOnline program
- **Non-refundable** including if the student's Offer of Admission has expired and he/she never started the program or if they were conditionally admitted and did not meet the conditions for full admission.
- Due no later than **the date listed on the academic calendar**.
- Applied against a student's 1st tuition bill
- Valid for as long as the Offer of Admission is valid:
 - If a student's Offer of Admission for their UOnline program has expired and he/she reappplies to any program (campus-based or online), a student will be required to pay the deposit again and any applicable fees.
- Transferrable to a new UOnline program: if a student applies to a new UOnline program while the existing Offer of Admission is still valid, the student will not have to pay the deposit again.
- Not transferrable to any campus-based program.

Paying the Enrollment Deposit

After a student has received the Offer of Admission, the student will be provided access to Canelink to pay the student's enrollment deposit with the following payment options:

- Online Credit Card payment:
 - MasterCard
 - Visa
 - American Express
 - Discover
- E-check (drawn on a US bank only)
 - Bank-to-Bank, Exchange Bureau or Wire Transfer.

- Students are responsible for any fees or currency exchange processing charged by their bank or exchange bureau when transferring funds and should account for this when sending tuition payments.

New Students

Student Readiness Orientation

Once a student has been admitted and paid the non-refundable enrollment deposit, a student will be enrolled into the Student Readiness Orientation. The Student Readiness Orientation (SRO) is an interactive series of required activities in the University's social media environment and will be accessed by students through their UOnline student portal. During the Orientation, students will meet other students, prepare for online learning at the University of Miami and familiarize themselves with their support structures and University academic policies.

A student's Enrollment Advisor will remind students to complete the readiness activities, address any concerns students may have, and ensure students fully understand each of the activities so that students may be prepared to start their first course. For students to be fully prepared for their courses, completion of the SRO is highly recommended. Additional activities may be recommended or required in order for students to be prepared for class. Student should work closely with their Enrollment Advisor to receive guidance on completion of these additional activities.

Successful Completion

Once students have **successfully completed all required activities** in the Student Readiness environment, they will be able to start the 1st course in the program. Students should complete these activities **at least 7 days before** their chosen start date.

Program Change

If a student **changes his/her program**, the student may be required to complete some program-specific portions of the Student Readiness Orientation. If so, the student's Enrollment Advisor will inform the student and provide access to the relevant Student Readiness Orientation activities.

Offer of Admission Expiration

If a student's **Offer of Admission has expired** and he/she has not started a program, the student will be required to retake the Student Readiness Orientation once he/she has been re-admitted into the program.

Technical Requirements

To help ensure success, students should be proficient using e-mail, the Internet, and common desktop productivity software. During the course of the program, requirements (either hardware or software) may change from the original technology recommendation. Students should consult the software/hardware requirements within the program or with the faculty member or Student Support Team for any technology recommendations that may have changed since the original recommendation mentioned below or within the program of study.

Below are some **initial** recommendations. **Please note that these recommendations and requirements may change as technology changes**

and may also vary from course to course. Also please note that specific programs of study may have other specific requirements:

Recommended Setup

- Internet access required; 6-10 Mbps speed or higher recommended; Broadband is recommended as students with dial-up may experience degraded performance
- Windows Vista/7 or Mac OS X with virtualization software (like Parallels with Windows OS)
- 2GB of RAM minimum
- 40GB hard drive
- speakers, and headphone connected to the computer
- Inkjet or laser printer
- Scanner or Scanning Application for mobile devices
- Portable media (thumb drive)

Software Requirements

- Recommended Web browser—current version of Chrome
- Other Web browsers (Internet Explorer ver. 9.0 or higher or Firefox's current and next most recent releases).
- Microsoft Office
- Adobe Reader ver. 10.1 or higher
- Adobe Flash Player ver. 11.7 or higher
- Apple QuickTime ver. 7.7 or higher
- Windows Media Player ver. 11 or higher
- Antivirus software (e.g., McAfee or Norton) installed, running, and kept current by promptly installing the upgrades and patches made available by the software manufacturer

Tablet/Laptop Recommendation

Students enrolled in programs that require participation in academic residencies are encouraged to use a laptop or tablet computer for their work. Some coursework may not be fully compatible with use of a tablet or mobile device; therefore, it is recommended that students have a desktop/laptop available if needed.

Additional Technology Requirements

Some programs may require additional technology requirements that are not mentioned above. Please refer to the program course(s) syllabi or course materials list in the UOnline student portal to review any special technology requirements for the program of study.

Cost, Fees, Billing and Payment

Tuition Includes

- Online learning environment and courses
- Application processing
- **Non-refundable** Enrollment Deposit (paid separately and deducted from 1st tuition bill)
- Technology fee
- Access to the online library, career center, and disability services
- Student and Technical Support

Tuition Does NOT Include

- Course Materials, Books and e-books
- Late Payment Fees, if assessed
- Graduation related fees

Your Tuition Invoice and Payment

Immediately after students have been registered into class, their tuition bill will be available in their student center through Canelink. Payment in full is due or arrangements to pay finalized by the 1st day of the 1st class of each term. If the University does not receive payment in full by this date, students will be removed from the online classes.

Payment Currencies

A student invoice is in **United States Dollars (USD)** and the University accepts payment only in **United States Dollar, USD**.

Payment Methods

The University offers several payment methods, described below. A student’s tuition invoice will contain instructions for using these payment methods.

Credit Card

A student may pay by credit card via the University’s partner, Elavon. A student can pay with:

- MasterCard
- Visa
- American Express
- Discover

Students will be charged a processing fee of 2.5% to pay by credit card.

eCheck (ACH)

Students may pay their tuition by E-check (ACH) online through your Canelink account:

- Click on the “Student Home” tab
- Navigate to Finances section
- Click on “Account Inquiry”
- Click on “Payment” and follow the instructions.

Students will not be charged any additional fee if they pay by e-Check. For additional help, contact the Student Support Team.

Wire Transfer

Students may pay their tuition by wire transfer, using these instructions:

- Bank of America, N.A.
1500 South Dixie Highway
Coral Gables, FL 33146
- ABA # 026009593
- For Credit To: University of Miami Concentration Account # 5508319094
- For Further Credit To: Students Full Name & ID Number
- International Wires SWIFT Code: BOFAUS3N

Students should make sure that their full name and ID number are included with the wire transfer to ensure the funds are applied correctly.

Wire/Bank Transfer Fees

Students are responsible for any fees or currency exchange processing charged by their bank or exchange bureau when transferring funds and should account for this when sending tuition payment. The University is not responsible for any fees students may incur during the transfer process.

Payment by a Third Party

A Third Party Sponsorship allows someone other than the student to pay a student’s tuition (employer, for example). Students with this type of assistance must inform the Financial Aid Office to ensure that financial aid is awarded appropriately and that funds are applied appropriately.

If a student’s tuition is paid via Third Party Sponsorship, the student will still remain subject to all policies, including due dates, late payment fees and financial hold rules and consequences.

Monthly Payment Plan (MPP)

Through the Monthly Payment Plan, term tuition payment is divided into 4 monthly payments, each due on the 1st of the month. The Monthly Payment Plan is only available in the Fall and Spring terms. For the Summer term, a 3-payment Monthly Payment Plan option is only available to UOnline students.

- Students must pay each term in full before they will be registered for the next term (see payment methods section). This chart details the Monthly Payment Plan option available during the Fall and Spring Terms only.

Payment #	Reminder Sent	Payment Due By
1	1 week before	No later than 1st day of class
2	1 week before	1st of the next consecutive month
3	1 week before	1st of the next consecutive month
4	1 week before	1st of the next consecutive month

Late Payment

- If payment is not received by payment due date, a registration hold will be placed on a student’s account the next business day.
- Once payment has been received, the registration hold issued for late payment will be removed.

Tuition Reductions, Scholarships, Special Offers

During the Enrollment and Admissions process and at the University’s discretion, tuition reductions and scholarships may be offered to incoming students. Existing students will not be eligible for any **new** tuition reductions offered to incoming students. A tuition reduction will remain on a student’s account for the duration of the online program for which they received the reduction provided the student remains academically eligible and does not withdraw from the program for longer than one-year. Any student who is not enrolled in their program for greater than one year, will no longer be eligible for their initial tuition reduction and must reapply for admission to a program. A student may

be eligible for any new tuition reductions being offered upon reapplication to a UOnline program. Students should contact an Enrollment Advisor for current offerings and qualifying criteria.

If students qualify for a tuition reduction, their Enrollment Advisor will provide them, in writing, the formal terms and conditions specific to that tuition reduction. The reduction will be included in a student's tuition statement/note in Financial Aid package if applicable and deducted from tuition accordingly. If financial aid is awarded prior to the tuition reduction being applied to a student's bill, the financial aid award will be adjusted accordingly. Student should contact the Financial Aid Office at gradprof.finaid@miami.edu if they have questions regarding this adjustment.

Tuition Increase

The University reviews tuition rates each year and reserves the right to increase tuition for existing students.

If the University does increase tuition:

- The increase will be implemented at the beginning of the Fall term and will apply forward to any future, unbilled tuition.
- The University will notify all students **at least 1 month** before the start of the Fall term.
- Students' tuition invoices moving forward will be adjusted to reflect the increase.

Change Payment Plan

Students may request to change payment plans. Currently the options are:

- Payment in Full to Monthly Payment Plan.
- Monthly Payment Plan to Payment in Full.

Payment Plan changes will be implemented **only at the beginning of the next term**. Students must complete any payments due for the current term as agreed under their current payment plan before they can request a new payment plan.

Students should contact the Student Support Team for more information about changing their payment plan. Formal requests must be in writing/online form

Billing Support

The student's Enrollment Advisor and Student Support Team will be able to answer questions or provide information about a student's invoice.

Graduate Grading

Scale/Quality Points

An average of B (3.0) is required for a graduate degree, and no "D" credit hour may be counted toward the degree. All work leading to the graduate degree and taken as a graduate student will be counted in computing the quality point average, including courses graded "D".

No transferred credit hours are calculated into the University of Miami G.P.A.

Grade Interpretations

A	Excellent accomplishment.
B	Good accomplishment.
C	Fair, but below that expected of graduate students (C- is the lowest passing grade. Some programs may require higher standards.).
S	Symbol used for acceptable (U-unacceptable) thesis, dissertation, practicum and internship credit hour. It may be used for regular courses under special circumstances with the prior approval of the instructor, department chairman, and the Dean of the Graduate School. The Graduate School considers a grade of "S" to indicate a minimum of a 3.0 GPA in a graduate course if a student has taken no prior coursework on the graduate level. A grade of "S" reflects that a student is in good academic standing.
D	Poor (not acceptable for credit hour toward the advanced degree).
F	Failure.
W	Course dropped prior to the last day for withdrawing from classes as published in the official calendar of the University. Courses dropped after last date must have approval of Dean of Graduate School. Credit hour can be earned only by successful repetition of the course.
I	Incomplete work in passing status with the instructor's permission to complete the course. (Not to be used for thesis or dissertation credit hours). Student may request an incomplete from the professor if: • they have completed at least 75% of the course and • have a C or better in the course at the time of the request. The "I" should be changed to a letter grade within one (1) calendar year after it is given, unless the Academic Dean of the student's primary school or college and the Dean of the Graduate School approve the delay. If the "I" is not changed within one year, credit hour can be earned only by successful repetition of the course. (Note: Fellowships and financial aid may be withdrawn if there is an excess accumulation of "I"s on a student's transcript.).
IP	Denotes in progress grade given by instructor for any course (600, 700, or 800 level) in which a student has made expected or clearly satisfactory progress during the term, but has yet fully to complete requirements for the course. "IP" is to be given for 800-level internships, research, thesis and dissertation courses that have not been completed. Upon satisfaction of all Graduate School requirements, the Assistant Director, Programs of the Graduate School will issue final credit hour for all master's thesis and doctoral dissertation courses (e.g., 810, 820, 830, 835, 840 and 850). Zero-credit hour courses (e.g., 820 and 850) will be changed to "S." Please note that all "IP"s must be converted to "S", letter grade, or "I" at graduation. "IP" will also be converted to "I" upon any departure from the University for a period in excess of one year.
NP	Symbol assigned by Enrollment Services indicating that the instructor has not yet reported the student's grade. For a student to receive credit hour for the course, the instructor must report a passing grade prior to the student's graduation. ¹

¹ Faculty Senate Legislation #85005(B)

Quality points are awarded as follows:

A+	4.00
A	4.00
A-	3.70
B+	3.30
B	3.00
B-	2.70
C+	2.30
C	2.00
C-	1.70
D+	0.00
D	0.00
F	0.00

The quality point average is then determined by dividing the total of quality points earned by the total of credit hours attempted. The symbols "S", "W", and "I" are not counted as credit hour attempted.

Repeating Courses

A student may repeat a course in which a failing grade was earned, but the repetition of the course will not eliminate the previous grade from the record and the student is responsible for tuition and other costs related to the repeated course. A course may be repeated only once unless written authorization is provided by the Program Director, Dean of the School and Dean of the Graduate School. All grades are included in the computation of the quality point average. If a course in which an unsatisfactory grade (as determined by the program advisor) was earned is repeated and the repeat grade is a "C-" or higher, the number of credit hours required for graduation will be increased by the number of credit hours repeated. If a student attempts to retake a passed course, taking the same course to obtain a better grade, financial aid may be affected.

Registrations which involve repeating a course in which a grade of "A" or "B" has already been earned may not earn quality points or credit hours, nor count as credit hours attempted.

Attendance

Military Withdrawal

Tuition refunds of 100% are granted to students who withdraw due to military service, provided they do not receive credit hour for the course (see below). A student should contact their Academic Advisor if they need to request a military withdrawal.

If a student receives federal financial aid and withdraws before they complete 60% of the term, a pro rated calculation will determine the amount of financial aid the student has earned. It is based on the amount of time the student was enrolled. This calculation is independent of any charges incurred at the University.

1. On recommendation of the Dean of the school, students who withdraw after the 5th week of the session because of official orders to active duty with the Armed Forces of the United States may be awarded credit hour in any course in which they have achieved a C

or better up to the time of withdrawal. Instructors must certify that the student had achieved satisfactory accomplishment on the basis of previous work in the course by awarding an appropriate grade. Accomplishment of less than C should be entered on the permanent record as a withdrawal without prejudice (W).

2. Credit hour granted for a course under this policy should count toward graduation.
3. There should be no refund of tuition for courses for which credit hour has been granted. Refunds of courses not awarded credit hour should be on the same basis as complete withdrawals for military service.
4. The above recommendations are procedures for determining the awarding of credit hour and do not release the student from the usual withdrawal procedures.

Attendance and Participation, 1st Week (new and continuing students)

Online courses are not independent study courses. They involve a mixture of independent work outside the online course environment and presence within the course room. Authentic student engagement includes activities such as doing assigned readings, preparing and presenting quality assignments and participating substantively in online discussion. Logging into the online course alone does not demonstrate adequate engagement or participation.

Attendance during the first week of each course ensures you are on the right path to successfully completing your course and helps ensure that all students are assigned to groups with active participants to support quality group work. Participation in an online course is defined as the submission of a gradable assignment and/or discussion post about academic matters.

Students are required to attend, engage and participate in each of their online course(s) in an active and timely fashion. For each course, a student must participate by submitting their Week 1 assignments/discussion(s) during the first 7 calendar days from the course start date. This policy is the same for both New and Continuing students. If a new or continuing student logs in, but does not participate in any Week 1 activities by the end of day 7 (Eastern Standard Time) of a course, they will be administratively withdrawn from the program and must contact their Enrollment Advisor or Academic Advisor regarding steps for readmission.

Attendance by Day 7

By the **end of the Day 7** (Eastern Standard Time) of each Course, a student must log into the Blackboard classroom to actively indicate his/her intention to participate in and complete that course. If by Day 7 the student has logged in and submitted an assignment and has not formally rescheduled his/her start date or withdrawn from the program the student will:

- Be considered as attending the course.
- Be obligated to pay for the course in full or make all payments in accordance with the monthly payment plan.
- Be responsible for adhering to all University policies and course policies

No Attendance by Day 7

Starting on the first day of each course the Enrollment Advisor or Academic Advisor will contact the student if the student has not yet logged in to the Blackboard classroom, and remind the student to do so. If the student does **not** log into the Blackboard classroom the **end of Day 7** (Eastern Standard Time), the student will be removed from the current course and will no longer be able to attend class. The student will be administratively withdrawn from the term and will need to contact their Enrollment Advisor or Academic Advisor to discuss their options for returning the following term.

If a student is a **new student** and his/her Enrollment Advisor has been able to contact the student, the student will be encouraged to reschedule his/her start date so that the student is able to continue in the program.

A student who chooses to remain in the course will be subject to all applicable deadlines as stated in the course syllabus.

If a student is a **continuing student** and the Academic Advisor has been able to contact the student, the student will be encouraged to submit a withdrawal request with a return date to ensure he/she is not withdrawn from the program. A student who chooses to remain in the program will be subject to all applicable deadlines as stated in the course syllabus.

The Enrollment Deposit will remain on the student's account and remains non-refundable. If the student has a tuition balance, it will be voided and reissued on the 1st day of the next course for which the student is registered should the student choose to change their start date.

Removed from Course Erroneously

If a student believes he/she has been **removed from the course erroneously**, the student should contact his/her Academic Advisor to discuss options.

No Contact or Response by Day 7

A student will be designated as a non-starter, if a student has not logged into the Blackboard classroom by Day 7 and the Enrollment Advisor or Academic Advising Team has not been able to contact the student.

New Students

If an Enrollment Advisor cannot reach the student, or does not receive response from the student by Day 7 of the term, the student will be administratively withdrawn from the term. If the Offer of Admission expires, the student will be required to reapply to the program.

Continuing Students

If the Academic Advising Team cannot reach or does not receive response from the student by Day 7 of the term, the student will be administratively withdrawn from the program. The student should contact the Academic Advising Team if they intend to return in the future and should review the Academic Calendar for all applicable deadlines regarding readmission.

On-going Attendance

Students should continue to login and attend class every week. Students who do not participate in their courses as indicated by course requirements, or fail to notify the University that they are no longer attending will be administratively withdrawn. This may result in the requirement for the return of previously awarded federal financial aid. If

the University is required to return federal student aid funds, the student will be required to pay any outstanding balance owed the University.

If a student receives federal financial aid and withdraws before they complete 60% of the term, a pro rated calculation will determine the amount of financial aid the student has earned. It is based on the amount of time the student was enrolled. This calculation is independent of any charges incurred at the University. This Federal Financial Aid calculation is separate and in addition to the Refund Policy and Schedule. If a student has questions pertaining to either policy, they should contact their Academic Advisor.

Student Change Requests

Reschedule Start Date, Student Initiated

A new student may reschedule his/her start date **before or by the end of Day 7** (Eastern Standard Time) of the 1st Course. The student may reschedule the start date provided the Offer of Admission has not expired.

Students must submit their request in writing to their Enrollment Advisors and discuss the options and any financial and academic consequences no later than the end of Day 7 to ensure they do not incur further costs, because all students are subject at all times to the Refund Policy and Schedule. In extraordinary circumstances, such as a serious illness or accident, students may request to appeal their withdrawal date by contacting their Academic Advisor for more information regarding the UOnline Student Appeal process.

Choosing to Remain in the Course

If after discussing with their Enrollment Advisor students decide to **remain** in the course, students' Enrollment Advisors will confirm this verbal decision with the students formally, in writing via email, reiterating the financial and academic obligations. Students should reply to the email and confirm their wish to remain in the course. Otherwise, the original written request to reschedule will be honored.

Choosing to Reschedule

If after discussing with their Enrollment Advisors students decide to **reschedule** their start date, the Enrollment Advisors will process the formal request and:

- Students will be removed from any courses currently enrolled.
- Students will be enrolled into the courses for the term of the requested start date.
- Students may lose any associated tuition reductions (please see tuition reduction's terms and conditions).

The Enrollment Advisor should confirm formally within 1-2 business days that the start date change has been completed. The student may also view their start date change in Canelink.

The Enrollment Deposit will remain on the student's account. If a student has received the 1st tuition balance, it will be voided and reissued before the 1st day of the new start date.

Financial Obligations After Day 7

If a student does **not** contact his/her Enrollment Advisor and formally submit in writing his/her request to reschedule the start date by the end of Day 7, after Day 7 the student will be obligated to pay for the course in

accordance with the refund policy and schedule and is not eligible for a credit of tuition towards the rescheduled terms.

Offer of Admission Expired

If a student's **Offer of Admissions has expired**, he/she will not be able to reschedule the start date and must reapply to the Program.

Add a Course

Each active student will be registered at least **14 days before each term start** into the appropriate course(s) according to the sequence and rules of the program. Any student requested changes will be implemented by **1 day before the course start** to ensure proper section and group assignments. New students must contact their Enrollment Advisor to discuss any changes or concerns about course registration. Continuing students should contact their Academic Advisor to discuss any changes or concerns about course registration.

Drop a Course

A student may drop a course only **before or by the end of Day 7** (Eastern Standard Time) in order to avoid financial or academic (grading) consequences as per the refund policy and course syllabus.

If a student is a new student, he/she must contact the Enrollment Advisor to discuss the need to drop a course and potentially reschedule the start date. Due to the scheduling and sequence of courses, new students may need to be dropped from all courses in the term and may need to wait to be rescheduled at the beginning of the next available term for their program.

If the student is a continuing student he/she must contact the Academic Advisor to discuss the need to drop a course and withdraw from the program. In some cases, due to course scheduling and sequence, a student may need to drop all courses from the term and wait to enroll in a future term. Continuing students should work closely with their Academic Advisor to discuss all rescheduling options and ensure they are meeting the required times-to-completion for their program.

If a student receives federal financial aid and withdraws before he/she completes 60% of the term, a pro rated calculation will determine the amount of financial aid the student has earned. It is based on the amount of time the student was enrolled. This calculation is independent of any charges incurred at the University. If a student plans to drop a course or to withdraw from their program, they should consult both the Financial Aid withdrawal policy as well as the Refund Policy for UOnline programs to determine their financial responsibilities.

Retaking the Entire Course

If a student is required to retake an entire failed course:

- The student will be re-registered for the failed course the next time it is offered or in the next session
- If the student has already been registered into the next course in the program sequence, the registration will be adjusted.
- The student will be billed the full course tuition.
- The student can receive Financial Aid to pay for the second course retake, but if the student fails and takes the course a THIRD time, Financial Aid will not be available and the student must pay for the

course tuition out-of-pocket. A student may contact their Academic Advisor for more information on payment options.

Change of Program

Students may request to change from their current program to another online program. The student must apply to the new program and provide information necessary for admission into that program. The student's Enrollment Advisor will work with the student and the admissions staff to determine if the student is qualified to apply for a new program. Please note that program changes will be implemented as per the University's Online academic calendar.

If the student is still a new student (has not completed the 1st 7 days from the start date) the student should contact their Enrollment Advisor. If the student is a continuing student he/she should contact the Academic Advisor to discuss all of the options and the new program admissions requirements. Tuition and any applicable tuition discounts that were previously applied to a new or continuing student's balance will be subject to change upon changing the program.

Non-Standard Change of Program

If a student is eligible to change into a new program, he/she will be registered into the appropriate course and start the new program in the next available term. Approved completed courses will be transferred into the new program. Students will not be charged another enrollment deposit.

If a student does not meet the admissions requirements, the student should continue to work with the Enrollment Advisor or Academic Advising on other options available.

Withdraw from Course but Not Program

If a student needs to withdraw from a course but does not wish to withdraw from the program, the student should contact their Academic Advisor to discuss the academic and financial implications. The student should also review the academic calendar for important dates regarding withdrawal from a course and how the withdrawal will be reflected on the transcript. In some cases, due to course scheduling and sequencing, a student may need to drop all courses from the term and may have to wait longer than one term to be rescheduled. Continuing student should work closely with their Academic Advisor to discuss all rescheduling options and ensure they meet time-to-completion requirements for their program.

If after discussions with their Academic Advisor the student decides to withdraw from a course, the deadlines for withdrawal, as they appear on the academic calendar, will apply. Additionally, if students withdraw from the course after the "**last day to drop without a W**" as per the Academic Calendar, they will:

- Be required to pay for the course in accordance with the refund policy and schedule for online programs.
- Receive a Withdrawn (W) grade for that course and, for this reason, will remain registered in that course until the course end date so the final grade can be posted to the student's official record.

Withdraw from Program

If students are withdrawn from the program this means they are permanently suspended from continuing with their studies. Therefore, students will not be registered for future courses or have access to the

online student community, the academic environment or other related program privileges.

If a student is considering withdrawing from the program, he/she should be aware of the financial and academic consequences for doing so. There are different consequences for withdrawing **before and after Day 7**.

If a student receives federal financial aid and withdraws before he/she completes 60% of the term, a pro rated calculation will determine the amount of financial aid the student has earned. It is based on the amount of time the student was enrolled. This calculation is independent of any charges incurred at the University as per the refund policy and schedule. Students should contact their Academic Advisor before withdrawing to fully understand their financial obligations upon withdrawal.

Student-Initiated Withdraw from Program BEFORE Day 7

Should a student wish to withdraw from the program **before, or by the end of Day 7** (Eastern Standard Time) of their first course, new students must contact the Enrollment Advisor in writing (via email) to make the request and discuss alternatives. Continuing students who wish to withdraw from the program before of by the end of Day 7 (Eastern Standard Time) of their current course must contact their Academic Advisor in writing (via email) to make the request and discuss alternatives. If the student decides to withdraw from the program by end of Day 7 of the current course:

- The student will be removed from their course(s).
- The student will be refunded for the course(s) in accordance with the refund policy for online programs (minus the enrollment deposit).
- The course(s) will **not** appear on the student's record.

A student's Enrollment Advisor or Academic Advisor will submit the initial request as the effective program withdrawal date and should confirm formally within 1-2 business days that the student's program withdrawal request has been completed.

The Enrollment Deposit remains non-refundable. If the student received a tuition invoice, it will be recalculated or cancelled in accordance with the refund policy and schedule and effective date of program withdrawal.

Student-Initiated Withdraw from Program AFTER Day 7

If the student would like to withdraw from the program **after Day 7** (Eastern Standard Time) of the course start, he/she must contact the Academic Advisor in writing (via email) to make the request and discuss alternatives. If the student decides to withdraw from the program:

- The student will be removed from any course currently enrolled.
- The student will receive a **Withdrawal (W)** on the student's record for their course.

The student's Academic Advisor will submit the student's initial request as the effective program withdrawal date, and the student should confirm formally within 1-2 business days that the program withdraw request has been completed. The enrollment deposit remains non-refundable.

Any tuition payments made by the student for the course through the time of withdrawal will not be applied or credited towards any future courses the student may enroll into. If a student is using Financial Aid, a recalculation of financial aid may be required to determine if any funds need to be returned to Title IV. In this case, the calculation may take

up to 45 days from the effective date of withdrawal to appear on the student's account. Students may check Canelink to review their account and balance.

Administration-Initiated Withdraw from Program

The student may be withdrawn from the program for academic progress issues, academic integrity, non-payment or other administrative issues. In this event, the student will receive formal notification that he/she will be withdrawn from the program.

The student will still be responsible for completing payment on any previously taken courses and will be subject to all billing, payment and collections policies.

Withdraw from Institution

If the student requested to withdraw from the program, he/she will be formally withdrawn from the Institution within 1-calendar year/365 days of the effective withdrawal date on record. Until this time, the student may still request to be reinstated to the program under certain circumstances. A student should contact Academic Advising for next steps on reinstatement if they choose to return after that time.

If the student is withdrawn from the program he/she will be withdraw from the Institution immediately and may not be reinstated either to the program or Institution.

Withdrawal Appeal Process

In extraordinary circumstances, such as a serious illness or accident, students may request to appeal their withdrawal date by contacting their Academic Advisor for more information on the UOnline Withdrawal Appeal process. The appeal form must be submitted within 30 calendar days from the date of withdrawal from the University or if the appeal is being submitted for a semester that is completed, the form must be submitted within 30 calendar days of the last day of the end of the semester in question. Students must adhere to the specific documentation requirements as stated on the Appeal Form and submit all required documentation, along with the completed form to registrar@miami.edu. A decision will be sent electronically to the email address provided on the Appeal Form within a months time from the date it was received.

Reinstatement to Program

If a student has been withdrawn from the program, he/she may be reinstated to the program if:

- The student was **not** withdrawn from the program for academic progress or misconduct reasons.
- The student was **not** withdrawn from the Institution or is not in the process of being withdrawn from the Institution.
- The student has no unpaid tuition balance.
- The student has been withdrawn from the program for **less than 1 calendar year** (365 calendar days). If the student is withdrawn for **more than 1 calendar year**, he/she must reapply to the program.

Students may not credit any previously paid tuition to courses they register into once reinstated and should contact the Academic Advisor to discuss the reinstatement process and requirements.

Late Payments, Holds, Collections and Refunds

Late Payment Fees

A payment is considered late if it has **not been paid by 1 day after** the payment due date. Late fees may be assessed to the student's account.

Financial Hold

Students are expected to pay tuition on time. Paying on time ensures timely registration into subsequent courses so that a student can continue to advance toward completing the program. Students must pay for each term in full before they can continue on to the next term.

If a student is **15 or more days past due on 1 or more invoices**, he/she will be placed on Student Account/Financial Hold.

If a Student Account/Financial hold is placed, students:

- will be able to complete the current course
- will **not** be registered into future courses until all outstanding invoices have been paid.
- will **not** be able to receive transcripts or a diploma

Placement on Student Account Hold

Students will receive a reminder that payment is due as well as overdue. Students will also be notified once a Student Accounts Hold is placed on their account.

Removal From Student Account Hold

Once students have made their overdue payment, the Student Accounts Hold will be removed within 24 hours and students will be registered into the next course in the next available term.

Third Party Collections

The University utilizes third party collections services to collect on unpaid balances.

Refund Schedule

A student who withdraws or is withdrawn from the program may be entitled to a refund according to the rules outlined below.

By or Before Day 7 (Week 1) of Each Course

If a student withdraws from the program **by, or before Day 7** (Eastern Standard Time) of a course, he/she will be refunded 100% of tuition paid for that course, excluding the enrollment deposit. If the student withdraws during the refund period and has not yet paid any tuition owed for that course, the Student Accounts Office will cancel the balance for that course.

Day 8-14 (Week 2) of Each Course

If a student withdraws from the program **after Day 7, but not later than Day 14**, he/she will receive a **50% refund**.

Day 15-49 (Week 3-Week 7) of Each Course

If a student withdraws from the program on or **after Day 15**, he/she will receive **no refund** and will be obligated to pay for the **entire course they are currently enrolled**.

The effective withdraw date is:

- If initiated by the student, it is the date the student formally requested to be withdrawn in writing via email.
- If initiated by the Administration, it is the date the administration formally entered/processed the withdrawal.

Overpaid Tuition

After students have withdrawn, if they paid more than what they owed on a course, they will be refunded the difference between what they paid and the amount due as determined by the refund schedule and effective withdraw date. Overpayment tuition refunds are typically processed on or about 14 days after the start of each ter; however, in certain circumstances this time frame may be delayed. Students may check their Canelink account to view when refunds have been processed.

Refund Policy and Schedule - Timeline and Methods

All refunds will be paid via the payment method paid and within 30 days of the effective withdrawal date on record.

Day Formally Withdrawn from Program	Day 0-7 (Week 1)	Day 8-14 (Week 2)	Day 15-49 (Week 3-7)
Enrollment Deposit	No refund	No refund	No refund
Tuition Refund (minus the enrollment deposit)	100% refund	50% refund	No refund

Ethics, Student Rights and Responsibilities

Students agree to abide by the Graduate Student Honor Code.

The University of Miami expects all graduate students to adhere to the highest standards of ethics and academic integrity. All forms of academic fraud are strictly prohibited. These include, but are not limited to, plagiarism, cheating, collusion, falsification, violation of professional ethics, or misrepresentation of research data. Students certify that all work (whether an examination, dissertation, thesis, research paper, research project, form of creative expression, experimental data, or any other academic undertaking) submitted for evaluation, presentation, or publication meets these standards. Additionally, graduate students are expected to respect and appreciate the diversity of the community and to respect the rights of others, be they property, privacy, opinion, or expression. Students found to be in violation of these standards are subject to disciplinary actions by the student's program and/or the Graduate School. All graduate students are bound by the rules and regulations of the University of Miami that apply to them. The **Graduate Honor Code** can be reviewed on the Dean of Students (p. 593) website.

Disciplinary and Grievance Procedures for Graduate Students

Two types of procedures exist:

- Academic and
- Nonacademic.

Procedures for handling disciplinary and grievance matters are handled by the Graduate Student Appeals Committee. Contact the Graduate School for details about the appeals process. The Graduate School expects an appeal to have gone through the program or department and then the School's Academic Dean prior to its being heard by the Graduate School. The University Ombudsperson may also be consulted. For more information, please refer to the Academic Bulletin (p. 360).

Honors and Awards

Award of Academic Merit

Students who obtain a 3.8 G.P.A. or better will receive an Award of Academic Merit from the Graduate School. The Award is posted on the transcript.

Who's Who Among Students in American Universities and Colleges

The Graduate School solicits nominations for this award annually. Nominations are provided by Graduate Program Directors at the beginning of the spring term.

- Graduate Student Awards
- Graduate Student Organization Award
- GSA Executive Award
- Senate Award
- Academic Award
- Graduate Student Award

Requirements for Commencement

It is the responsibility of the student to apply for graduation through Canelink during the student's final term prior to the deadline for the next commencement ceremony.

Both the dates for commencement and the deadline to apply for graduation are published in the online academic calendar (<http://www.miami.edu/index.php/registrar/calendar>). Students who previously applied for graduation but did not receive the degree must repeat the application procedure. Deadlines for the commencement program are firm. Students will be degree candidates until they have been cleared by the Graduate School.

Participation in the commencement ceremony or the listing of a student's name in the commencement book in no way implies or ensures graduation. A student's graduation is contingent upon successful completion of the degree requirements and approval by the academic school or college.

Commencement ceremonies are held in May and December only. Those students completing degree requirements during the fall, spring,

or summer sessions may, if they wish, participate in the graduation ceremonies of the previous or following May or December. Students receiving a Ph.D., D.M.A., D.N.P., D.P.T., or Ed.D. degree and plan to participate in the hooding ceremony and all master's students marching in the graduation ceremony must have the approval of the graduate advisor, director, or appropriate person in the department/school to participate in the ceremonies.

Participation in commencement for students in all graduate programs is contingent upon the following:

1. The student must have met the requirements for the program.
2. The student must have a minimum of 3.00 cumulative grade point average;
3. The student may not have any outstanding debt including, but not limited to, tuition, fines, and fees. Tuition for the last term of study must be paid in full by the beginning of the final term.

Clearance for Degree Conferral

For the Graduate School to clear a student for graduation:

1. All original documents (transcripts from previous degrees, GRE scores, etc.) must be on record in the Graduate School (except for MBA students).
2. The Admission to Candidacy form must have been completed by the program at least one term before graduation. The Graduate School does not require application to candidacy for master's, D.P.T., nor D.N.P. degrees.
3. The student must defend his/her thesis or dissertation (if applicable) no later than two weeks before the last day of class in the term he/she wishes to graduate.
4. The student must submit his/her final, Dissertation Editor-approved thesis or dissertation with all corrections completed and final paperwork turned in to the Graduate School by the last day of exams in the term he/she wishes to graduate for their clearance to be processed in time.

Graduate Student Association

The primary function of the GSA is to promote effective graduate student participation in University affairs. The GSA serves as a liaison between graduate students, faculty, and the administration. In addition, the GSA exists as a forum to support and improve the quality of the graduate student environment at the University of Miami. The University of Miami Graduate Student Association is an active member of the National Association of Graduate-Professional Students. All graduate students at the University of Miami are members of the GSA. For more information visit the GSA's website at <http://www6.miami.edu/gsa/about.html>.

Graduate Council

The mission of the Graduate Council is to promote graduate education, scholarship, and research; to support individuals, departments and programs in the pursuit of excellence; to foster innovative, multidisciplinary, and interdisciplinary activities and to maintain high ethical and academic standards in graduate studies.

Student Resources

Dean of Students Office

The mission of the Dean of Students Office is to foster the personal development of students by providing a range of programs and services that create an optimal learning and living environment. The Graduate Honor Code (http://www.miami.edu/sa/index.php/policies_and_procedures/honor_code) and the Student Rights and Responsibilities Handbook (<https://umshare.miami.edu/web/wda/deanstudents/pdf/20132014SRR.pdf>) are two methods in which the University encourages ethical behavior in all its students. The Graduate Honor Council is a student organization which investigates violations of the Graduate Honor Code and decides appropriate action. The Dean of Students Office also oversees the University Chaplains Association, which consists of various campus ministries to serve the spiritual needs of students. For more information on these and other services offered by the Dean of Students Office, call 305-284-5353 or visit www.miami.edu/dean-students (<http://www.miami.edu/dean-students>).

Career Development

The Toppel Career Center assists undergraduate students, graduate students, and alumni in formulating their career plans and in pursuing internship opportunities.

It is the intent and desire of the University of Miami and the Toppel Career Center to provide equal employment opportunities for students and graduates regardless of race, color, national origin, religion, gender, sexual orientation, age or disabilities.

HireACane.com is a management system where students can access internships, jobs, on-campus recruiting information, career programs, and companies/organizations attending Careers Expos and Fairs. Students can only access these additional online resources by activating and logging into their HireACane.com account.

Student Disability

The Academic Resource Center (ARC) provides academic resources and support to ensure that students with documented disabilities are able to access and participate in the opportunities available at the University of Miami.

All students seeking accommodations for a disability must register with the Office of Disability Services. Students should register as soon as possible so that the office has sufficient time to receive and review the necessary documentation and coordinate reasonable accommodations. To register, schedule an appointment with the ARC at 305-284-2374 or e-mail disabilityservices@miami.edu.

Before a determination is made regarding a request for accommodations, the student must complete the proper forms and submit current, appropriate, and full documentation of the disability as required by ARC.

Important Phone Numbers

Graduate School	305-284-4154
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Office of Financial Assistance Services	305-284-3115 gradprof.finaid@miami.edu
Online Enrollment Office	1-800-411-2290 onlineinfo@miami.edu
Student Accounts	305-284-6430 saccounts@miami.edu
Office of the Registrar	305-284-2294 registrar@miami.edu
UM General Information	305-284-2211
Student Support Team	800-411-2290 uonlinestudentsupport@miami.edu ext2
Academic Advising	800-411-2290 uonlineadvising@miami.edu ext3

SPECIAL PROGRAMS

Miami Semester

<http://www.miami.edu/miamisemester>

The Miami Semester – Visiting Student Program provides the opportunity for degree-seeking students attending other colleges to spend one or two semesters in Miami living, studying and doing research at the University of Miami. Domestic or international students may enroll in this program, taking advantage of our geographical location, renowned faculty, and unique environmental features.

The Miami Semester – Visiting Student Program is limited to degree-seeking undergraduates in good standing attending other universities and colleges. Participating students will be required to take a minimum of twelve credits.

Course offerings are subject to change depending on availability.

American Studies

This program allows students to select one to two courses from among the American Studies (AMS) Program's core courses, and classes from other departments based on availability and interests. It is an interdisciplinary approach for students to reflect on the interrelated nature of subjects like, but not limited to, Sociology, Geography, History, and Anthropology, and topics that are relevant to today's society such as cultural diversity, the global economy, regional and geographical norms, and popular culture. The goal of this program is to assist in students' understanding of the world around them by analyzing events, policies, societal norms and cultures, and historical events. Students may take any combination of courses that equal at least 12 credit hours.

Core Courses	
Select a minimum of one of the following:	3
AMS 101 Introduction to American Studies	3
AMS 310 The United States In The World	3
AMS 350 History And Culture Of South Florida	3
Additional Course	
AMS 401 Seminar in American Studies	3
Total Credit Hours	15

Architecture: New Urbanism

The program allows for students currently majoring in Architecture at other colleges and universities to gain perspective of the field in South Florida. Students enroll in six credits of Architectural Design and six to nine credits of related electives or courses in Urban Studies. Students will also have opportunities to participate in study abroad programs in London, Venice, and/or Spain during intersession and spring breaks as an additional enrollment option (additional tuition and program fees apply). Students are required to maintain a standard full-load of credits for the spring semester of 12-15 UM credits.

Core Courses	
Students must submit a design portfolio prior to enrolling in courses	
Select one of the following:	6

ARC 407	Architecture Design VII	6
ARC 408	Architecture Design VIII	6
ARC 509	Architecture Design IX	6
ARC 510	Architecture Design X	6
Additional Courses		
ARC 323	On Site Study of Selected Architecture and Urbanism	3-6
ARC 452	Management of Professional Practice	3
ARC 512	Advanced Visual Analysis	3
PHY 103	General Physics	3
URB 301	Cities in Time and Space	3
Other Architecture elective course offerings (Interior Design, Landscape, and Historic Preservation)		
Total Credit Hours		45-48

Audio Engineering

Audio Engineering allows for students currently majoring in Electrical Engineering to study areas such as circuit theory, electronics, signal processing and multimedia with audio studies in acoustics, digital audio, recording and postproduction. Students must enroll in a minimum of two Electrical Engineering courses from the core courses. Students may also opt to add courses in other areas based on availability and interests.

Core Courses		
ECE 436	Digital Signal Processing	3
ECE 437	Real-Time Digital Signal Processing Laboratory	1
ECE 502	Engineering Acoustics	3
ECE 540	Digital Speech and Audio Processing	3
Additional Courses		
ECE 595	Special Topics in Computer Engineering	1-3
ECE 596	Special Topics in Computer Engineering	1-3
Courses Available through the Frost School of Music		
MMI 141	Experiential Musicianship II	3
MMI 501	Transducer Theory	3
Total Credit Hours		18-22

Ecosystem Science and Policy

The Certificate in Ecosystem Science and Policy provides an opportunity for students from other universities to explore the South Florida environment, ecology and culture via interdisciplinary courses and experiential learning.

Students must take at least two core courses in Ecosystem Science and Policy. Miami Semester students will complete their schedules with courses chosen from among the interdisciplinary ECS courses and from other departments based on availability and interests.

Core Courses for Sophomores		
ECS 112	Field Problems in Ecosystem Science and Policy	2
ECS 202	Seminar Series in Contemporary Environmental Issues II	1
Total Credit Hours		3

Core Courses for Juniors and Seniors		
ECS 202	Seminar Series in Contemporary Environmental Issues II	1
ECS 302	Perspectives on Environmental Decision Making	3
ECS 403	Interdisciplinary Approaches	3
Total Credit Hours		7

International Finance and Marketing

The Certificate in International Finance and Marketing is designed for business students from other universities who want to add an international dimension to their studies. This program allows students to select from a limited set of courses offered by the School of Business. The program focuses on the international aspects of business. The program is open to students with at least a junior standing who have met the course prerequisites. Students must take at least two courses below, but may take all four.

Core Courses		
FIN 330	International Finance	3
MKT 360	International Marketing	3
ECO 442	International Monetary Economics	3
BSL 412	International Business Law	3
Total Credit Hours		12

Marine Science

The Certificate in Marine Science is a hands-on study opportunity for those interested in marine science, oceanography, geology and marine physics. Students must enroll in a minimum of three Marine Science courses. In addition, highly qualified students may be eligible for an independent study research project. Students may also opt to add courses in other areas based on availability and interests.

Sport Administration

Sport Administration is an opportunity for students who are interested in the ethics, leadership, and business of managing athletic organizations. Students will have the opportunity to participate in an internship that fits their interest area as well taking hands-on courses in the Department of Exercise & Sport Sciences. Internships may take place within the UM Athletic Department or local professional sport franchises. Students make take any combination of courses that equal at least 12 credit hours.

Core Courses		
KIN 206	Sport Facilities and Event Management	3
KIN 302	Sport Marketing	3
KIN 306	Essential Leadership in Sports and the Professions	3
KIN 308	Ethical Decision Making in Sport and the Professions	3
KIN 401	Legal Aspects of Sport	3
KIN 403	Sport Information Management	3
KIN 405	Finance and Budget in Sport Administration	3
KIN 498	Seminar in Sport Administration (internship)	3
Total Credit Hours		24

Study Abroad

www.miami.edu/studyabroad

Dept. Code: SAP

With over 80 unique opportunities overseas, students have many options to study abroad on UM programs that align with their interests. Students can live and learn abroad through short term and long term programs with UM faculty or at UM partner universities overseas. Programs with UM faculty are unique in their emphasis on experiential learning, pre-arranged group housing, excursions, and courses taught by UM professors and overseas academic experts. Examples of these programs include UM semester-on-locations in Prague, Buenos Aires, Cape Town, India, the Galapagos, and Rome, as well as short term faculty-led programs during the summer in Europe, Asia, Africa, and South America.

Students can also receive UM credit hours and grades while studying at any one of UM's exchange partner universities overseas. These programs can be undertaken for a semester, year, and/or during the summer. Among a multitude of other options, students can study marine biology on the edge of Australia's Great Barrier Reef at James Cook University, be at the center of Europe and study business at the Vienna University of Economics and Business Administration, explore Iceland's unspoiled nature while studying earth sciences at the University of Iceland, immerse themselves in Japanese culture and business practices at Sophia University in Tokyo, or become acquainted with the changing panorama of international relations at Uppsala University in Sweden. Many of these programs are delivered in English so foreign language proficiency is not required for most study abroad opportunities.

Students who participate in UM Study Abroad programs will receive UM grades and credits and are able to use their existing financial aid towards semester program costs. With careful planning and academic department approval, students can apply their courses abroad to their majors, minors, cognates, or elective credits. Programs are open to sophomores, juniors, and seniors who meet posted eligibility requirements for admission such as minimum cumulative GPA.

The Schools and Colleges at UM encourage study abroad options for their students. With the assistance of the Study Abroad Office and the guidance of academic advisors, students can select a study abroad program to fit almost any major. Additionally, UM financial aid will apply to the costs of the UM programs. Students are advised to plan as early as their freshman year so studying abroad can be incorporated into their academic plan.

The cost of studying abroad varies depending on the type, length, and location of the program. Students are often surprised at how affordable studying abroad can be. Students participating in a UM study abroad program will be able to use their financial aid abroad. Participants are charged full tuition for the term abroad and the financial aid package will be adjusted based on the estimated expenses of the program. If the estimated expenses of the program are lower than the costs of attending UM, participants may be eligible for less in loans, but scholarships and grants will stay the same.

As studying abroad is seen as such an important aspect of a college career, many national and institutional scholarships are available. Interested students should begin to research scholarship opportunities early. The most prestigious study abroad scholarships, which grant up to

\$10,000 per semester, have applications with deadlines up to 18 months before the study abroad program begins. Several other scholarships, with deadlines similar to program application deadlines, are also available and grant up to \$5,000. Learn more about finances and scholarships by visiting the Study Abroad website, speaking with the advisors in the Study Abroad Office and the Office of Financial Assistance Services.

Students enrolled in any study abroad program at a partner institution may not earn 25 percent or more of their credits toward any UM degree program (credit requirements may vary by major/level), including courses taught by UM faculty. A student who anticipates earning 25 percent or more of his/her degree credits while participating in a study abroad program must immediately inform his/her advisor or program chair, who will be responsible for notifying the appropriate parties so that advance approval can be obtained from the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

For additional information, contact:

Office of Study Abroad
PO Box 248263
Coral Gables, FL 33124-5221
Tel: 305-284-3434
Email: studyabroad@miami.edu
Website: www.miami.edu/studyabroad (<http://www.miami.edu/studyabroad>)

Summer Scholars Program

<http://www.miami.edu/ssp>

The Summer Scholars Program (SSP) provides a unique opportunity for high school students to study at the University of Miami for three weeks during the second summer semester and earn 6 credit hours. Students will either live on campus or participate as a commuter. SSP is designed to expose high school students to university academics and campus life before commencing undergraduate studies. Interested high school students should seek further information and application requirements for the program on the website at www.miami.edu/ssp (<http://www.miami.edu/ssp>).

Select one (1) area of specialization: ¹	6
Each specialization area has a subset of required courses	
Digital Media Production	
JMM 108	Writing For The Digital Age
JMM 206	Special Topics In Journalism And Media Management I
Business, Ethics, and Leadership	
GBM 100	Fundamentals Of Ethics And Leadership
GBM 101	Fundamentals Of Business
Engineering	
Select one of the following Tracks:	
Track A: Aerospace, Architectural, Civil, Environmental, and Mechanical Engineering	
CAE 100	Introduction to Civil, Architectural, and Environmental Engineering
MAE 100	Introduction to Mechanical and Aerospace Engineering

Track B: Biomedical, Computer, and Electrical Engineering	
BME 100	Introduction to Biomedical Engineering for Summer Scholars
ECE 100	Introduction to Electrical and Computer Engineering
Filmmaking	
CIM 103	Survey of Motion Pictures
CIM 151	Introduction to Digital Production
Crime Scene Investigation	
APY 100	Introduction to Forensic Investigation
APY 200	Introduction to Forensic Anthropology
Health and Medicine	
NUR 200	Summer Scholars Program
Select one of the following:	
BIL 195	Studies in Biology
NEU 100	Introduction To Neuroscience
NEU 200	Introduction To Psychiatry
Political Science	
POL 100	Introduction To American National Government
POL 200	Introduction to World Politics
Tropical Marine Science	
MSC 115	Tropical Marine Biology
MSC 107	Life in the Sea
Sport Administration	
KIN 100	Leadership, Management, and Ethics in Sports
KIN 200	Survey of Sports Administration
Sports Medicine	
KIN 105	Introduction to Athletic Training and Sports Medicine
KIN 110	Explorations in Sports Medicine
Law	
LWU 101	COURTROOM 101: LITIGATION BASICS
LWU 102	INTRODUCTION TO LEGAL PROFESSION: LAW, ETHICS & SOCIETY
Total Credit Hours	6

¹ Course titles, numbers, descriptions, and credit hours awarded are subject to change.

Summer Sessions and InterSessions

<http://www.miami.edu/summersessions>

The Summer Sessions program at the University of Miami is an exceptional opportunity for students to enhance their educational goals in a concentrated time period and for the South Florida community to take part in some of the innovative and unusual courses taught by outstanding faculty and well-known guest lecturers.

Special Academic Programs – InterSessions

- January (First) and Spring Break (Second) InterSessions - www.miami.edu/intersession (<http://www.miami.edu/intersession>)

- Summer A (First) and Summer B (second) InterSessions – www.miami.edu/summersessions (<http://www.miami.edu/summersessions>)

January, Spring Break, May, and June InterSession are short term credit hour courses designed so you can concentrate fully on topics not normally offered during regular semesters; getting individual quality time with distinguished faculty members; and sharing knowledge with other students.

Tuition charges for January and Spring Break InterSession are separate from and in addition to your spring tuition charges (ARE NOT included in the full time 12-20 credit hours "Flat Rate" of Spring Semester).

Due to the intense format of the InterSession courses, there are special drop and refund policies; please refer to the web site for complete details.

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Keyboard Performance and Pedagogy M.M. (p. 555)	Music	Graduate	Masters
Keyboard Performance B.M. (p. 306)	Music	Undergraduate	Major
Latin American Studies and Journalism M.A. Dual Degree (p. 405)	Arts and Sciences	Graduate	Masters
Latin American Studies and Public Health M.A. Dual Degree (p. 406)	Arts and Sciences	Graduate	Masters
Latin American Studies B.A. (p. 105)	Arts and Sciences	Undergraduate	Major
Latin American Studies B.A./M.A. (p. 404)	Arts and Sciences	Undergraduate/Graduate	Major/Masters
Latin American Studies B.A./M.A. (Fellows in Latin American Studies) (p. 106)	Arts and Sciences	Undergraduate/Graduate	Major/Masters
Latin American Studies M.A. with GIS Certificate (p. 407)	Arts and Sciences	Graduate	Masters
Latin American Studies Minor (p. 107)	Arts and Sciences	Undergraduate	Minor
Latino Mental Health Counseling Certificate (p. 484)	Education and Human Development	Graduate	Certificate
Legal Studies B.B.A. (p. 155)	Business	Undergraduate	Major
Legal Studies B.S.B.A. (p. 156)	Business	Undergraduate	Major
LGBTQ Studies Minor (p. 141)	Arts and Sciences	Undergraduate	Minor
Liberal Studies M.A. (p. 407)	Arts and Sciences	Graduate	Masters
M.D./Ph.D. Program in Medicine (p. 531)	Medicine	Graduate	Doctoral

M.S.I.E./M.B.A. Executive Program (p. 512)	Engineering	Graduate	Masters
Management B.B.A. (p. 176)	Business	Undergraduate	Major
Management B.S.B.A. (p. 179)	Business	Undergraduate	Major
Management Minor for Business Students (p. 181)	Business	Undergraduate	Major
Management Minor for Non-Business Students (p. 181)	Business	Undergraduate	Minor
Management of Technology M.S. (p. 512)	Engineering	Graduate	Masters
Management Studies M.S. (p. 430)	Business	Graduate	Masters
Marine Affairs and Policy M.P.S. - Aquaculture Track (http://mps.rsmas.miami.edu/degree-program/aquaculture)	Marine and Atmospheric Science	Graduate	Masters
Marine Affairs and Policy M.P.S. - Coastal Sustainability Track (http://mps.rsmas.miami.edu/degree-program/coastal-sustainability)	Marine and Atmospheric Science	Graduate	Masters
Marine Affairs and Policy M.P.S. - Coastal Zone Management Track (http://mps.rsmas.miami.edu/degree-program/coastal-management)	Marine and Atmospheric Science	Graduate	Masters
Marine Affairs and Policy M.P.S. - Exploration Science Track (http://mps.rsmas.miami.edu/degree-program/exploration-science)	Marine and Atmospheric Science	Graduate	Masters
Marine Affairs and Policy M.P.S. - Marine Conservation Track (http://mps.rsmas.miami.edu/degree-program/marine-conservation)	Marine and Atmospheric Science	Graduate	Masters
Marine Affairs and Policy M.P.S. - Underwater Archaeology Track (http://mps.rsmas.miami.edu/degree-program/underwater-archaeology)	Marine and Atmospheric Science	Graduate	Masters
Marine Affairs and Policy M.S. (p. 518)	Marine and Atmospheric Science	Graduate	Masters
Marine Affairs B.A. (p. 288)	Marine Atmospheric Science	Undergraduate	Major
Marine and Atmospheric Chemistry M.A. (p. 520)	Marine and Atmospheric Science	Graduate	Masters
Marine and Atmospheric Chemistry M.S. (p. 520)	Marine and Atmospheric Science	Graduate	Masters
Marine and Atmospheric Chemistry Ph.D. (p. 520)	Marine and Atmospheric Science	Graduate	Doctoral
Marine Biology and Fisheries M.P.S. - Fisheries Management and Conservation Track (http://mps.rsmas.miami.edu/degree-program/fisheries-conservation-management)	Marine and Atmospheric Science	Graduate	Masters

Marine Biology and Fisheries M.P.S. - Marine Mammal Science Track (http://mps.rsmas.miami.edu/degree-program/marine-mammal-science)	Marine and Atmospheric Science	Graduate	Masters
Marine Biology and Fisheries M.P.S. - Oceans and Human Health Track (http://mps.rsmas.miami.edu/degree-program/oceans-human-health)	Marine and Atmospheric Science	Graduate	Masters
Marine Biology and Fisheries M.P.S. - Tropical Marine Ecosystem Management (http://mps.rsmas.miami.edu/degree-program/tropical-marine-ecosystem)	Marine and Atmospheric Science	Graduate	Masters
Marine Biology and Fisheries M.S. (p. 519)	Marine and Atmospheric Science	Graduate	Masters
Marine Biology and Fisheries Ph.D. (p. 519)	Marine and Atmospheric Science	Graduate	Doctoral
Marine Policy Minor (p. 289)	Marine and Atmospheric Science	Undergraduate	Minor
Marine Science B.S. with a Second Major (p. 289)	Marine and Atmospheric Science	Undergraduate	Major
Marine Science Minor (p. 294)	Marine and Atmospheric Science	Undergraduate	Minor
Marine Science/Biology B.S. (p. 290)	Marine and Atmospheric Science	Undergraduate	Major
Marine Science/Chemistry B.S. (p. 291)	Marine and Atmospheric Science	Undergraduate	Major
Marine Science/Computer Science B.S. (p. 292)	Marine and Atmospheric Science	Undergraduate	Major
Marine Science/Geological Sciences B.S. (p. 292)	Marine and Atmospheric Science	Undergraduate	Major
Marine Science/Microbiology and Immunology B.S. (p. 293)	Marine and Atmospheric Science	Undergraduate	Major
Marine Science/Physics B.S. (p. 294)	Marine and Atmospheric Science	Undergraduate	Major
Marketing B.B.A. (p. 184)	Business	Undergraduate	Major
Marketing B.S.B.A. (p. 185)	Business	Undergraduate	Major
Marketing Minor for Business Students (p. 187)	Business	Undergraduate	Minor
Marketing Minor for Non-Business Students (p. 187)	Business	Undergraduate	Minor
Master in International Business (p. 424)	Business	Graduate	Masters
Master in Real Estate Development and Urbanism (p. 383)	Architecture	Graduate	Masters
Master of Professional Accounting (p. 429)	Business	Graduate	Masters
Master of Public Health M.P.H. (p. 546)	Medicine	Graduate	Masters
Master of Urban Design M.U.D. Post-Professional Degree (p. 383)	Architecture	Graduate	Masters
Masters in Public Administration M.P.A. (p. 413)	Arts and Sciences	Graduate	Masters
Mathematics B.A. or B.S. (p. 107)	Arts and Sciences	Undergraduate	Major
Mathematics M.A. (p. 408)	Arts and Sciences	Graduate	Masters
Mathematics M.S. (p. 408)	Arts and Sciences	Graduate	Masters

Mathematics Minor (p. 108)	Arts and Sciences	Undergraduate	Minor
Mathematics Ph.D. (p. 408)	Arts and Sciences	Graduate	Doctoral
MBA Full Time (p. 421)	Business	Graduate	Masters
MBA Full Time 2-Year Program (p. 421)	Business	Graduate	Masters
MBA One Year (p. 422)	Business	Graduate	Masters
MD/MBA (p. 422)	Business	Graduate	Masters/Doctoral
Mechanical Engineering B.S. (p. 280)	Engineering	Undergraduate	Major
Mechanical Engineering B.S. - Aerospace Engineering Concentration (p. 281)	Engineering	Undergraduate	Major
Mechanical Engineering B.S. - Internal Combustion Engines Concentration (p. 282)	Engineering	Undergraduate	Major
Mechanical Engineering B.S. and M.S. (p. 278)	Engineering	Undergraduate/Graduate	Major/Masters
Mechanical Engineering M.S. (p. 515)	Engineering	Graduate	Masters
Mechanical Engineering Minor (p. 282)	Engineering	Undergraduate	Minor
Mechanical Engineering Ph.D. (p. 515)	Engineering	Graduate	Doctoral
Media Management B.S.C. (p. 200)	Communication	Undergraduate	Major
Media Management Minor (p. 201)	Communication	Undergraduate	Minor
Media Writing and Production B.M. (p. 323)	Music	Undergraduate	Major
Media Writing and Production M.M. (p. 560)	Music	Graduate	Masters
Meteorology and Marine Science B.S. Double Major (p. 286)	Marine and Atmospheric Science	Undergraduate	Major
Meteorology and Mathematics B.S. Double Major (p. 286)	Marine and Atmospheric Science	Undergraduate	Major
Meteorology and Physical Oceanography M.P.S. (http://mps.rsmas.miami.edu)	Marine and Atmospheric Science	Graduate	Masters
Meteorology and Physical Oceanography M.S. (p. 520)	Marine and Atmospheric Science	Graduate	Masters
Meteorology and Physical Oceanography Ph.D. (p. 520)	Marine and Atmospheric Science	Graduate	Doctoral
Meteorology B.S. (p. 287)	Marine and Atmospheric Science	Undergraduate	Major
Meteorology Minor (p. 288)	Marine and Atmospheric Science	Undergraduate	Minor
Miami Executive MBA for Artists and Athletes (p. 423)	Business	Graduate	Masters
Miami Executive MBA for the Americas (p. 424)	Business	Graduate	Masters
Microbiology and Immunology B.S. (p. 109)	Arts and Sciences	Undergraduate	Major
Microbiology and Immunology Minor (p. 111)	Arts and Sciences	Undergraduate	Minor
Microbiology and Immunology Ph.D. (p. 533)	Medicine	Graduate	Doctoral
Modern Languages Minor (p. 117)	Arts and Sciences	Undergraduate	Minor
Molecular and Cellular Pharmacology (p. 536)	Medicine	Graduate	

Molecular Cell Biology Ph.D. (p. 534)	Medicine	Graduate	Doctoral
Motion Pictures B.S.C. - Business Concentration (p. 192)	Communication	Undergraduate	Major
Motion Pictures B.S.C. - Critical Studies Concentration (p. 192)	Communication	Undergraduate	Major
Motion Pictures B.S.C. - General Concentration (p. 193)	Communication	Undergraduate	Major
Motion Pictures B.S.C. - Production Concentration (p. 193)	Communication	Undergraduate	Major
Motion Pictures B.S.C. - Screenwriting Concentration (p. 194)	Communication	Undergraduate	Major
Motion Pictures M.F.A. (p. 470)	Communication	Graduate	Masters
Motion Pictures Minor (p. 194)	Communication	Undergraduate	Minor
Multiple Woodwinds D.M.A. (p. 552)	Music	Graduate	Doctoral
Multiple Woodwinds M.M. (p. 553)	Music	Graduate	Masters
Music Business and Entertainment Industries M.M. (p. 559)	Music	Graduate	Masters
Music Business and Entertainment Industries Minor (p. 340)	Music	Undergraduate	Minor
Music Business Entertainment B.M. (p. 309)	Music	Undergraduate	Major
Music Composition D.M.A. (p. 560)	Music	Graduate	Doctoral
Music Composition M.M. (p. 560)	Music	Graduate	Masters
Music Composition Minor (p. 325)	Music	Undergraduate	Minor
Music Composition Minor (p. 340)	Music	Undergraduate	Minor
Music Education B.M. with Minor in Education (p. 313)	Music	Undergraduate	Major
Music Education M.M. (p. 556)	Music	Graduate	Masters
Music Education M.M. with Teaching Certification (p. 556)	Music	Graduate	Masters
Music Education Ph.D. (p. 557)	Music	Graduate	Doctoral
Music Engineering B.S. (p. 319)	Music	Undergraduate	Major
Music Engineering Technology M.S. (p. 559)	Music	Graduate	Masters
Music Minor (p. 340)	Music	Undergraduate	Minor
Music Theory and Composition B.M. (p. 324)	Music	Undergraduate	Major
Music Therapy B.M. with Minor in Psychology (p. 315)	Music	Undergraduate	Major
Music Therapy M.M. (p. 557)	Music	Graduate	Masters
Music Therapy M.M. with Undergraduate Equivalency (p. 557)	Music	Graduate	Masters
Musicology M.M. (p. 560)	Music	Graduate	Masters
Neuroscience B.S. (p. 119)	Arts and Sciences	Undergraduate	Major
Neuroscience Ph.D. (p. 539)	Medicine	Graduate	Doctoral
Nursing - Accelerated BSN (p. 353)	Nursing and Health Studies	Undergraduate	Major
Nursing - RN-BSN (p. 354)	Nursing and Health Studies	Undergraduate	Major
Nursing - Traditional BSN (p. 354)	Nursing and Health Studies	Undergraduate	Major
Nursing M.S.N. - Adult-Gerontology Acute Care Nurse Practitioner (p. 573)	Nursing and Health Studies	Graduate	Masters

Nursing M.S.N. - Adult-Gerontology Primary Care Nurse Practitioner (p. 574)	Nursing and Health Studies	Graduate	Masters
Nursing M.S.N. - Family Nurse Practitioner (p. 575)	Nursing and Health Studies	Graduate	Masters
Nursing Science Ph.D. (p. 576)	Nursing and Health Studies	Graduate	Doctoral
Nutrition for Health and Human Performance M.S.Ed. (p. 492)	Education and Human Development	Graduate	Masters
Paleoclimatology and Global Change M.S. (p. 520)	Marine and Atmospheric Science	Graduate	Masters
Paleoclimatology and Global Change Ph.D. (p. 520)	Marine and Atmospheric Science	Graduate	Doctoral
Paralegal Specialist Certificate (p. 208)	Continuing and International Education	Undergraduate	Certificate
Paralegal Studies Certificate Program (p. 208)	Continuing and International Education	Undergraduate	Certificate
Personal Finance Planning Certificate Program (p. 208)	Continuing and International Education	Undergraduate	Certificate
Philosophy B.A. (p. 121)	Arts and Sciences	Undergraduate	Major
Philosophy B.A. - Pre-Law Track (p. 121)	Arts and Sciences	Undergraduate	Major
Philosophy B.A. - Pre-Med Track (p. 121)	Arts and Sciences	Undergraduate	Major
Philosophy M.A. (p. 411)	Arts and Sciences	Graduate	Masters
Philosophy Minor (p. 122)	Arts and Sciences	Undergraduate	Minor
Philosophy Minor - Pre-Law Track (p. 122)	Arts and Sciences	Undergraduate	Minor
Philosophy Minor - Pre-Med Track (p. 122)	Arts and Sciences	Undergraduate	Minor
Philosophy Ph.D. (p. 411)	Arts and Sciences	Graduate	Doctoral
Physical Therapy Ph.D. (p. 543)	Medicine	Graduate	Doctoral
Physics B.S. - Applied Physics (p. 122)	Arts and Sciences	Undergraduate	Major
Physics B.S. - Chemistry/Physics (p. 123)	Arts and Sciences	Undergraduate	Major
Physics B.S. - Engineering/Physics (p. 124)	Arts and Sciences	Undergraduate	Major
Physics B.S. - Marine Science/Physics (p. 124)	Arts and Sciences	Undergraduate	Major
Physics B.S. - Pure Physics (p. 124)	Arts and Sciences	Undergraduate	Major
Physics Minor (p. 125)	Arts and Sciences	Undergraduate	Minor
Physics Ph.D. (p. 412)	Arts and Sciences	Graduate	Doctoral
Physiology and Biophysics (p. 543)	Medicine	Graduate	
Piano Performance D.M.A. (p. 555)	Music	Graduate	Doctoral
Piano Performance M.M. (p. 555)	Music	Graduate	Masters
Political Science B.A. (p. 125)	Arts and Sciences	Undergraduate	Major
Political Science Minor (p. 127)	Arts and Sciences	Undergraduate	Minor
Portuguese Minor (p. 117)	Arts and Sciences	Undergraduate	Minor
Professional MBA (p. 423)	Business	Graduate	Masters
Professional Training Option Certificate (p. 92)	Arts and Sciences	Undergraduate	Certificate
Professional Training Option Certificate (p. 224)	Education and Human Development	Undergraduate	Certificate

Project Management Professional Certificate (p. 208)	Continuing and International Education	Undergraduate	Certificate
Psychology B.A. or B.S. (p. 128)	Arts and Sciences	Undergraduate	Major
Psychology Minor (p. 129)	Arts and Sciences	Undergraduate	Minor
Psychology Ph.D. (p. 413)	Arts and Sciences	Graduate	Doctoral
Public Health B.S. (p. 358)	Nursing and Health Studies	Undergraduate	Major
Public Health M.S.P.H. (p. 546)	Medicine	Graduate	Masters
Public Health Minor (p. 359)	Nursing and Health Studies	Undergraduate	Minor
Public Health Second Master's Degree M.P.A./M.P.H. (p. 413)	Arts and Sciences	Graduate	Masters
Public Relations B.S.C. (p. 204)	Communication	Undergraduate	Major
Public Relations J.D./M.A. (p. 477)	Communication	Graduate	Masters/Doctoral
Public Relations M.A. (p. 478)	Communication	Graduate	Masters
Public Relations Minor (p. 205)	Communication	Undergraduate	Minor
Reading M.S.Ed. (p. 496)	Education and Human Development	Graduate	Masters
Real Estate Accelerated MBA (p. 421)	Business	Graduate	Masters
Real Estate B.B.A. (p. 167)	Business	Undergraduate	Major
Real Estate B.S.B.A. (p. 170)	Business	Undergraduate	Major
Religion and Health Care B.A. (p. 130)	Arts and Sciences	Undergraduate	Major
Religion and Health Care B.A. (p. 130)	Arts and Sciences	Undergraduate	Major
Religion and Health Care Minor (p. 131)	Arts and Sciences	Undergraduate	Minor
Religious Studies B.A. (p. 131)	Arts and Sciences	Undergraduate	Major
Religious Studies Minor (p. 131)	Arts and Sciences	Undergraduate	Minor
Research, Measurement and Evaluation M.S.Ed. (p. 488)	Education and Human Development	Graduate	Masters
Research, Measurement and Evaluation Ph.D. (p. 490)	Education and Human Development	Graduate	Doctoral
Romance Studies Ph.D. (p. 410)	Arts and Sciences	Graduate	Doctoral
Secondary Education B.S.E.D. (p. 223)	Education and Human Development	Undergraduate	Major
Sedimentary Systems and Marine Geology M.S. (p. 520)	Marine and Atmospheric Science	Graduate	Masters
Sedimentary Systems and Marine Geology Ph.D. (p. 520)	Marine and Atmospheric Science	Graduate	Doctoral
SHRM Certification Course (p. 208)	Continuing and International Education	Undergraduate	
Social Media Management Education Program (p. 208)	Continuing and International Education	Undergraduate	
Sociology & Criminology Double Major; Combined Major (p. 132)	Undergraduate	Undergraduate	Major
Sociology B.A. (p. 132)	Arts and Sciences	Undergraduate	Major
Sociology M.A. (p. 414)	Arts and Sciences	Graduate	Masters
Sociology Minor (p. 133)	Arts and Sciences	Undergraduate	Minor
Sociology Ph.D. (p. 414)	Arts and Sciences	Graduate	Doctoral
Spanish B.A. (p. 116)	Arts and Sciences	Undergraduate	Major
Spanish Minor (p. 117)	Arts and Sciences	Undergraduate	Minor
Spanish Minor (p. 117)	Arts and Sciences	Undergraduate	Minor
Specialist in Education Ed.S. (p. 495)	Education and Human Development	Graduate	Doctoral

Sport Administration B.S.E.D. (p. 218)	Education and Human Development	Undergraduate	Major
Sport Administration M.S.Ed. (p. 493)	Education and Human Development	Graduate	Masters
Sports Administration Minor (p. 218)	Education and Human Development	Undergraduate	Minor
Sports Medicine M.S.Ed. - Athletic Training Concentration (p. 493)	Education and Human Development	Graduate	Masters
Sports Medicine Minor (p. 219)	Education and Human Development	Undergraduate	Minor
STEM Education M.S.Ed. (p. 496)	Education and Human Development	Graduate	Masters
Strategic Communication Minor (p. 205)	Communication	Undergraduate	Minor
Studio Art M.F.A. (p. 388)	Arts and Sciences	Graduate	Masters
Studio Jazz Writing M.M. (p. 562)	Music	Graduate	Masters
Studio Music and Jazz Instrument Minor (p. 340)	Music	Undergraduate	Minor
Studio Music and Jazz Instrumental B.M. (p. 329)	Music	Undergraduate	Major
Studio Music and Jazz Instrumental B.M. (p. 329)	Music	Undergraduate	Major
Studio Music and Jazz Instrumental Minor (p. 331)	Music	Undergraduate	Minor
Studio Music and Jazz Voice B.M. (p. 330)	Music	Undergraduate	Major
Sustainability Certificate (p. 90)	Arts and Sciences	Undergraduate	Certificate
Teaching and Learning Ph.D. - Language and Literacy Learning in Multilingual Settings (p. 496)	Education and Human Development	Graduate	Doctoral
Teaching and Learning Ph.D. - Science, Technology, Engineering and Mathematics (STEM) Education (p. 497)	Education and Human Development	Graduate	Doctoral
Teaching and Learning Ph.D. - Special Education (p. 497)	Education and Human Development	Graduate	Doctoral
Theatre Arts B.A. (p. 134)	Arts and Sciences	Undergraduate	Major
Theatre Arts B.F.A. - Acting (p. 134)	Arts and Sciences	Undergraduate	Major
Theatre Arts B.F.A. - Design/Technical Production (p. 135)	Arts and Sciences	Undergraduate	Major
Theatre Arts B.F.A. - Musical Theatre (p. 136)	Arts and Sciences	Undergraduate	Major
Theatre Arts B.F.A. - Stage Management (p. 137)	Arts and Sciences	Undergraduate	Major
Theatre Arts B.F.A. - Theatre Management (p. 138)	Arts and Sciences	Undergraduate	Major
Theatre Arts Minor (p. 139)	Arts and Sciences	Undergraduate	Minor
Traditional Education Minor (p. 92)	Arts and Sciences	Undergraduate	Minor
Urban Studies Minor (p. 139)	Arts and Sciences	Undergraduate	Minor
Vocal Pedagogy and Performance D.M.A. (p. 563)	Music	Graduate	Doctoral
Vocal Performance B.M. (p. 338)	Music	Undergraduate	Major
Vocal Performance D.M.A. (p. 563)	Music	Graduate	Doctoral
Vocal Performance M.M. (p. 564)	Music	Graduate	Masters
Women's and Gender Studies B.A. (p. 141)	Arts and Sciences	Undergraduate	Major

Women's and Gender Studies Minor Arts and Sciences
(p. 141)

Undergraduate

Minor

Women's Health Certificate (p. 491) Education and Human Development Graduate

Certificate

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COURSE LISTING

Accounting Business Administration (ACC)

ACC 211. Principles of Financial Accounting. 3 Credit Hours.

Course explores the role of accounting in providing financial information about an enterprise to decision-makers. Emphasis is placed on understanding financial accounting from a user perspective. Course covers the reporting of financial position including coverage of assets, liabilities, equity accounts, the results of operations, and cash flows.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 212. Managerial Accounting. 3 Credit Hours.

Introduction to managerial accounting. Topics include various product costing techniques, analysis of cost behavior patterns, budgeting, and the use of accounting information to solve problems. The course is taught from a managerial perspective.

Prerequisite: ACC 211.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 301. Cost Accounting. 3 Credit Hours.

Topics include basic cost concepts, product costing techniques including job-order and process costing, in-depth studies of techniques and issues surrounding cost allocation methods, basic approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, activity-based costing concepts and methodology are introduced. Course is designed to provide students with the necessary skills to perform basic cost accounting.

Prerequisite: ACC 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 311. Intermediate Accounting I. 3 Credit Hours.

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows.

Prerequisite: ACC 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 312. Intermediate Accounting II. 3 Credit Hours.

A continuation of ACC 311. Course focuses on more complex accounting applications such as leases, postretirement benefits, accounting for income taxes, and other topics. Additionally, the course includes coverage of the statement of cash flows.

Requisite: School of Business Administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 315. Accounting for Health Care Organizations.. 3 Credit Hours.

This course focuses on the financial accounting and reporting processes in health care, service industry, and governmental organizations. Practice problem solving techniques related to health care organizations. This will not count as an accounting course for accounting majors and will not satisfy any accounting requirements needed to sit for the CPA exam in Florida.

Prerequisite: ACC 212.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 402. Auditing. 3 Credit Hours.

Course provides an introduction to the field of auditing. It concentrates on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports.

Requisite: School of Business Administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 403. Fundamentals of Taxation. 3 Credit Hours.

Basic concepts of federal income taxation applicable to all taxpayers. The principles of individual income taxation, the tax consequences of property transactions, and an introduction to the impact of income taxes on corporations and partnerships are discussed. Emphasis is placed on study of the basic income tax formula including income exclusions, inclusions, statutory deductions, exemptions, and credits. The fundamentals of tax research are also introduced. For students who need to take ACC 303, this course satisfies that requirement.

Prerequisite: ACC 311

Prerequisite or Corequisite: ACC 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 404. Advanced Taxation. 3 Credit Hours.

Study of Federal income tax laws and regulations as they affect corporations, partnerships, their owners, and employees. Emphasis is placed on tax planning aspects of formation, operation, reorganization, distribution, and liquidation of corporations and partnerships. Also includes an introduction to estate and gift taxation.

Prerequisite: ACC 403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 406. Accounting Systems. 3 Credit Hours.

Contemporary accounting systems are computer based. Course covers the nature, design, implementation, and controls in computerized systems as well as manual systems. Micro computers are used as a learning tool.

Prerequisite: ACC 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 411. Advanced Accounting. 3 Credit Hours.

The primary focus of the course is on business combinations and preparing consolidated financial statements. Additionally, there is coverage of the accounting principles and practices applied to foreign operations and partnerships. For Accounting majors who need to take a 500-level accounting course, this course satisfies that requirement. Prerequisite: ACC 312.

Prerequisite: ACC 312. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 506. Internal Auditing. 2 Credit Hours.

Course explores the unique issues associated with the internal audit function. Additionally, the ethical code applicable to internal auditors is discussed.

Prerequisite: ACC 402. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 522. Advanced Issues in Auditing. 3 Credit Hours.

Course covers advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact on audit practice.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 524. Accounting for Governmental and Not-for-Profit Entities. 2 Credit Hours.

The course introduces accounting within the environment of modern government and not-for-profit organizations. Emphasis is placed on financial accounting and reporting, current accounting issues, and managerial activities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 530. International Financial Reporting Standards. 1 Credit Hour.

This course provides an overview of International Financial Reporting Standards (IFRS). The course will begin with a study of IFRS Framework and will then examine a number of the major topics covered in the Intermediate Accounting courses. The perspective will be a comparison between IFRS and U.S. generally accepted accounting principles (U.S. GAAP).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 550. Accounting Internship. 3.00 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Approval of chairman is required at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 555. Accounting Honors Research Project. 3.00 Credit Hours.

Research project to fulfill requirements for Departmental Honors Accounting.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

ACC 572. Advanced Financial Analysis. 2 Credit Hours.

This course builds on the analytical techniques developed in the prerequisite financial accounting courses to augment your understanding of more complex financial reporting issues and to introduce you to the valuation of equity investments. The view point is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business. We discuss each financial reporting issue in terms of its effect on assessments of a firm's profitability and risk. This course is designed primarily for students who expect to be intensive users of financial statements as part of their professional responsibilities.

Prerequisite: ACC 312. Requisite: Accepted into the Accounting Accelerated Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 599. Directed Readings. 1-3 Credit Hours.

Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project is required at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 600. Accounting for Decision-Making and Control. 3 Credit Hours.

The course focuses on the use and understanding of basic financial and managerial accounting reports. The course is oriented to the user of financial data rather than the preparer of the data. Coverage of basic accounting assumptions and current issues affecting accounting processes and reporting are included, but detailed accounting procedures are not emphasized. Completion of the course should permit students to understand accounting information and to communicate with professional accountants. Does not satisfy any accounting requirements needed to sit for the CPA exam in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 601. Trends in Present Day Accounting. 2 Credit Hours.

Recent developments in accounting thought and advanced accounting theory. The analysis of trends as disclosed by recent releases of the Securities and Exchange Commission, the American Institute of Certified Public Accountants, and the Financial Accounting Standards Board are discussed. Other topics include terminology, current trends in the measurement, presentation of third financial data to meet the needs of third parties, and surveys accounting literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 602. Analysis of Financial Statements. 1-3 Credit Hours.

Course emphasizes the fundamental techniques of financial statement analysis. Building upon core accounting and investment concepts, the course covers the analysis (including ratio analysis) and interpretation of financial accounting information including the balance sheet, income statement, and statement of cash flows. The course also examines the use of accounting information in investment and credit decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 603. Studies in Financial Reporting Issues. 2 Credit Hours.

An exploration of complex financial reporting issues using the case method.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 604. Seminar in Cost Accounting. 2 Credit Hours.

Course covers four major segments. First, it reviews the basic concepts and tools associated with management control systems. Second, it underscores the importance of decentralization and the impact it has on decision making. Third, it examines the strategic place for cost management. Examples include the adoption of the balanced score card, quality control, productivity, and environmental cost management. Fourth, the course brings costing and control tools into the discussion of decision making.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 606. Internal Auditing. 2 Credit Hours.

Course explores the unique issues associated with the internal audit function. Additionally, the ethical code applicable to internal auditors is discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 607. Financial Accounting & Reporting. 3 Credit Hours.

Basic concepts of accounting designed to increase understanding of the function of accounting statements and their limitations. The generally accepted principles governing the preparation of financial reports and the use of accounting information in investment and credit decisions. Does not satisfy any accounting requirement needed to sit for the CPA Exam in Florida. Limited to Executive MBA students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ACC 608. Managerial Accounting. 3 Credit Hours.

Current managerial accounting techniques and theories. Topics include the use of accounting data in making decisions and planning and control systems for implementation of decisions. Does not satisfy any accounting requirements needed to sit for the CPA Exam in Florida. Limited to Executive MBA students only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 610. Financial Reporting Research. 2 Credit Hours.

The objective of the course is to familiarize students with researching financial information of publicly traded companies and to provide an introduction to accounting research related to the content and presentation in SEC filings. The course will emphasize searching and accessing as well as understanding and interpretation of financial information presented in SEC filings (e.g., 10-K, 10-Q, Proxy Statements). Accounting topics covered will include accounting information and the capital markets, earnings management, earnings quality, effect of recognition vs. disclosure in accounting reports and the role of the SEC in regulating financial reporting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 611. Auditing Seminar. 2 Credit Hours.

Practical applications of auditing and research into audit matters. Emphasis of the course is placed on cases involving audit failures, appropriate auditing procedures, reporting, and exercise of audit judgment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 616. CPA Review I. 3 Credit Hours.

The CPA Review is an essential ingredient of the accounting accelerated accounting track. Students must provide proof of satisfactory completion of an approved course of study for two parts of the CPA exam (Regulation and Financial Accounting and Reporting). This course cannot be used to meet the State of Florida's educational requirements for taking the CPA exam.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 617. CPA Review II. 3 Credit Hours.

The CPA Review is an essential ingredient of the accounting accelerated accounting track. Students must provide proof of satisfactory completion of an approved course of study for two parts of the CPA Exam (Business Environment and Concepts, and Auditing and Attestation). This course cannot be used to meet the State of Florida's educational requirements for taking the CPA exam.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 620. Accounting Controls in Information Technology. 2 Credit Hours.

Course develops students' understanding of the theory and practice of relational database management systems in the accounting view of enterprise-wide databases. With a focus on controls, students build accounting systems elements related to main accounting transaction cycles, the revenue cycle, and the purchase cycle.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 622. Advanced Issues in Auditing. 3 Credit Hours.

Course covers advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact in audit practice. Not open to students with credit in ACC 522.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 623. International Accounting and Taxation. 2 Credit Hours.

Course covers tax accounting and business considerations in the global business environment. U.S. tax issues involved in international transactions, working across national borders, the Foreign Corrupt Practices Act, money laundering and uses of accounting information in managing an international business. Not open to students with credit for ACC 523.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

ACC 624. Accounting for Governmental and Not-for-Profit Entities. 3 Credit Hours.

The course introduces accounting within the environment of modern government and not-for-profit organizations. Emphasis is placed on financial accounting and reporting, current accounting issues, and managerial activities. Not open to students with credit for ACC 524.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ACC 630. International Financial Reporting Standards. 1 Credit Hour.

This course provides an overview of International Financial Reporting Standards (IFRS). The course will begin with a study of IFRS Framework and will then examine a number of the major topics covered in the Intermediate Accounting courses. The perspective will be a comparison between IFRS and U.S. generally accepted accounting principles (U.S. GAAP).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 631. Advanced Financial Accounting Topics. 2 Credit Hours.

Coverage of the Generally Accepted Accounting Principles governing business combinations, the preparation of consolidated financial statement including local and foreign subsidiaries, and other financial reporting topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 632. Intermediate Accounting I. 2 Credit Hours.

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows. Does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 633. Intermediate Accounting II. 2 Credit Hours.

The accounting principles which shape the financial reporting practices followed by entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. Course also includes the determination of income components and balance sheet elements with brief coverage of the statement of cash flows. Does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 634. Cost Accounting. 2 Credit Hours.

Topics include basic cost concepts, product costing techniques including job-order and process costing, in-depth studies of techniques and issues surrounding cost allocation methods, basic approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, activity-based costing concepts and methodology are introduced. This course does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 635. Auditing. 2 Credit Hours.

Course provides an introduction to the field of auditing. It concentrates on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports. This course does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 636. Accounting Systems. 2 Credit Hours.

Contemporary accounting systems are computer based. Course covers the nature, design, implementation, and controls in computerized systems as well as manual systems. Micro computers are used as a learning tool. This course does not count towards the credits needed to graduate.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 639. Income Taxation and Business Entities. 2 Credit Hours.

This course is designed to be the second tax course students who are interested in the business applications of federal income tax laws, as they affect corporations, partnerships, and their owners. Emphasis is placed on tax planning aspects of formation, operation, liquidation, and distributions of corporations and partnerships. Not open to students with credit in ACC 404 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 640. Corporate Taxation I. 2 Credit Hours.

Course covers treatment of the corporate form of organization, its related opportunities, and problem areas, including formation, tax formula, non-liquidating and liquidating distributions, capital structure, redemptions, alternative minimum tax.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 641. Corporate Taxation II. 2 Credit Hours.

An in-depth study of taxable and nontaxable corporate reorganizations. An introduction to affiliated corporations, requirements for consolidated returns, and their associated problems and opportunities are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 642. Seminar in Taxation. 2 Credit Hours.

Investigation of current topical areas in taxation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 643. Tax Research. 2 Credit Hours.

Study of the tax practice environment including the Treasury Department, the Courts, and the legislative history of the Internal Revenue Code. Ethics in tax practice are also examined. Course includes training in the use of tax services such as RIA Checkpoint and LEXIS, in performing tax research. A research methodology for solving tax problem cases is studied and cases to be researched are assigned.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 645. Partnership Taxation. 2 Credit Hours.

Taxation of partners and other flow-through entities. Partnership formation, termination, distribution, liquidation, and sales of partnership interests are covered. Limited partnerships in conjunction with their use as tax shelters are discussed as well as family partnerships, limited liability companies, and LLPs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 647. Estates and Gift Taxes. 2 Credit Hours.

Estate and gift planning for shifting wealth from one individual to another by death, gift, or by the use of trusts. Property included in the decedent's gross estate valuation methods, gifts in contemplation of death, jointly held property, life insurance, transfers with retained life estates, bequests, revocable transfers, the marital deduction, powers of appointment, gifts of present and future interest, and gifts to minors are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 648. Financial Reporting Implications of Income Taxes.. 2 Credit Hours.

This course is designed to provide the foundation necessary to understand the financial accounting and reporting of book-tax differences. The course will cover the preparation of the income tax provision and related financial statement disclosures in conformity with U.S. GAAP (FASB ASC 740)

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 649. Issues in Tax Policy. 2 Credit Hours.

This course looks at the process through which our tax laws are created and the important policy issues inherent in individual and corporate income taxes, consumption taxes, and wealth transfer taxes. Topics in this course are not limited to U.S. taxation and include an examination of systems used in other countries (such as the VAT) as possible alternatives to our current tax.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ACC 650. Accounting Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 660. Managerial Accounting in Healthcare Organizational. 3 Credit Hours.

This course covers Managerial Accounting concepts applied to healthcare organizations. Topics include cost allocation and management control systems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 662. Taxation of Multinational Corporations. 2 Credit Hours.

This course introduces the fundamental tax concepts underlying U.S. taxation of international transactions. Topics include the taxation of U.S. corporations with income from foreign sources, intercompany pricing, anti-tax avoidance provisions, and tax treaties.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 664. Global Mergers and Acquisitions: Accounting and Related Issues. 2 Credit Hours.

This course focuses on the financial, cultural, and strategic aspects of international mergers and acquisitions (M&A) activity and has a global, cross-cultural perspective. It presents a strategic view of the M&A process, examining managerial decision making in the planning, execution, and post-merger phases.

Prerequisite: ACC 402 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 670. Financial Reporting and Analysis. 2 Credit Hours.

The course focuses on the analysis and use of financial accounting information in the evaluation of corporate performance. The course initially demonstrates the accounting process and resulting generation of financial statements. Building on these core accounting concepts, the course emphasizes the understanding of financial statements prepared under U.S. and International Accounting Standards and the analysis of these financial statements including common size analysis, ratio analysis, the impact of taxes, and credit analysis. Completion of the course enhances the student's ability to read, interpret, and analyze financial statements for making investment, credit, acquisition, and other evaluation decisions. Limited to MBA students and Executive MBA students. Does not satisfy any accounting requirements needed to sit for the CPA Exam in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 671. Accounting for Decision Making. 2 Credit Hours.

The course focuses on the use of accounting information in reporting managerial performance and making business decisions. The course covers the preparation and use of managerial accounting information for use in planning, budgeting, control, break-even analysis and pricing, including the impact of taxes. Completion of the course will enhance the student's ability to understand managerial accounting reports and use this information in making business decisions. Limited to MBA students and Executive MBA students. Does not satisfy any accounting requirement needed to sit for the CPA Exam in Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 672. Advanced Financial Analysis. 2 Credit Hours.

Advanced Financial Analysis and Valuation builds on the analytical techniques developed in the basic financial statement analysis course, Accounting 670: Financial Reporting and Analysis, to augment your understanding of more complex financial reporting issues and to introduce you to the valuation of equity investments. The viewpoint is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business. We discuss each financial reporting issue in terms of its effect on assessments of a firm's profitability and risk. This course is designed primarily for students who expect to be intensive users of financial statements as part of their professional responsibilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 673. Taxation for Business and Investment Decisions. 2 Credit Hours.

This course is designed to be the first tax course for students who are interested in acquiring the basic knowledge that all executives and investors should have about our federal income tax system. It studies basic concepts of federal income taxation applicable to all taxpayers. The basic income tax formula is studied including income exclusions, inclusions, statutory deductions, exemptions, and credits as well as property transactions. Completion of this course will enhance the students' appreciation of the role of taxation in making investment, employment-related, and business decisions. Not open to students with credit in ACC 403 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 675. Compensation, Incentives and Strategic Control. 2 Credit Hours.

Internal control is the process by which owners influence manager's of organization to implement the organization's strategies. They key idea is that different organizations typically have different strategies which in turn require different control systems for effective implementation. Internal control involves both formal systems and informal processes. Accounting 675 will begin by describing the formal aspects of management control such as the design of responsibility centers, budgets and standards, performance reports and management compensation. We will then explore the economic and financial reporting consequences (perhaps unintended) of various performance measurement mechanisms. In particular, we will focus on issues of short-termism, earnings, management, and attendant control failures that plague Corporate America today. Finally, we will discuss some of the regulatory changes brought about in recent times (e.g., Sarbanes Oxley) to address the apparent widespread control system failures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 677. Forensic Accounting. 2 Credit Hours.

This course provides an overview of fraud perpetrated against an organization, including employee theft, vendor fraud, customer fraud, and management fraud. You will learn how to investigate and quantify fraud, and how it can be detected and prevented as well as the accountants' role in litigation, such as acting as expert witness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ACC 681. Introduction to Financial and Managerial Accounting. 4 Credit Hours.

The first half of the course explores the role of accounting in providing financial information about an enterprise to decision-makers. Emphasis is placed on understanding financial accounting from both a preparer as well as user perspective. Course covers the reporting of financial position including coverage of assets, liabilities, equity accounts, the results of operations, and cash flows. Topics covered in the second half include various product costing techniques, analysis of cost behavior patterns, budgeting, and the use of accounting information in decision making from a managerial perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 682. Intermediate Accounting. 4 Credit Hours.

The accounting principles guiding the financial reporting practices of entities that prepare financial statements in accordance with generally accepted accounting principles are discussed. The course begins with a detailed discussion of the components of the income statement as well as the balance sheet followed by more complex accounting applications such as leases, post retirement benefits, accounting for income taxes, and other topics. Additionally, the course includes coverage of the statement of cash flows.

Prerequisite: ACC 681.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 683. Taxation. 4 Credit Hours.

The course begins with a discussion of basic concepts of federal income taxation applicable to all taxpayers. The principles of individual income taxation, the tax consequences of property transactions, and an introduction to the impact of income taxes on corporations and partnerships are discussed. Emphasis is placed on study of the basic income tax formula including income exclusions, inclusions, statutory deductions, exemptions, and credits. This is followed by a study of Federal income tax laws and regulations as they affect corporations, partnerships, their owners, and employees. Emphasis is placed on tax planning aspects of formation, operation, distribution, and liquidation of corporations and partnerships.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 684. Accounting Information Systems. 4 Credit Hours.

Course covers the nature, design, and implementation of accounting information systems. The objective of the course is to develop students' understanding of the theory and practice of relational database management systems in the accounting view of enterprise-wide databases. With a focus on controls, students build accounting system elements related to main accounting transaction cycles, the revenue cycle, and the purchase cycle.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 685. Financial Statement Analysis and Valuation. 4 Credit Hours.

This course emphasizes the fundamental techniques of financial statement analysis. Building upon core accounting and investment concepts, the course covers the analysis and interpretation of financial accounting information including the balance sheet, income statement, and statement of cash flows. The course also examines the use of accounting information in investment and credit decisions including the valuation of equity investments. The viewpoint is that of the user of financial statements, particularly from the standpoint of an equity investor or purchaser of a business.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 686. Auditing. 4 Credit Hours.

Course focuses on conducting an audit of financial statements in accordance with generally accepted auditing standards. Course covers accounting information systems, audit planning, audit risk and materiality assessments, evaluation of internal control, audit evidence, documentation, and audit reports. This is followed by discussion of advanced issues which arise in audit practice including audit reporting issues, fraud detection and reporting, attestation engagements, special reporting issues, compilation and review engagements, scope of services issues, and other new issues which have a significant impact on audit practice.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 687. Advanced Cost Accounting. 4 Credit Hours.

The course focuses on the use of accounting information in reporting managerial performance and making business decisions. The course covers the preparation and use of managerial accounting information for use in planning, budgeting, control, pricing, and in making other business decisions. Topics include in-depth studies of techniques and issues surrounding cost allocation methods, approaches to solving complex accounting problems, standard cost systems and variance analysis, and variable costing. Additionally, the formal aspects of management control such as the design of responsibility centers, budgets and standards, performance reports and management compensation will be discussed.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 688. Advance Accounting and Financial Reporting. 4 Credit Hours.

The primary focus of the course is on business combinations and preparing consolidated financial statements. Additionally, the accounting principles and practices applied to foreign operations and partnerships will be discussed along with foreign currency translation issues. This will be followed by an exploration of complex financial reporting issues of contemporaneous interest.

Prerequisite: ACC 682.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ACC 698. Selected Topics. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ACC 699. Directed Readings. 1-3 Credit Hours.

Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ACC 701. Empirical Accounting Research. 3.00 Credit Hours.

This is the first course in Empirical Accounting Research for Ph.D. students. The course introduces students to the data sources; current techniques for accessing and analyzing accounting data; research methods employed in hypothesis testing; and the literature on positive accounting theory, accounting anomalies, institutional accounting, and disclosure. The emphasis will be on current research with a historical perspective.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ACC 702. Empirical Accounting Research II. 3.00 Credit Hours.

This is the second course in Empirical Accounting Research for Ph.D. students. In this course, students will explore research on analyst estimates and stock recommendations, industry research in accounting, and empirical research on compensation. The course will critically evaluate the theory, research design, and methodology employed in these studies. PREREQUISITE: ACC 701 TOPICS IN EMPIRICAL ACCOUNTING RESEARCH I, OR PERMISSION FROM THE INSTRUCTOR.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ACC 823. Topics in Empirical Accounting Research I. 3 Credit Hours.

This is the first course in Empirical Accounting Research for Ph.D. students. The course introduces students to the data sources; current techniques for accessing and analyzing accounting data; research methods employed in hypothesis testing; and the literature on positive accounting theory, accounting anomalies, institutional accounting, and disclosure. The emphasis will be on current research with a historical perspective.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ACC 824. Topics in Empirical Accounting Research II. 3 Credit Hours.

This is the second course in Empirical Accounting Research for Ph.D. students. In this course, students will explore research on analyst estimates and stock recommendations, industry research in accounting, an empirical research on compensation. The course will critically evaluate the theory, research design, and methodology employed in these studies.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

ACC 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credit as determined by their advisor, but not for less than a total of 24. Not more than 12 hours of ACC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed their qualifying examinations they may take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Aerospace Studies (AIS)

AIS 101. The Foundations of the United States Air Force I. 1 Credit Hour.

Survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: Air Force heritage, military customs and courtesies, career opportunities, Air Force Core Values, interpersonal communications, and team building. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AIS 102. The Foundations of the United States Air Force II. 1 Credit Hour.

Survey and follow on course to AIS101, designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps. Featured topics include: Air Force heritage, military customs and courtesies, career opportunities, Air Force Core Values, interpersonal communications, and team building. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AIS 150. Leadership Laboratory. 0 Credit Hours.

Leadership Laboratory (LLAB) is a dynamic and integrated grouping of leadership developmental activities designed to meet the needs and expectations of prospective Air Force second lieutenants and complement the AFROTC academic program. It is a student planned, organized, and executed practicum conducted under the supervision of the Detachment 155 Commander and Operations Flight Commander.

Components: LAB.

Grading: CNC.

Typically Offered: Fall & Spring.

AIS 201. The Evolution of USAF Air and Space Power I. 1 Credit Hour.

Survey and follow-on course to AIS 101/102 designed to examine general aspects of the employment of air and space power through a historical perspective. Historical examples assist in understanding the development of Air Force distinctive capabilities and missions. In addition, the students continue discussing the importance of the Air Force Core Values with the use of operational examples and historical Air Force leaders. Students also continue to develop communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AIS 202. The Evolution of USAF Air and Space Power II. 1 Credit Hour.
Continuation of AIS 201 which provides students with knowledge level understanding for general element and employment of air and space power. Discusses the importance of Air Force Core Values with use of operational examples and historical Air Force leaders. Continues to develop communication skills. Leadership Laboratory is mandatory for AFROTC cadets and complements this course by providing cadets with followership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AIS 301. Air Force Leadership Studies I. 3 Credit Hours.

Aerospace Studies 301 teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills. Case studies are used to examine Air Force leadership and management situations as a means of demonstrating and exercising practical application of the concepts being studied. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AIS 302. Air Force Leadership Studies II. 3 Credit Hours.

Continuation of AIS 301 and is a study of Air Force personnel and evaluation systems, leadership ethics, and communication skills required of Air Force junior officers. Case studies are used to examine Air Force leadership and management situations. Mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AIS 401. National Security Affairs/Preparation for Active Duty I. 3 Credit Hours.

Aerospace Studies 401 is designed to examine national security process, regional studies, advanced leadership ethics, and Air Force Doctrine. Special topics of interest focus on the military as a profession, officership, military justice, civilian control of the military, preparation for active duty, and current issues affecting military professionalism with a continuing emphasis on the refinement of communication skills. A mandatory Leadership Laboratory complements this course by providing advanced leadership experiences in officer-type activities, giving students the opportunity to apply leadership and management principles.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AIS 402. National Security Affairs/Preparation for Active Duty II. 3 Credit Hours.

Continuation of AIS 401 which examines regional studies and advanced leadership ethics. Special topics of interest focus on the military as a profession, officership, military justice, preparation for active duty, and current issues affecting military professionalism. Continued emphasis is given to refining communication skills. Mandatory Leadership Laboratory complements this course by providing students advanced leadership experiences.

Corequisite: AIS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Africana Studies (AAS)

AAS 150. Introduction to Africana Studies. 3 Credit Hours.

Experiences of African American and other African-descended peoples with emphases on social, cultural, political, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

AAS 260. History of Slavery in the Atlantic. 3 Credit Hours.

The emergence and eventual abolition of the Trans-Atlantic slave trade and its effects on both old and new world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AAS 290. Special Topics. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AAS 350. Black Leadership in the U.S.. 3 Credit Hours.

Black leaders and leadership organizations. Emphasis on their role in overcoming oppression and barriers to advancement.

Prerequisite: 3 Credits in AAS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

AAS 390. Special Topics. 3 Credit Hours.

Content varies by semester.

Prerequisite: 3 Credits in AAS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

AAS 490. Senior Seminar in Africana Studies. 3 Credit Hours.

Content varies by semester.

Prerequisite: AAS 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

American Studies (AMS)

AMS 101. Introduction to American Studies. 3 Credit Hours.

An interdisciplinary approach to American Studies with attention to a particular theme or period.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

AMS 301. Topics In American Studies. 3.00 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMS 310. The United States In The World. 3 Credit Hours.

The culture and history of the United States in a global framework.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMS 321. Topics in American Studies: History. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 322. Topics in American Studies: Literature. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 323. Topics in American Studies: Politics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 324. Topics In American Studies: Religion. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 325. Topics in American Studies: Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 326. Topics in American Studies: Education. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 327. Topics in American Studies: Film. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 328. Topics in American Studies: Music. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 329. Topics in American Studies: Art. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 330. Topics in American Studies: Sociology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 331. Topics in American Studies: Geography. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 332. Topics in American Studies: Anthropology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 333. Topics in American Studies: Environmental Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 334. Topics in American Studies: Ethnic Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 335. Topics in American Studies: Women's and Gender Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 336. Topics in American Studies: LGBTQ Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 337. Topics In American Studies: Cultural Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 338. Topics in American Studies: International Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 339. Topics in American Studies: Urban Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMS 350. History And Culture Of South Florida. 3 Credit Hours.

The history and culture of South Florida from a multidisciplinary perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMS 399. Independent Study. 1-3 Credit Hours.

By arrangement with instructor; content varies.

Components: LEC.

Grading: CNC.

Typically Offered: Offered by Announcement Only.

AMS 401. Seminar in American Studies. 3 Credit Hours.

Content varies by semester.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

AMS 499. Independent Study. 3 Credit Hours.

By arrangement with instructor; content varies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

AMS 501. Senior Project. 3 Credit Hours.

All majors must complete either an individual research project or an internship at a local cultural or civic institution. Either option must be approved by the program director.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

AMS 505. Honors Thesis. 3 Credit Hours.

American Studies majors with a cumulative GPA of at least 3.5 in AMS courses and an overall GPA of at least 3.0 may earn departmental honors by completing AMS 505 : honors thesis. Candidates for departmental honors are responsible for finding a faculty member to serve as the thesis advisor. Students would take AMS 501 in the fall semester or the senior year and AMS 505 in the spring to complete the honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

Anthropology (APY)

APY 100. Introduction to Forensic Investigation. 3 Credit Hours.

Students will go into the field to gain an introductory understanding about skeletal identification and crime lab processes.

Requisite: Plan of Summer Scholar Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 101. Introduction to Anthropology. 3 Credit Hours.

A broad overview of archaeology, cultural anthropology, biological anthropology, and linguistics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 105. HIV: Sex, Science, and Society. 3 Credit Hours.

The important role that science plays and has played in ameliorating suffering for mankind. We will include an analysis of the scientific, human, and policy-related issues associated with HIV/AIDS.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 109. Anthropology of Religion. 3 Credit Hours.

Through themes such as myth, word and text, symbol, gender, pilgrimage, embodiment, and ritual, students learn about lived religion through anthropological research and field methods. The course also exposes introductory-level students to diverse world religious traditions: Korean folk religion, Indonesian Islam, Hinduism in diaspora, Judaism across cultures, Japanese temple Shinto traditions, and more.

Components: LEC.

Grading: GRD.

APY 200. Introduction to Forensic Anthropology. 3 Credit Hours.

Students will learn the basics of the human bone structure and how it relates to anthropology and forensic studies.

Requisite: Plan of Summer Scholar Program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 201. Principles of Archaeology. 3 Credit Hours.

History, methods, and theory of archaeology with an outline of the main characteristics of the prehistoric record throughout the world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 202. Principles of Cultural Anthropology. 3 Credit Hours.

Cultural anthropology, including such topics as economics, politics, kinship and families, health systems, religion, and personality.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 203. Principles of Physical Anthropology. 3 Credit Hours.

The origin and biological development of the human species; human evolution explored by means of the fossil record of prehistoric population; differentiation and adaptation of contemporary populations in various world environments; the comparison of humans and other primates with respect to biological and behavioral variability.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 204. Principles of Linguistic Anthropology. 3 Credit Hours.

Human linguistic principles of phonology, morphology, and grammar to construct a framework for understanding the operation of language in cultural context. The functions of human language in structuring ideological, economic, and political realms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 205. Medicine, Health Care In Society. 3 Credit Hours.

A sociohistorical analysis of the intersection between medicine, health care and society, using examples throughout the world. It will reflect on 'taking-for-granted' concepts such as the 'body, risk, illness and healing' and their relationships to culture, power, and society, as well as the plurality of narratives and discourses on health and healing practices.

Requisite: Anthropology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 208. Short-Changed in the City. 3 Credit Hours.

Marginalization plagues sub-populations in almost every large city. An anthropological view of this problem and its origins, presented through readings, discussions, lectures and field trips.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 230. The Sounds of the World's Languages. 3 Credit Hours.

The range of sounds produced by the speakers of the world's languages. An introduction to phonetics, with a focus on acoustically-oriented methods used in contemporary phonetics.

Prerequisite: APY 204.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 240. World Prehistory: Our first three million years. 3 Credit Hours.

An introduction to the prehistoric record worldwide which examines the evolution of human complexity and culture through non-written form of evidence from the archeological record.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 300. Societies and Cultures in Latin America and the Caribbean. 3 Credit Hours.

This course is designed to give students an understanding of issues related to social and processes in Latin American and Caribbean societies, with emphasis on history, class, gender, ethnicity, religion, politics and power, family and migration processes as well as literary and artistic creations. We will begin our study by analyzing the sociohistorical 'production' of these regions, subject formation and processes of political organizing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 301. World Prehistory. 3 Credit Hours.

The global prehistoric record, with emphasis on the development of social complexity and ancient states.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 306. Human Evolution. 3 Credit Hours.

The macroevolution of humans using the fossil record of vertebrates, including the development of uniquely human behavioral and anatomical adaptations, and of diversity in living populations.

Prerequisite: APY 201 or APY 203.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 307. Human Adaptation. 3 Credit Hours.

Human biological adaptation to different environments and stress is examined anthropologically within an evolutionary framework. Mechanisms of adaptation to temperature extremes and other climatic variables, high altitude, disease, nutritional stress, urbanization, extraterrestrial conditions, and other environmental challenges are described in relation to biological and behavioral variations among human populations. The limits of human performance and human adaptive potential in the present and future are explored.

Prerequisite: APY 201, APY 202, APY 203, BIL 101, and BIL 109.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 308. Human Variation: Anthropology of Race. 3 Credit Hours.

Human biological diversity is viewed historically within a cross-cultural, evolutionary framework. Patterns of variation in human morphological, anatomical, physiological, biochemical, genetic, and behavioral characteristics are investigated in peoples living in different environments throughout the world. Observed differences among human populations are discussed with reference to traditional theories of racial taxonomy and modern perspectives in human classification.

Prerequisite: APY 201, APY 202, APY 203, BIL 101, and BIL 109.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 309. Evolution of Human Behavior. 3 Credit Hours.

Origins and evolution of human behaviors as determined by fossil and archaeological evidence, primate research, and the cross-cultural analysis of behavioral variations in contemporary societies. The interaction of human biological and behavioral evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 310. Primate Behavior and Adaptation. 3 Credit Hours.

The taxonomy, distribution, anatomy, social behavior and adaptations to habitats of human and non-human primates as seen from an evolutionary perspective.

Prerequisite: APY 203 and BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 315. Folk and Alternative Medicine. 3 Credit Hours.

Historical and cultural backgrounds of health therapies, including theoretical bases of traditional ethnomedical, nonwestern, and complementary medical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 320. The Evolution of Language. 3 Credit Hours.

Popular contemporary hypotheses on the origins and development of language.

Prerequisite: APY 204.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 336. Cultural Dynamics. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**APY 340. Marine Archaeology. 3 Credit Hours.**

Location, excavation, and study of submerged sites.

Prerequisite: APY 201.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**APY 345. Blood And Chocolate: Ancient Civilizations Of Mesoamerica. 3 Credit Hours.**

An archaeological approach to understanding the major pre-Columbian cultures of Mesoamerica, from Olmec to Aztec periods, with emphasis on the ancient Maya. The particular accomplishments of this area such as the domestication of chocolate and corn, hieroglyphic writing, and elaborate sacrificial rituals will be explored.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**APY 360. Anthropology of Food. 3 Credit Hours.**

Evolution of human diet, basic nutrition, food taboos, effects of domestication, effects of diet on skeletal remains, analysis of your own food habits, and the impact of certain foods on our biocultural evolution of our species.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**APY 361. Gender and Language. 3 Credit Hours.**

The ways in which language is used in the constitution of gender from a cross-cultural perspective. Course is co-listed with WGS 361

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**APY 362. The Languages of the World. 3 Credit Hours.**

The world's languages. The primary focus is on major differences and similarities among the structural properties of languages from diverse regions and linguistic families. In short, an introduction to linguistic typology.

Prerequisite: APY 204.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**APY 376. Economic Anthropology. 3 Credit Hours.**

The structure and operation of the small-scale economy in the social system is examined. The interrelationship between social and economic systems, and the formation of non-market economies.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**APY 377. Anthropology of Political Systems and Discourse. 3 Credit Hours.**

Political systems and processes in tribal societies, with special emphasis on dispute settlement, the organization of political control, and the use of oratory. Case studies from Latin American and African examples.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**APY 384. Caribbean Archaeology. 3 Credit Hours.**

An examination of human lifeways in the Antillean archipelago from first settlement through the development of complex socio-political structures in the Late Ceramic Age and ultimately the arrival of European and African migrants.

Prerequisite: APY 201. Or Requisite: Permission of Instructor.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**APY 385. Caribbean Cultures. 3 Credit Hours.**

Caribbean societies, including ethnic diversity, production and exchange, domestic organization, and belief systems.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**APY 386. Psychological Anthropology. 3 Credit Hours.**

The interaction between personality and cultural settings. Topics include cross-cultural child rearing and enculturation, behavioral development and adjustment, "deviance," and ethnopsychiatry.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**APY 387. Cultural Evolution. 3 Credit Hours.**

Evolution of social systems and technologies, from hunting and gathering bands through industrial states.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**APY 391. Gender in Ancient Cultures. 3 Credit Hours.**

A cross-cultural examination of the role gender played in ancient complex culture areas, such as Mesoamerica, Mesopotamia, and the Mediterranean, with emphasis on using the archaeological record to reconstruct social roles.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**APY 392. Sex and Culture. 3 Credit Hours.**

A cross-cultural examination of sex roles and sexuality; gender identity, division of labor, functions of marriage, sexual practices, reproductive control, and political relationships between the sexes.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.

APY 393. Drugs and Culture. 3 Credit Hours.

Cross cultural review of human drug use with special attention to the use of drugs in cultural context.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 394. Comparative Religion. 3 Credit Hours.

A cross-cultural investigation of differing levels of religious belief systems examined from both etic and emic points of view.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 395. Gender, Race & Class. 3 Credit Hours.

Conceptions and intersections of gender, race, and class in historical and contemporary cultures; the impact of these experiences on individuals and society as a whole.

Prerequisite: APY 202 and WGS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 396. Youth Culture, Identity and Globalization. 3 Credit Hours.

Youth cultural practices and experiences in various urban contexts in the world. Particular emphasis is placed on marginalization, identity and commodification of violent practices as embedded in the globalization processes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 397. Violence And Ritual. 3 Credit Hours.

Various theories of ritual and violence with reference to ethnographically-based topics. It will explore the role of symbols, rituals and ideologies in shaping and contesting power within nations and other political communities.

Prerequisites: APY 202 or any Social and Behavioral Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 398. Coastal Cultures. 3 Credit Hours.

Fishermen and their special relations to the environment, from Thailand and Sri Lanka to Alaska and the West Indies. Decision-making processes among fishermen, business concepts, responses to technology and myths of the sea.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 399. The Anthropology of Kinship and Family in America. 3 Credit Hours.

Theories of kinship and the family. It will examine emergence of new patterns of kinship networks and construction of individuals. Ethnographic materials will be drawn from the Americas and the Caribbean, particularly Brazil, Cuba, Haiti, Jamaica and the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 405. Readings in Anthropology. 1-3 Credit Hours.

Supervised readings on special topics in Anthropology.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

APY 406. Readings in Anthropology. 1-3 Credit Hours.

Supervised readings on special topics in Anthropology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 413. Medical Anthropology. 3 Credit Hours.

Cross-cultural and historical perspectives on health and illness in human evolution. Effects of heredity, environment, and culture upon human disease ecology. Biological and behavioral adaptations to disease.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 414. Forensic Anthropology I: Human Osteology. 3 Credit Hours.

Identification and interpretation of the human skeleton, including age, sex, hard tissue pathology and traumas.

Prerequisite: APY 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

APY 415. Forensic Anthropology II: Fieldwork. 3 Credit Hours.

The investigation, analyses, and legal aspects of human remains recovered from crime scenes and mass disasters.

Prerequisite: APY 203 and APY 414.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 416. Bioarchaeology-Peopling the past. 3 Credit Hours.

Contextualization of bodies in space, cultural milieu and time are the primary focus of this course. Students will explore bioarchaeology's history, development and major topical concerns.

Prerequisite: APY 201 or APY 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 417. Archaeometry: The Science Of Material Culture. 3 Credit Hours.

The archaeological application of a physical science (physics, chemistry, geology, etc.) techniques to answer pertinent anthropological questions about past societies.

Prerequisite: APY 201. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 418. Seminar in Anthropology. 3 Credit Hours.

Consideration of special topics in physical anthropology, linguistics, archaeology and ethnology and their interrelationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 419. Politics of the Past. 3 Credit Hours.

The intersection of archaeology, politics, capitalism, and discrimination to consider the presentation, misconstrual, revision, and reclamation of the past. Lecturing will be kept to a minimum, as the bulk of the class will be devoted to discussion and debate.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 420. Archaeology, Architecture, and the City. 3 Credit Hours.

Ancient architectural remains in the global anthropological perspective, emphasizing the role of architecture in shaping the evolution of social and political interactions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 421. Interpreting Bodies. 3 Credit Hours.

Perceptions, representations, and regulation of the physical body as a gendered and sexual site, as a source of pleasure, as a means of social validation, and as an object of coercion. Writing Credit. Lecturing will be kept to a minimum, as the bulk of the class will be devoted to discussion and debate.

Prerequisite: APY 202 and WGS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 422. Pseudoscience in Archaeology. 3 Credit Hours.

Reconstructions of how people lived in the past that claim scientific validity, use the terminology of science, but are unsupported by evidence, can be called pseudoscientific. This course critically evaluates the field of pseudoscientific archaeology by applying the scientific method, logic, and common sense.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 423. Paleopathology: Health and disease in ancient peoples. 3 Credit Hours.

Paleopathology aims to familiarize students with the range of health conditions that present in preserved human remains and to explain the linkages between disease prevalence and culture, economics, and politics.

Prerequisite: APY 414 and APY 416. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 435. Anthropology of Nature and Environment. 3 Credit Hours.

This course is an introduction to the anthropological investigation of nature, biology, and environment. Taking examples from cultural anthropology and the subfields of environmental anthropology, political ecology, and the anthropology of science, the course builds an understanding of the various ways in which ideas about nature and human nature and nature making practices shape our contemporary world: its places, spaces, life forms, and forms of life.

Prerequisite: APY 202.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 484. Anthropological Theory. 3 Credit Hours.

Theoretical frameworks directing data collection and research methodology in anthropology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 485. Archeological Theory and Technique. 3 Credit Hours.

Theoretical traditions that shape modern archaeological research design and interpretation.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

APY 501. Methods of Anthropological Research. 3-6 Credit Hours.

Concentration on research methods for Cultural, Archaeological, Linguistic, and/or Biological Anthropology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 502. Field Studies in Anthropology. 3-6 Credit Hours.

Field research in advanced topics in Cultural, Archaeological, Linguistic and/or Biological Anthropology. Preparation of data for professional presentation and publication is stressed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 505. Museum Internship. 3 Credit Hours.

Field work and on-site experience in museum studies conducted in conjunction with the major museums in Miami. Training and research in methods and techniques in museology.

Prerequisite: APY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 506. Workshop in Anthropology. 3-6 Credit Hours.

This course is designed for upper level and graduate students to participate in special topics in Anthropology and related fields.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 511. Artlab At Lowe. 3 Credit Hours.

Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

APY 512. Advanced Medical Anthropology. 3 Credit Hours.

Applications of theories and methods of medical anthropology to problems in human health and disease.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 518. Advanced Seminar in Anthropology. 3 Credit Hours.

Specialized topics in Anthropology to involve students into current research specializations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 601. Advanced Seminar in Archaeology, Theory and Practice. 3 Credit Hours.

History and theoretical foundation of modern archaeology; ethics, professional standards, and best practices in archaeology; cultural heritage management with special emphasis on NAGPRA; compliance with Secretary of the Interior standards, Section 106 regulatory knowledge and skills for compliance with government regulations, and current topical literature on archaeology.

Requisite: Graduate Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

APY 602. Advanced Seminar in Cultural Anthropology. 3 Credit Hours.

The application of the anthropological perspective, data collection and analyses methods, and theoretical foundations of traditional cultural anthropology to understanding and working on solving human problems in the modern world. Topics include the design, conduct, and application of modern ethnological methods to research venues in business, governmental/NGO agencies, conflict studies, natural disasters, medical, globalization and financial organizations.

Requisite: Graduate Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 603. Advanced Seminar in Biological Anthropology. 3 Credit Hours.

The historical and theoretical foundations of modern biological anthropology. Topics include ethics and standards for human subjects; applied bioarchaeology, biological anthropology in medical/legal settings, primatology, Human biology and adaptive diversity, modern perspectives on race, and skeletal biology of modern peoples. The development of professional research and writing skills for the discipline is integral to course goals.

Requisite: Graduate Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 604. Advanced Seminar in Linguistic Anthropology. 3 Credit Hours.

Requisite: Graduate Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 605. Museum Internship. 3 Credit Hours.

Field work and on-site experience in museum studies conducted in conjunction with the major museums in Miami. Training and research in methods and techniques in museology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 612. Advanced Medical Anthropology. 3 Credit Hours.

Applications of theories and methods of medical anthropology to problems in human health and disease.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 690. Teaching Practicum In Anthropology. 3 Credit Hours.

Logistics and pedagogical issues of teaching anthropology, including skill set and materials suitable for employment in settings for which the master's is the required, e.g., two-year schools. The student will evaluate texts, create teaching materials for a given subfield, master commonly-available electronic teaching and learning tools, and teach one class as directed.

Requisite: Graduate Status and Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

APY 805. Graduate Internship: Professional Practice of Anthropology. 1-9 Credit Hours.

An internship designed to provide valuable career-related work experience in a real - world setting, e.g., institutions, organizations and/or businesses. Students will identify an opportunity, supervisor, and write a proposal as to the relevancy to their goals. The Internship may be paid or unpaid. This course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

APY 810. Master's Degree Thesis Preparation and Writing. 1-9 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Applied Marine Physics (AMP)

AMP 509. Coastal Physics and Engineering. 3 Credit Hours.

Course addresses linear wave theory, wave statistics, wave generation, tides, wind-driven currents, nearshore circulation, sediment transport by waves and currents, bedforms, bedload, and suspended load. Other topics include longshore and cross-shore transport, equilibrium beach profiles, coastal processes models, Pelnard-Considere model for shoreline change, and Escoffier model for inlet stability.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 536. Modeling of Physical-Biological Interactions. 3 Credit Hours.

The course is designed to teach students the basic components for building coupled physical biological models. Students will be able to understand the processes affecting from low- to high-trophic level organisms in the planktonic environment. Emphasis will be given on numerical simulations of mechanisms involved in: Plankton distribution and patchiness; Trophic interactions (NPZD); Larval behavior and transport; Marine population connectivity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 551. Special Topics. 1-3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMP 554. Special Topics. 1-3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMP 575. Applied Ocean Hydrodynamics. 3 Credit Hours.

The equations governing the dynamics of homogeneous fluids are derived. The concepts of deformation rates, vorticity, stream function, and ideal fluid flow are introduced and demonstrated in applications describing flows in the marine environment. Semi-empirical methods for analyzing viscous flows, boundary layers, and turbulence are presented. Eddy viscosity and more advanced turbulence closure schemes are discussed in the context of coastal circulation, bottom boundary layers and sediment transport.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AMP 576. Wave Propagation in the Ocean Environment. 3 Credit Hours.

Wave equation models, acoustic and other elastic waves, surface gravity waves, boundary conditions, ray tracing, dispersion, diffraction, reflection attenuation, and radiation transport laws are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AMP 609. Coastal Physics and Engineering. 3 Credit Hours.

Course addresses linear wave theory, wave statistics, wave generation, tides, wind-driven currents, nearshore circulation, sediment transport by waves and currents, bedforms, bedload, and suspended load. Other topics include longshore and cross-shore transport, equilibrium beach profiles, coastal processes models, Pelnard-Consideré model for shoreline change, and Escoffier model for inlet stability.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 631. Air-Sea Interaction. 3 Credit Hours.

Course topics include instrumentation, automatic data acquisition and analysis, time series analysis, signals and noise, filtering, and applied statistics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMP 635. Introduction to Underwater Acoustics. 3 Credit Hours.

Course topics include sound waves and pulses, harmonic analysis, sound propagation in the ocean, sonar systems, scattering and absorption, acoustic measurement of marine life and sea-floor properties, sound transmission in waveguides, ambient noise, transducers, and hydrophones.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 636. Modeling of Physical-Biological Interactions. 3 Credit Hours.

The course is designed to teach students the basic components for building coupled physical biological models. Students will be able to understand the processes affecting from low- to high-trophic level organisms in the planktonic environment. Emphasis will be given on numerical simulations of mechanisms involved in: Plankton distribution and patchiness; Trophic interactions (NPZD); Larval behavior and transport; Marine population connectivity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 675. Applied Ocean Hydrodynamics. 3 Credit Hours.

The equations governing the dynamics of homogeneous fluids are derived. The concepts of deformation rates, vorticity, stream function, and ideal fluid flow are introduced and demonstrated in applications describing flows in the marine environment. Semi-empirical methods for analyzing viscous flows, boundary layers, and turbulence are presented. Eddy viscosity and more advanced turbulence closure schemes are discussed in the context of coastal circulation, bottom boundary layers and sediment transport.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AMP 676. Wave Propagation in the Ocean Environment. 3 Credit Hours.

Wave equation models, acoustic and other elastic waves, surface gravity waves, boundary conditions, ray tracing, dispersion, diffraction, reflection attenuation, and radiation transport laws are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AMP 701. Analytical Methods in Marine Physics. 3 Credit Hours.

Review of linear algebra with emphasis on real symmetric systems. Least squares, optimal estimation, and the Gauss-Markov theorem. Equilibria in discrete and continuous systems, and the foundations of continuum mechanics. Review of vector and tensor analysis. Calculus of variations and the variational principles of mechanics. Fourier analysis and orthogonal expansions. Integral transforms. The discrete Fourier and z transforms. Functions of a complex variable. Ordinary differential equations. Dynamical systems, the phase plane, stability, and an introduction to chaos. The diffusion equation. Linear and nonlinear wave equations. Applications to marine physics involving wave motion and fluid flow are emphasized throughout the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

AMP 710. Environmental Optics and Electromagnetic Wave Propagation. 3 Credit Hours.

The course will allow students to understand the physical background of geophysical optical and microwave measurements, to learn how to carry out and interpret optical measurements, and how to work with microwave passive/active remote sensing platforms. The student will leave with a thorough understanding of existing physical background of optical instrumentation for underwater measurements as well as active/passive optical and microwave remote sensing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 740. Numerical Modeling in Applied Marine Physics. 3 Credit Hours.

Techniques and applications of numerical modeling in one of the following topical areas: sound propagation and scattering in the ocean; surface gravity wave propagation and scattering in regions of shallow and intermediate depths; and hydrodynamics in the coastal ocean environment. Emphasis (sound propagation versus gravity wave propagation or hydrodynamics) alternates from one year to the other.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 750. Coastal Ocean Circulation. 3 Credit Hours.

Circulation and stratification in the coastal ocean, including the dynamics of wind-driven, tidally-driven, and buoyancy-driven mean and transient flows over variable topography with density stratification. Design of numerical models and observing systems for coastal ocean circulation is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 751. Special Topics. 1-3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMP 754. Special Topics. 1-3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Applied Marine Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMP 772. Advanced Underwater Acoustics. 3 Credit Hours.

Analysis and numerical modeling of sound propagation in the ocean: geometrical acoustics, normal mode theory, and the parabolic equation method. Recent advances in underwater acoustics: effects of oceanic variability, signal fluctuations, random medium propagation, ocean bottom interactions, and shallow water propagation are also examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 790. Mechanics and Thermodynamics of the Air-Sea Interface. 3 Credit Hours.

This course deals with the theory and practice of air-sea interaction.

Two hours of lectures and one hour in the wind-wave laboratory provide an appropriate mix of theory and experiment. The topics covered include: thermodynamics of the interface; conservation equations; wave generation, propagation, and dissipation; boundary layer turbulence; heat, mass, and momentum transfer; energy dissipation, intermittency; turbulence closure; and wave prediction models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 791. Sustainable Fisheries - Advanced Acoustic Surveying. 3 Credit Hours.

This is the third and final course in the three course series. It addresses graduate students with a strong research interest in measuring fish and their habitat on the stock and population level. This course will focus on advanced stock assessment techniques using acoustics and optics. It will cover, for example: - A critical review of classical and current research papers - Signal processing and laboratory experiments - Field surveys and stock assessment reports.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

AMP 794. Advanced Studies. 1-3 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMP 798. Advanced Studies. 1-3 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

AMP 805. Special Project. 1-6 Credit Hours.

Supervised project for students pursuing the Master of Arts degree.

Consists of a paper which is researched and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

AMP 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

AMP 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in AMP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

AMP 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of AMP 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

AMP 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Applied Music (MAP)

MAP 264. VOCAL TECHNIQUES. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Arabic (ARB)

ARB 101. Elementary Arabic I. 3 Credit Hours.

Fundamental grammatical principles; drill in pronunciation; simple reading and translation. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARB 102. Elementary Arabic II. 3 Credit Hours.

Reading and translation; oral and written exercises. Closed to native speakers.

Prerequisite: ARB 101 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARB 201. Intermediate Arabic. 3 Credit Hours.

Continuation of ARB 102. Reading and translation; oral and written exercises. Closed to native speakers.

Prerequisite: ARB 102 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARB 202. Intermediate Arabic II. 3 Credit Hours.

Continuation of Arabic 201. Readings designed to integrate listening comprehension, speaking, reading, writing skills. Discussion of Arab society, history and culture. Closed to native speakers.

Prerequisite: ARB 201 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARB 203. Advanced Arabic. 3 Credit Hours.

5th semester course in Modern Standard Arabic, the Arabic used in almost all written communication and in formal speech throughout the Arab world. Continued development of all four language skills (listening, speaking, reading, and writing) together with study of cultural aspects of the Arab world. Conducted in Arabic. Closed to students who graduated from a high school in which the primary language of instruction was Arabic.

Prerequisite: ARB 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARB 207. Arabic For Heritage Learners. 3 Credit Hours.

Arabic for Heritage Learners is a 200 level course specifically designed for students of Arab descent who fulfilled the equivalent of ARB 201. The course will hone students' ability in critical reading, writing, debate, and discussion of pertinent topics in Arab culture. The course material will focus on the history of Arab culture, literature, film, and music. By the end of the semester students will develop their ability in critical reading and writing in MSA.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARB 251. Levantine Colloquial Arabic I. 3 Credit Hours.

This course will enable students to converse in the colloquial Arabic dialects of the Levant (Jordan, Lebanon, Palestine, and Syria).

Development of communicative abilities in speaking and comprehension, as well as reading and writing (as used in social media, theater, etc.) of colloquial Levantine Arabic. Closed to native speakers (students educated in schools where Arabic was the language of instruction);

heritage learners at the beginning level may be accommodated. Prerequisite: ARB 201 or equivalent.

Prerequisite: ARB 201 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 310. Topics In Arabic Literature And Culture In Translation. 3 Credit Hours.

Specific topics within the literature and cultures of the Arabic-speaking world, including literary, cinematic, and artistic representations of central themes or issues, and the cultural production of particular historical periods or national or immigrant groups. This course is taught in English and does not fulfill the CAS foreign language requirement. May be repeated for credit if topics vary.

Prerequisite: ENG 106 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 312. Arab Cultures: A Cultural History Of The Arab World. 3 Credit Hours.

Study of the main points of Arab cultural history, from Pre-Islamic times to the period following European colonization with an emphasis on intellectual history and literary and visual arts. This course is taught in English and does not fulfill the CAS foreign language requirement. Writing Credit.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 315. Topics In Gender And Sexuality In Translation. 3 Credit Hours.

Topics in gender and sexuality in the context of the Arab world, through literary and/or cultural studies. This course is taught in English and does not fulfill the CAS foreign language requirement. May be repeated for credit if topics vary. Writing Credit.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 410. Language And Power In The Arab World. 3 Credit Hours.

The multiple languages and linguistic registers present in the Arab world and, through materials from linguistics, anthropology, political science, music, art, and literature, leads them into an exploration of the main socio-linguistic features of Arabic and their broader cultural ramifications. This course is conducted in English. It does not fulfill the College of Arts & Sciences language requirement.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 591. Directed Readings. 1-3 Credit Hours.

Directed readings (Independent study) in Arabic Studies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARB 625. Arabic for Graduate Students. 0 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARB 691. Directed Readings. 1-3 Credit Hours.

Directed readings (Independent study) in Arabic Studies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Architecture (ARC)

ARC 101. Architecture Design I. 6 Credit Hours.

The study of architecture as an intellectual and aesthetic discipline.

Topics include concept, site, form and technique. Corequisite: ARC 111, 121.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 102. Architecture Design II. 6 Credit Hours.

Architectural response to shelter, space and setting requirements. Topics include programming, program analysis and design, anthropometrics, and architecture psychology. Corequisite: ARC 112, 122.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 110. Introduction to Architectural Design. 3 Credit Hours.

Introduction to the design process and the role of the architect in society. Building design, landscape architecture, urban planning, historic preservation, architectural theory and graphics are taught through drawing and model making in a studio setting. Open to non-architecture majors in college and high school students entering 10th, 11th and 12th grades interested in exploring the field of architecture.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 111. Drawing I. 3 Credit Hours.

An introduction to graphic representation as exploration, selection, coordination and acquisition of visual knowledge in three methods: freehand, mechanical and digital drawing. This course covers topics of orthographic and oblique projections, geometric constructions, lettering, parti sketches, shade and shadow, portfolio design and basic knowledge of digital programs; Adobe Photoshop, Adobe In-Design, Sketch-up Pro, and Autocad. Prerequisite: Corequisite: ARC 101,121.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 112. Drawing II. 3 Credit Hours.

An intermediate course that continues methods integration introduced in Drawing I focusing on conical projections, color theory, measured drawings, Sketchup-up Pro, Autocad, and Revit. Prerequisite: ARC101, 111, Corequisite ARC 102, 122.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 121. Architecture and Culture. 1 Credit Hour.

Architecture as an intellectual and aesthetic discipline. Focus on design theory, language, typology, image, form, context, and case studies.

Corequisite: ARC 101, 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 122. Architecture and Behavior. 1 Credit Hour.

Those aspects of environmental psychology which affect architectural design. Studies in human behavior and the design process, application of psychological factors to the design of buildings and their environment.

Corequisite: ARC 102, 112.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 141. On-Site Survey of European Architecture and Urbanism. 3-6 Credit Hours.

On site introduction to architecture and the city with a historical review of most European periods from classical to contemporary. Survey of European architectural and urbanistic precedents in important selected locations. Elective course open to all majors; lecture and seminar format.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ARC 203. Architecture Design III. 6 Credit Hours.

Architectural response to natural environment and site requirements.

Focus on site analysis and design, climate, access and circulation, landscape, relation to larger context. Corequisite: ARC 223.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 204. Architecture Design IV. 6 Credit Hours.

Building materials and structure as active constituents of architecture design. Focus on orientation, enclosure, low-energy responses, selection and assembly of construction materials, short and intermediate span structural systems. Corequisite: ARC 231.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 213. Drawing Iii. 3 Credit Hours.

An advanced representation course that builds on the tools and methods of Drawing I & II while introducing students to more advanced techniques of three dimensional modeling that integrates hand drawing and computer drawings. Topics covered include; diagramming, research/analytical drawing, designing in perspective, and integration of the following digital programs, Revit, Rhino, Maya, 3-D Max, and Archicad. Prerequisite: ARC 102, 111, 112 or permission of the instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 223. Architecture and the Environment. 1 Credit Hour.

Architectural response to natural environmental requirements. Focus on climate, control, natural energy use, ecosystems, energy flow, environmental intervention, case studies of indigenous buildings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 230. Building Technology I: Materials & Methods.. 3 Credit Hours.

Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction; Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes; assemblies, detailing and basic building code concepts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 231. Building Technology: Structural Systems. 3 Credit Hours.

Structural systems: the tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral building envelope and financial considerations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 267. History of Architecture I: Ancient, Medieval and Renaissance. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from prehistory to the end of the sixteenth century. Corequisite: ARC 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 268. History of Architecture II: Baroque through Contemporary. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end of the sixteenth century through to the present. Corequisite: ARC 204.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 292. Introduction to Architecture Design I. 3 Credit Hours.

Survey of the architecture profession and introduction to architecture design for non-architecture majors. Role, opportunities, vocabulary, visual awareness, techniques and procedures of design.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 293. Introduction to Architecture Design II. 3 Credit Hours.

Continuation of ARC 292 and an introduction to the interactions between architecture and the engineering disciplines for non-architecture majors. Theories of building and site design, technology as an integral component of design, program, site, climate and methodology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 294. Introduction to the Development of Architecture. 3 Credit Hours.

Introduction to architecture for non-architecture majors. Vocabulary, themes, principles and processes of design, cultural, social, economic and technological influences demonstrated through historic examples.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 301. Architecture Design. 3 Credit Hours.

Comprehensive building and site design for students transferring into the architecture program at third year level. Topics include human, environmental, cultural and technological factors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 305. Architecture Design V. 6 Credit Hours.

Environmental systems and structure as active constituents of architectural design. Topics include the integration of enclosure, structure, environmental and mechanical systems in intermediate and long span structures. Corequisite: ARC 362, CAE 213.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 306. Architecture Design VI. 6 Credit Hours.

Government and finance as active constituents of architecture design. Topics include zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies. Corequisite: ARC 351, CAE 313.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 323. On Site Study of Selected Architecture and Urbanism. 3-6 Credit Hours.

On site study of specific architectural and/or urbanistic precedents at selected locations. Focus on specific period(s) and/or architect(s). Elective course open to all majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ARC 324. On Site Graphic Analysis of Selected Architecture and Urbanism. 3 Credit Hours.

On site analysis and illustration of specific architectural and/or urbanistic precedents at selected locations. Diagrams, sketches, and drawings recording, analyzing and evaluating buildings and places. Focus on specific period(s) and/or architect(s). Elective course open to all majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ARC 362. Environmental Building Systems I. 3 Credit Hours.

Environmental and Safety Systems. Topics include mechanical - HVAC and conveyors; plumbing - fixtures and pipes; safety systems - fire safety and emergency and signal systems. Corequisite: ARC 305.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 363. Environmental Building Systems II. 3 Credit Hours.

Principles and applications of light and acoustics. Topics include natural and artificial light - planning for sunlight, problems and solutions for interior and exterior illumination; sound - properties, problems and solutions in new and existing spaces. Principles and applications of electrical equipment and wiring design. Corequisite: ARC 306.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 371. Ancient Architecture. 3 Credit Hours.

History of architecture and human settlements. Western European prehistory, Egypt, Mesopotamia, Persia, Aegean and Mediterranean, Greece, Rome.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 373. Early Christian, Byzantine, and Medieval Architecture. 3 Credit Hours.

History of architecture and human settlements. Early Christian and Byzantine architecture in Italy, the Near East, Greece, North Africa, Eastern Europe, Medieval architecture in Western Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 382. Architecture and Culture in Italy. 3 Credit Hours.

A cultural and historical framework in preparation for participation in the Rome program. A range of topics, including architecture, art, history, cinema, literature and politics presented by University faculty from a variety of disciplines. Required for participation in the Rome Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 390. History of Cities. 3 Credit Hours.

Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlements.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 407. Architecture Design VII. 6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 408. Architecture Design VIII. 6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 452. Management of Professional Practice. 3 Credit Hours.

Overview of the practice and the profession, legal and ethical concerns, business types and management practices, traditional and non-traditional practices and services, contracts and contractual relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 475. Colonial Architecture. 3 Credit Hours.

History of architecture and human settlements. Colonial Architecture from the 16th through the 19th centuries in North and South America, the Caribbean, India and Africa.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 476. 19th and 20th Century Architecture. 3 Credit Hours.

History of architecture and human settlements. America and Europe during the 19th and 20th centuries; cultural, technological and theoretical development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 481. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 482. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 483. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 500. Architecture Theory. 3 Credit Hours.

Architecture and Culture/Architecture and the Environment Survey of primary texts in theory of architecture. Part 1: Focus on design theory, language, identity, tectonics and context. Part 2: Focus on environmental theory, sustainability, and ecosystems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 501. Architecture Design and Theory I. 6 Credit Hours.

Cultural, human and environment component and architectural responses to these: Social and aesthetic concepts, architectural psychology, climatic principles, programming analysis and design.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 502. Architecture Design and Theory II. 6 Credit Hours.

Technology component; materials, structure, and environmental control systems as a framework for architectural design. Construction materials and methods, structural systems, mechanical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 503. Architectural Design and Theory III. 6 Credit Hours.

Legal and economic component; government and finances as active constituents of architecture design. Zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 504. Architecture Design and Theory I. 6 Credit Hours.

Cultural, human and environment component and architectural responses to these: Social and aesthetic concepts, architectural psychology, climatic principles, programming analysis and design.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 507. Architecture Design. 6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 509. Architecture Design IX. 6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 510. Architecture Design X. 6 Credit Hours.

Elective component: student and faculty select areas of in-depth study. Topics include building types, environment, energy, community design, etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 511. Drawing. 3 Credit Hours.

Graphic representation of visual ideas through increased awareness of visual and graphic vocabulary, stressing projections, light, shade and shadow, perspective and freehand sketching.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 512. Advanced Visual Analysis. 3 Credit Hours.

Drawing as a means of analyzing and recording visual experience. Composition, form, light, color and drawing as a primary device in the mental registration of visual experience.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 513. Computing. 3 Credit Hours.

An introduction to new electronic design tools and technology available to architects today. Lectures on the history and future of computing in the profession.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 514. Michelangelo. 3 Credit Hours.

Drawing as a form of research across mediums to understand historical research and interpretation of Michelangelo's work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 515. Computer Modeling. 3 Credit Hours.

Three-dimensional, computer modeling, and rendering. Lecture, problem solving exercises and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 516. Architectural Watercolor Renderings. 3 Credit Hours.

This course will use freehand drawing and watercolor painting as a vehicle to study and record the urban and architectural conditions of Coral Gables and other South Florida sites. Particular emphasis will be placed on the analytical potential of sketches (recording space, light, surfaces and color).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 517. Construction Documents. 3 Credit Hours.

Working drawings and specifications. Form, content and role of constituent parts of working drawings and specifications by using case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 518. Documentation of Historic Architecture. 3 Credit Hours.

Principles of preservation and restoration, research methods, measured drawings, surveying methods, case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 519. Architecture and Color. 3 Credit Hours.

This course focuses on the theory and practice of color and its application to architectural design. Topics include color history from Newton through Albert, the relationship between color practice in science versus art, and the discipline of color in architecture from the Neoclassical movement through the Modern Movement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 523. Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include activity, analysis, finishes, furniture, fixture, lighting, and acoustics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 524. Selected Topics in Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include interior volumetrics, finishes, furnishings and lighting.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 525. Landscape Arch Design I. 3 Credit Hours.

Analysis and design of landscape spaces. Studies in historical precedent, gardens, parks, plazas, squares and response to architectural context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 526. Landscape Arch Design II. 3 Credit Hours.

Analysis and design of landscape spaces. Topics include ecological principles, landforms and plant materials.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 527. Architecture Photography. 3 Credit Hours.

Photography with emphasis on architectural subjects. Introduction to visual principles, photographic equipment, materials, and techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 528. Historic Preservation. 3 Credit Hours.

Basic design principles for the rehabilitation of historic buildings. Evaluating character-defining details; significance analysis; context of setting issues within historic districts; applying the Secretary of the Interior's Standards for rehabilitation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 529. Research in Design-Methods and Procedures. 3 Credit Hours.

Application of research methods and procedures to design issues. Historical, descriptive, analytic, experimental research methods; tools for data manipulation and communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 531. Building Technology II: Structural Systems. 3 Credit Hours.

Structural systems: The tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral loads, building envelope and financial considerations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 532. Building Structures I. 3 Credit Hours.

The structural behavior of simple frame structures. Topics include techniques to determine basic system layout and preliminary dimensioning of key subsystems and members.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 533. Building Structures II. 3 Credit Hours.

The structural behavior of complex structures. Topics include prestressed systems, waffle and space trusses, curved structures and longspan buildings.

Prerequisite: ARC 532.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

ARC 534. The Palazzo in Italian Architecture. 3 Credit Hours.

Study of the development of the Renaissance and Baroque palazzo in Rome and other important centers of art and culture. Emphasis on the socio-political context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 535. Historic Italian Urbanism. 3 Credit Hours.

Study of Italian cities and towns from medieval to contemporary times, including a comparative analysis of history and form.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 536. Italian Gardens. 3 Credit Hours.

Study of Italian garden design during the Renaissance, Baroque and Mannerist periods. Emphasis on historical and political context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 537. Research in Rome. 3 Credit Hours.

An exploration of Roman history, architecture and urban form through lectures, on site study and drawing assignments. Emphasis on chronological and spatial sequence of development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 541. Seminar on Town Design. 3 Credit Hours.

Introduction to the lexicon of urbanism; analytical presentations of the concepts of: region, town, neighborhood, corridor, district, and building type; interdisciplinary presentations, review, and criticism of current town and urban design projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 542. Seminar on Housing. 3 Credit Hours.

Introduction to domestic building typology; exploration of the concepts of low, medium, and high density housing with attention to social, environmental, and economic issues; presentations of current case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 543. Seminar on Retrofit of Suburbia. 3 Credit Hours.

Introduction to the critical reconstitution of the city; theory and history of the concepts of revitalization and redevelopment; presentations, review, and criticism of current case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 545. Urban Composition. 3 Credit Hours.

Survey and analytical review of urban rooms as the vessel of human activity in urban culture. Study of proportional and compositional aspects of urban rooms together with economic, social, and cultural factors.

Readings and discussion format.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 546. Studies of Havana. 3 Credit Hours.

Analysis of the physical structure of a major city and its environments including an exploration of its history and iconographic themes, mapping and building studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 547. Architecture and Urban Identity. 3 Credit Hours.

Study of the relationship between architecture and urbanism focusing on the ways by which architecture provides urban identity and image of place. Case studies relating monuments, fabric and urban plans to their culture, time and place. Lecture and seminar format.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 548. Seminar in Community Development. 3 Credit Hours.

Study of the contemporary context for the development of the physical environment. Examination of public, private and third sector implementation of building and community design. Format: guest speakers, readings, discussions, and seminar.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 550. Professional Lecture Series. 3 Credit Hours.

Exposure to the various professional disciplines in South Florida that make contributions to the design process. Case study analysis and evaluation of current building project, from time of initial formulation through completion, including research, diagrammatic studies, site visits and lectures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 551. Contemporary Theories of Architecture. 3 Credit Hours.

Theoretical basis of modern architecture and different present currents and movements. Agrarianism, technism, orthodoxy, brutalism, scientism, revivalism, consumerism, rationalism, classicism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 553. Structural Design Theory. 3 Credit Hours.

Relationship of structural systems to architectural design. Case studies in theories of structure, form and construction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 554. Architecture of South Florida. 3 Credit Hours.

History of architecture and human settlements. Studies of significant architectural landmarks and urban design of the South Florida Region, chronological growth of Miami, Miami Beach, Coral Gables, Key West and Palm Beach.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 557. Design and Fabrication Techniques: Carved Panels. 3 Credit Hours.

Design, construction and detailing of wood as applied to furnishings and interiors. Focus: low and high relief carved wood panels. Workshop based course including research, exercises, measuring, documentation and a final project.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 558. Theories of Landscape Architecture. 3 Credit Hours.

Leading theories of landscape architecture which have influenced current considerations of nature, landscape and design.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 568. History of Architecture II: Baroque through Contemporary. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end sixteenth century through to the present. Corequisite: ARC502.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 569. Directed Readings. 3 Credit Hours.

A structured program of readings and essays organized by the student and his/her graduate supervisor constituting a preparation for graduate research in the student's chosen area of interest.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 570. Modern Architecture. 3 Credit Hours.

History of architecture, landscape, and city design in the modern era.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 572. Selected Topics in World Architecture. 3 Credit Hours.

History of architecture and human settlements. Islamic Near East, North Africa, Hindu and Buddhist India, Nepal, S. E. Asia, China, Japan, Pre-Columbian America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 574. Renaissance Architecture. 3 Credit Hours.

History of architecture and human settlements. Renaissance and Baroque architecture in Italy, France, Spain and Portugal, Great Britain, Austria, Germany, and neighboring countries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 577. The Architecture of Alvar Aalto. 3 Credit Hours.

An examination of the architecture of Alvar Aalto through the analysis of selected buildings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 578. Italian Rationalist Architecture. 3 Credit Hours.

History of Italian architecture and urban design between 1914 and 1950: cultural, technological, and theoretical developments; relationship between architecture, politics and propaganda; related survey of the period in other countries (France, German, Soviet Union).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 581. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 582. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 583. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 584. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 585. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 586. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 590. History of Cities. 3 Credit Hours.

Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlements.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 593. Computer Animation. 3 Credit Hours.

Explores the use of computer animation and advanced visualization techniques in architecture with emphasis on texture and lighting, spatial choreography and story-boarding.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 594. Geographic Information Systems in Urban Design. 3.00 Credit Hours.

Exploration of Geographic Information Systems (GIS) in urban design. Principles of GIS and their application to spatial analysis, data management and visualization.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 596. Interactive Multimedia in Design. 3 Credit Hours.

Integration of text, video, sound, and computer graphics to create an interactive electronic information medium.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 601. Urban Design I: Urban Form and Types/Form-Based Codes. 6 Credit Hours.

Introduction to urban principles, documentation, lexicon of urbanism, urban codes, and architectural guidelines (Studio Format - Rome Program).

Components: STU.

Grading: GRD.

Typically Offered: Summer.

ARC 602. Urban Design II: General Urban to Urban Core.. 6 Credit Hours.

Studio projects focusing on urban retrofit and the repair of suburbia.

Design topics may include typo-morphological studies, sustainable development, down- town redevelopment, neighborhood retrofit, urban agriculture, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 603. Urban Design III: Regional/Informal Urbanism.. 6 Credit Hours.

Studio projects focusing on regional design, everyday urbanism, informalities and other urbanisms. Design topics may include open space and rural design, informal communities, affordable and manufactured housing, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 604. Architecture Design and Theory I. 6 Credit Hours.

Cultural, human and environment component and architectural responses to these: Social and aesthetic concepts, architectural psychology, climatic principles, programming analysis and design.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 605. Architecture Design and Theory II. 6 Credit Hours.

Technology component; materials, structure, and environmental control systems as a framework for architectural design. Construction materials and methods, structural systems, mechanical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 606. Architectural Design and Theory III. 6 Credit Hours.

Legal and economic component; government and finances as active constituents of architecture design. Zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 607. Architecture Design.. 6 Credit Hours.

Architecture Design: Comprehensive Component. Topics include zoning regulations, building codes, principles of public health, safety and welfare, market and feasibility studies.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 608. Architecture Design. 6 Credit Hours.

Specialization component: student and faculty select areas of in-depth study in housing. Low-income housing, elderly housing, suburban housing, housing types, etc.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 609. Architecture Design. 6 Credit Hours.

Comprehensive project. Programming, design development, formulation of alternative solutions, detailing, presentation.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 610. Architecture Design Degree Project. 6 Credit Hours.

Special component: student/faculty selected area of special study.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 611. Drawing. 3 Credit Hours.

Graphic representation and exploration of visual ideas through increased awareness of visual and graphic vocabulary, stressing projections, light, shade and shadow, perspective, and freehand sketching.

Components: STU.

Grading: GRD.

Typically Offered: Fall.

ARC 612. Advanced Visual Analysis. 3 Credit Hours.

Drawing as a means of analyzing and recording visual experience.

Composition, form, light, color and drawing as a primary device in the mental registration of visual experience.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 613. Computing. 3 Credit Hours.

An introduction to new electronic design tools and technology available to architects today. Lectures on the history and future of computing in the profession.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 614. Michelangelo. 3 Credit Hours.

Drawing as a form of research across mediums to understand historical research and interpretation of Michelangelo's work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 615. Visualization Techniques. 1 Credit Hour.

Survey of digital and analogue representation techniques for urban designers.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 616. Architectural Watercolor Renderings. 3 Credit Hours.

This course will use freehand drawing and watercolor painting as a vehicle to study and record the urban and architectural conditions of Coral Gables and other South Florida sites. Particular emphasis will be placed on the analytical potential of sketches (recording space, light, surfaces and color).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 617. Construction Documents. 3 Credit Hours.

Working drawings and specifications. Form, content and role of constituent parts of working drawings and specifications by using case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 618. Documentation of Historic Architecture. 3 Credit Hours.

Principles of preservation and restoration, research methods, measured drawings, surveying methods, case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 619. Architecture and Color. 3 Credit Hours.

This course focuses on the theory and practice of color and its application to architectural design. Topics include color history from Newton through Albert, the relationship between color practice in science versus art, and the discipline of color in architecture from the Neoclassical movement through the Modern Movement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 620. Architecture Theory. 3 Credit Hours.

Architecture and Culture/Architecture and the Environment Survey of primary texts in theory of architecture. Part 1: Focus on design theory, language, identity, tectonics and context. Part 2: Focus on environmental theory, sustainability, and ecosystems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 621. History-Theory II: Housing, Transportation and Infrastructure.. 3 Credit Hours.

Part I: Survey of housing theories and projects with emphasis on morphological context, typology and composition - focus on topics of modernity. Part II: Introduction to thoroughfare design and walkability principles; description of urban, suburban, rural and regional infrastructure.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 622. History-Theory III: Urban Design Theory.. 3 Credit Hours.

Advanced survey of urban design theories in print and practice - emphasis on issues of modernity. (Seminar Format)

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 623. Public Participation Methods - Charrette with MRED+U Program.. 3 Credit Hours.

Introduction to planning and public participation methods. Design workshop in collaboration with students in the master in Real Estate and Urbanism program. (Some travel may be required)

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 624. Architecture Theory. 3 Credit Hours.

Review and criticism of current theoretical work in architecture. Design theory, language, typology, image, form, context.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 625. Roman Architecture and Urbanism I. 3 Credit Hours.

Historical overview of architecture and town planning in ancient Rome, from the Etruscan period through the Imperial period.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 626. Landscape Arch Design II. 3 Credit Hours.

Analysis and design of landscape spaces. Topics include ecological principles, landforms and plant materials.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 627. Architecture Photography. 3 Credit Hours.

Photography with emphasis on architectural subjects. Introduction to visual principles, photographic equipment, materials, and techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 628. Historic Preservation. 3 Credit Hours.

Basic design principles for the rehabilitation of historic buildings. Evaluating character-defining details; significance analysis; context of setting issues within historic districts; applying the Secretary of the Interior's Standards for rehabilitation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 629. Research in Design-Methods and Procedures. 3 Credit Hours.

Application of research methods and procedures to design issues. Historical, descriptive, analytic, experimental research methods; tools for data manipulation and communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 630. Building Technology: Materials & Methods. 3 Credit Hours.

Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction; Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes, assemblies, detailing and basic building code concepts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 631. Building Technology II: Structural Systems. 3 Credit Hours.

Structural systems: The tectonics, patterns and behavior of the elements of building structures. Topics: Equilibrium, stability, vertical and lateral loads, building envelope and financial considerations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 632. Building Structures I. 3 Credit Hours.

The structural behavior of simple frame structures. Topics include techniques to determine basic system layout and preliminary dimensioning of key subsystems and members.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 633. Building Structures II. 3 Credit Hours.

The structural behavior of complex structures. Topics include prestressed systems, waffle and space trusses, curved structures and longspan buildings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

ARC 634. The Palazzo in Italian Architecture. 3 Credit Hours.

Study of the development of the Renaissance and Baroque palazzo in Rome and other important centers of art and culture. Emphasis on the socio-political context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 635. Historic Italian Urbanism. 3 Credit Hours.

Study of Italian cities and towns from medieval to contemporary times, including a comparative analysis of history and form.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 636. Italian Gardens. 3 Credit Hours.

Study of Italian garden design during the Renaissance, Baroque and Mannerist periods. Emphasis on historical and political context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 637. Research in Rome. 3 Credit Hours.

An exploration of Roman history, architecture and urban form through lectures, on site study and drawing assignments. Emphasis on chronological and spatial sequence of development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 638. Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include activity, analysis, finishes, furniture, fixture, lighting, and acoustics.

Components: LEC.

Grading: GRD.

ARC 639. Selected Topics in Interior Architecture Design. 3 Credit Hours.

Principles and technical components of interior design. Topics include interior volumetrics, finishes, furnishings and lighting.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 641. Seminar on Town Design. 3 Credit Hours.

Introduction to the lexicon of urbanism; analytical presentations of the concepts of: region, town, neighborhood, corridor, district, and building type; inter disciplinary presentations, review, and criticism of current town and urban design projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 642. Seminar on Housing. 3 Credit Hours.

Introduction to domestic building typology; exploration of the concepts of low, medium, and high density housing with attention to social, environmental, and economic issues; presentations of current case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 643. Seminar on Retrofit of Suburbia. 3 Credit Hours.

Introduction to the critical reconstitution of the city; theory and history of the concepts of revitalization and redevelopment; presentations, review, and criticism of current case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 644. The Architecture of Palladio. 3 Credit Hours.

On site study of the architecture and urbanism of Andrea Palladio. Emphasis on the artistic precedents of the Veneto Region.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 645. Urban Composition. 3 Credit Hours.

Survey and analytical review of urban rooms as the vessel of human activity in urban culture. Study of proportional and compositional aspects of urban rooms together with economic, social, and cultural factors. Readings and discussion format.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 646. Studies of Havana. 3 Credit Hours.

Analysis of the physical structure of a major city and its environments including an exploration of its history and iconographic themes, mapping and building studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 647. Architecture and Urban Identity. 3 Credit Hours.

Study of the relationship between architecture and urbanism focusing on the ways by which architecture provides urban identity and image of place. Case studies relating monuments, fabric and urban plans to their culture, time and place. Lecture and seminar format.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 648. Seminar in Community Development. 3 Credit Hours.

Study of the contemporary context for the development of the physical environment. Examination of public, private and third sector implementation of building and community design. Format: guest speakers, readings, discussions, and seminar.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 650. Professional Lecture Series. 3 Credit Hours.

Real estate transactions and deal structuring from the development perspective. Using the case study method, the course explores the key components and the disciplines needed for successful real estate transactions and projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 651. Contemporary Theories of Architecture. 3 Credit Hours.

Theoretical basis of modern architecture and different present currents and movements. Agrarianism, technism, orthodoxy, brutalism, scientism, revivalism, consumerism, rationalism, classicism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 652. Management of Professional Practice. 3 Credit Hours.

Overview of the practice and the profession, legal and ethical concerns, business types and management practices, traditional and non-traditional practices and services, contracts and contractual relationships, disputes and risk management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 653. Structural Design Theory. 3 Credit Hours.

Relationship of structural systems to architectural design. Case studies in theories of structure, form and construction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 654. Architecture of South Florida. 3 Credit Hours.

History of architecture and human settlements. Studies of significant architectural landmarks and urban design of the South Florida Region, chronological growth of Miami, Miami Beach, Coral Gables, Key West and Palm Beach.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 657. Design and Fabrication Techniques: Carved Panels. 3 Credit Hours.

Design, construction and detailing of wood as applied to furnishings and interiors. Focus: low and high relief carved wood panels. Workshop based course including research, exercises, measuring, documentation and a final project.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 658. Theories of Landscape Architecture. 3 Credit Hours.

Leading theories of landscape architecture which have influenced current considerations of nature, landscape and design

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 661. Building Technology I: Materials and Methods.. 3 Credit Hours.

Material characteristics of enclosure and structural systems, case studies in traditional and modern building construction. Topics include properties of building materials: wood, masonry concrete, steel and glass construction techniques; on-site and off-site processes; exterior finishes; assemblies, detailing and basic building code concepts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 662. Environmental Building Systems I. 3 Credit Hours.

Environmental and Safety Systems. Topics include mechanical - HVAC and conveyors; plumbing - fixtures and pipes; electrical - equipment and wiring design; safety systems - fire safety and emergency and signal systems.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ARC 663. Environmental Building Systems II. 3 Credit Hours.

Principles and applications of light and acoustics. Topics include natural and artificial light - planning for sunlight, problems and solutions for interior and exterior illumination; sound - properties, problems and solutions in new and existing spaces electrical equipment and wiring design.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 664. Landscape Arch Design I. 3 Credit Hours.

Analysis and design of landscape spaces. Studies in historical precedent, gardens, parks, plazas, squares and response to architectural context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 665. Computer Modeling. 3 Credit Hours.

Three-dimensional, computer modeling, and rendering. Lecture, problem solving exercises and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 667. History of Architecture I: Ancient, Medieval and Renaissance. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from prehistory to the end of the sixteenth century. Corequisite: ARC 501.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 668. History of Architecture II: Baroque through Contemporary. 3 Credit Hours.

Studies of the history of architecture and urban design. Focus on religious and secular monuments and their settings, domestic architecture and infrastructure, regional constructional and compositional traditions from the end sixteenth century through to the present. Corequisite: ARC502.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 669. Directed Readings. 3 Credit Hours.

A structured program of readings and essays organized by the student and his/her graduate supervisor constituting a preparation for graduate research in the student's chosen area of interest.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 670. Modern Architecture. 3 Credit Hours.

History of architecture, landscape, and city design in the modern era.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 671. Ancient Architecture. 3 Credit Hours.

History of architecture and human settlements. Western European prehistory, Egypt, Mesopotamia, Persia, Aegean and Mediterranean, Greece, Rome.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 672. Selected Topics in World Architecture. 3 Credit Hours.

History of architecture and human settlements. Islamic Near East, North Africa, Hindu and Buddhist India, Nepal, S. E. Asia, China, Japan, Pre-Columbian America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 673. Early Christian, Byzantine, and Medieval Architecture. 3 Credit Hours.

History of architecture and human settlements. Early Christian and Byzantine architecture in Italy, the Near East, Greece, North Africa, Eastern Europe, Medieval architecture in Western Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 674. Renaissance Architecture. 3 Credit Hours.

History of architecture and human settlements. Renaissance and Baroque architecture in Italy, France, Spain and Portugal, Great Britain, Austria, Germany, and neighboring countries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 675. Colonial Architecture. 3 Credit Hours.

History of architecture and human settlements. Iberian and British Colonies from the 16th through the 19th centuries: North and South America, Caribbean, India and Africa.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 676. 19th and 20th Century Architecture. 3 Credit Hours.

History of architecture and human settlements. America and Europe during the 19th and 20th centuries; cultural, technological and theoretical development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 677. The Architecture of Alvar Aalto. 3 Credit Hours.

An examination of the architecture of Alvar Aalto through the analysis of selected buildings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARC 678. Italian Rationalist Architecture. 3 Credit Hours.

History of Italian architecture and urban design between 1914 and 1950: cultural, technological, and theoretical developments; relationship between architecture, politics and propaganda; related survey of the period in other countries (France, German, Soviet Union).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARC 681. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 682. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 683. Special Problems. 3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 684. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 685. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 686. Special Problems. 1-3 Credit Hours.

Group or individual investigations of significant architectural issues, offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 690. History of Cities. 3 Credit Hours.

Historical overview of the origin of cities and the development of cities in the East, West, and New World. Focus on the nature of the industrial revolution and the development of the industrial city and contemporary urban settlement

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARC 693. Computer Animation. 3 Credit Hours.

Explores the use of computer animation and advanced visualization techniques in architecture with emphasis on texture and lighting, spatial choreography and story-boarding.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 694. Geographic Information Systems in Urban Design. 3.00 Credit Hours.

Exploration of Geographic Information Systems (GIS) in urban design. Principles of GIS and their application to spatial analysis, data management and visualization.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 695. Interactive Multimedia in Design. 3 Credit Hours.

Integration of text, video, sound, and computer graphics to create an interactive electronic information medium.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 696. Advanced Topics. 3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics will be shown in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARC 699. Directed Research. 1-6 Credit Hours.

Individually supervised projects. Required 6 credit course for all Master of Architecture in Computing students who exercise final project rather than thesis option.

Components: STU.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 701. Masters Final Project. 6 Credit Hours.

Individually supervised projects. Required as a 6 credit course for all Master of Architecture in Computing students electing a final project.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 720. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis or final project for the master's degree after the student has enrolled for the permissible cumulative total in ARC 699 or ARC 710 (usually six credits). Credit not granted. May be regarded as full-time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Art (ART)

ART 101. Introduction to Drawing I. 3 Credit Hours.

Contour, cross-contour, perspective, proportion, chiaroscuro, and gesture in pictorial composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ART 102. Introduction to Drawing II. 3 Credit Hours.

Experimentation, chance, exaggeration, movement, texture, and color in pictorial composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 103. Two-Dimensional Design. 3 Credit Hours.

Line, rhythm, shape, pattern, value and color in pictorial composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ART 104. Introduction To 3D Techniques In Clay, Glass, Metal, Wood. 3 Credit Hours.

Basic 3D design principles and techniques in clay, metal, and wood. Students will rotate into each of the areas and learn to use the equipment in each area and make projects in each of the materials.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 105. Figure Drawing. 3 Credit Hours.

Drawing the human figure: proportion, anatomy, perspective, gesture, and expressive line.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 107. Introduction to Drawing III. 3 Credit Hours.

Continuation of ART 101 with emphasis on Renaissance perspective and alternative systems of spatial representation. Survey of materials and methods. Introduction of color.

Prerequisite: ART 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ART 109. Introduction to Electronic Media. 3 Credit Hours.

Computer skills for desktop publishing and digital imaging.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 180. Studies in Studio Art. 1-3 Credit Hours.

Studio studies taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ART 202. Introduction to Painting. 3 Credit Hours.

Materials and techniques of easel painting.

Prerequisite: ART 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 210. Introduction To Digital Photography. 3 Credit Hours.

DSLR Camera and Lens Techniques and Adobe LightRoom Processing In Digital Photography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ART 217. Introduction to Sculpture. 3 Credit Hours.

Integrated approach to concept development, craftsmanship and appropriate use of materials.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 251. Intaglio/Relief I. 3 Credit Hours.

Drypoint, engraving, etching, aquatint, and softground; relief and intaglio printed collographs; relief printing from linoleum.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 253. Silkscreen I. 3 Credit Hours.

Beginning silkscreen: monotyping with screens, reduction printing, multiple run silkscreen printing and beginning photo silkscreen.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 254. Computer Applications for Printmaking. 3 Credit Hours.

Software programs used as printmaking manipulation tools to aid in the planning of prints.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 260. Special topics in Ceramics. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**ART 261. Hand-built Ceramics I. 3 Credit Hours.**

Beginning hand-building techniques: pinching, coiling, slab construction; introduction to glazing and firing.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 262. Wheel Thrown Ceramics I. 3 Credit Hours.**

Introduction to wheel throwing, glazing and firing.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 263. Introduction to Glass Blowing. 3 Credit Hours.**

Forming shapes and vessels from molten glass by the use of a blow pipe and glass tools.

Prerequisite: ART 104.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 268. Figure In Clay I. 3 Credit Hours.**

Introduction to modeling the human figure in clay with emphasis on form, volume, proportion, basic anatomy, and gesture.

Prerequisite: ART 104 or ART 261.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**ART 291. Graphic Design I. 3 Credit Hours.**

A comprehensive approach to understanding design fundamentals and the practice of graphic communications.

Prerequisite: ART 109.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 292. Multimedia I/ Web Design. 3 Credit Hours.**

Introduction to web design using several current time-based media.

Prerequisite: ART 109.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 293. Typography. 3 Credit Hours.**

Type and image compositions, history, arrangement, style, aesthetics of printed communications, type software and calligraphy.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 294. Multimedia II/ Animation. 3 Credit Hours.**

Animation using time-based media.

Prerequisite: ART 109.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 301. Intermediate Painting I. 3 Credit Hours.**

Painting in oil and acrylic. Emphasis on experimentation and creative expression.

Prerequisite: ART 202.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 302. Intermediate Painting II. 3 Credit Hours.**

Continuation of ART 301.

Prerequisite: ART 301.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 305. Intermediate Figure Drawing. 3 Credit Hours.**

Continuation of ART 105.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 310. Intermediate Digital Photography. 3 Credit Hours.**

Fine Art Digital Photography (DSLR). Continuation of ART 210, Emphasis on experimentation and creative expression. Adobe LightRoom.

Prerequisite: ART 210.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 311. Color Digital Photography. 3 Credit Hours.**

Fine Art Digital Photography exploring Advanced Color Theory. Emphasis on craftsmanship and creative expression. Adobe Photoshop and Fine Art Digital Printing.

Prerequisite: ART 310.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**ART 312. Alternative Processes Photography. 3 Credit Hours.**

Nineteenth Century Photographic Processes. From the Cyanotype to the Collodion Print, all in the service of creative expression.

Prerequisite: ART 311.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**ART 315. Socially Engaged Art. 3 Credit Hours.**

Contemporary art practices and the role of visual arts in creating social change, through lectures, group discussions, Individual art projects and a collaborative, hands-on community-based art project. note: this is a new course implemented as part of the Engaged Faculty Fellows program to provide students with the opportunity for civic engagement within the context of artmaking. .

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.

ART 317. Intermediate Sculpture I. 3 Credit Hours.

Incorporation of symbol and metaphor to achieve meaning, use of additional materials and technical processes.

Prerequisite: ART 217.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 318. Intermediate Sculpture II. 3 Credit Hours.

Continuation of ART 317.

Prerequisite: ART 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 330. ART OF EGYPT MESOPOT. 3 Credit Hours.

Components: LEC.

Grading: GRD.

ART 339. Archaeology Survey. 6 Credit Hours.

Components: LEC.

Grading: GRD.

ART 351. Intaglio/Relief II. 3 Credit Hours.

Continuation of ART 251. Additional processes such as mezzotint, relief printing from woodblocks, multiple block printing, photographic xerox transfers and photo etching.

Prerequisite: ART 251.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 352. Lithography II. 3 Credit Hours.

Continuation of ART 252. Color printing from stones, aluminum plates and photo litho plates. Combination of lithography with other print media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 353. Silkscreen II. 3 Credit Hours.

Continuation of ART 253, including silkscreening on canvas, larger format work, and advanced photo silkscreen techniques.

Prerequisite: ART 253.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 354. Computer Assisted Printmaking: Lithography and Silkscreen. 3 Credit Hours.

The use of inkjet and laser printers to make positives for black and white and process color work in photo lithography; custom color separations for multiple screen printing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 355. History Of Philosophy Of Art. 3 Credit Hours.

An examination of the history of philosophical work on the arts (including literature, visual art, and music) from ancient times through the mid twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 361. Hand-Built Ceramics II. 3 Credit Hours.

Continuation of ART 261.

Prerequisite: ART 261.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 362. Wheel Thrown Ceramics II. 3 Credit Hours.

Continuation of ART 262.

Prerequisite: ART 262.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 363. Cast Glass Processes. 3 Credit Hours.

The art of cast glass including sand casting and lost wax techniques.

Prerequisite: ART 263 or ART 104.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 364. Intermediate Glass Blowing. 3 Credit Hours.

Exploration of glass working techniques.

Prerequisite: ART 263.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 368. Figure In Clay Ii. 3 Credit Hours.

As continuation of ART 268, this intermediate course will focus on modeling The human figure in clay with emphasis on form, volume, proportion, anatomy, and gesture.

Prerequisite: ART 268.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 391. Graphic Design II. 3 Credit Hours.

Development of form and conceptual design. Contemporary visual rhetorical strategies such as metaphors, puns, irony and methonymy.

Prerequisite: ART 291.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 392. Multimedia III. 3 Credit Hours.

Video art, multimedia, installation art and interactive animation.

Prerequisite: ART 109.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 401. Advanced Painting I. 3 Credit Hours.

Development of a personal style in painting.

Prerequisite: ART 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 402. Advanced Painting II. 3 Credit Hours.

Continuation of ART 401.

Prerequisite: ART 401.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 405. Advanced Figure Drawing. 3 Credit Hours.

Continuation of ART 305.

Prerequisite: ART 305.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 410. Advanced Digital Photography I. 3 Credit Hours.

Development of a personal style in digital imaging. Course is designed for students to pursue a semester long thematic project.

Prerequisite: ART 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 411. Experimental Photography. 3 Credit Hours.

Course content determined by faculty member teaching it from studio lighting class to the Artist Book Project. May be repeated for credit.

Prerequisite: ART 311.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 417. Advanced Sculpture I. 3 Credit Hours.

Individual and collaborative installation and site-specific art.

Prerequisite: ART 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 418. Advanced Sculpture II. 3 Credit Hours.

Development of a personal visual vocabulary.

Prerequisite: ART 417.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 451. Intaglio/Relief III. 3 Credit Hours.

Continuation of ART 351.

Prerequisite: ART 351.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 452. Lithography III. 3 Credit Hours.

Continuation of ART 352.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 453. Silkscreen III. 3 Credit Hours.

Continuation of ART 353.

Prerequisite: ART 353.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 454. Computer Assisted Printmaking: Intaglio and Relief. 3 Credit Hours.

Continuation of ART 354, photo etching and relief processes.

Prerequisite: ART 354.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 462. Advanced Ceramics. 3 Credit Hours.

Development of expressive skills in either handbuilding or wheel throwing techniques.

Prerequisite: ART 361 or ART 362.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 468. Figure In Clay Iii. 3 Credit Hours.

As continuation of ART 368, this advanced course will focus on modeling

The human figure in clay with emphasis on form, volume, proportion, anatomy, gesture and expressive handling of clay.

Prerequisite: ART 368. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 491. Graphic Design III. 3 Credit Hours.

Advanced page layout coupled with extensive use of typography with applications in page design for advertising and collateral projects.

Prerequisite: ART 391.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 493. Illustration. 3 Credit Hours.

Contemporary illustration for print, new media, portfolio and exhibition.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 499. Honors Thesis. 3-6 Credit Hours.

Formal thesis and project including an exhibition supervised by member of the department faculty.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 501. Advanced Painting III. 1-6 Credit Hours.

Course content decided between student and professor.

Prerequisite: ART 401 or ART 402.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 502. Advanced Painting IV. 1-6 Credit Hours.

Continuation of ART 501.

Prerequisite: ART 501.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 503. Advanced Painting V. 1-6 Credit Hours.

Course content decided between student and professor. An independent study course may be repeated.

Prerequisite: ART 502.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 504. Advanced Painting VI. 1-6 Credit Hours.

Course content decided between student and professor. An Independent Study course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 505. Advanced Painting VII. 1-6 Credit Hours.

Current readings and/or technical concerns not covered in the regular curriculum. Course content will vary each semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 509. Independent Study in Other Media. 1-6 Credit Hours.

Course content decided between student and professor. Independent study course may be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 510. Advanced Digital Photography 2. 3 Credit Hours.

Course content decided between student and professor. May NOT be repeated for credit.

Prerequisite: ART 410.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 511. Advanced Digital Photography 3. 3 Credit Hours.

Continuation of ART 510. May NOT be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 512. Independent Study in Photography. 1-6 Credit Hours.

Course content decided between student and professor. An independent study course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 517. Advanced Sculpture III. 3 Credit Hours.

Examination of ongoing work in relationship to historical and contemporary interpretations issues.

Prerequisite: ART 418.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 518. Advanced Sculpture IV. 3 Credit Hours.

Continuation of ART 517.

Prerequisite: ART 517.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 551. Intaglio/Relief IV. 3 Credit Hours.

Advanced work in intaglio/relief processes: course requirements decided between student and professor.

Prerequisite: ART 451.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 552. Lithography IV. 3 Credit Hours.

Advanced work in lithography: course requirements decided between student and professor.

Prerequisite: ART 452.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 553. Silkscreen IV. 3 Credit Hours.

Advanced work in silkscreen.

Prerequisite: ART 453.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 554. Computer Assisted Printmaking. 3 Credit Hours.

Advanced work in computer assisted printmaking; course requirements decided between student and professor.

Prerequisite: ART 454.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 555. Topics in Printmaking. 1-6 Credit Hours.

Current readings and/or technical concerns not covered in the regular curriculum. Course content will vary each semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 562. Contemporary Ceramic Art. 3 Credit Hours.

Development of artistic style and technical abilities in relation to contemporary trends in ceramic art.

Prerequisite: ART 462.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 563. Independent Study in Ceramics/Glass. 1-6 Credit Hours.

Course content decided between student and professor. An independent study course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 564. Directed Research and Projects in Ceramics/Glass. 3 Credit Hours.

Historical to contemporary approach to ceramics; furthering of the technical ability, and development of artistic style.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 591. Portfolio/Business of Design. 3 Credit Hours.

Individually supervised graphic design portfolio. Professional practices in design.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 592. Special Projects/Multimedia/Portfolio. 3 Credit Hours.

Video Art, print design, illustration or multimedia portfolio preparation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 593. Seminar in Professional Practices. 1-6 Credit Hours.

Advanced course with a required placement in a professional design or multimedia setting. Classroom sessions on professional topics and issues. Portfolio required.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 599. Exhibition Preparation. 3 Credit Hours.

A seminar class devoted to the preparatory work needed to plan and promote a solo exhibition, including installation/lighting concerns. Preliminary written assignments will also be given in preparation for ART 710 Thesis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 602. Advanced Painting ix. 1-6 Credit Hours.

Continuation of ART 601.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 603. Problems in Studio Art. 1-6 Credit Hours.

Course content will be decided in conference between candidate and instructor. This course may be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 604. Seminar in Studio Art. 3 Credit Hours.

Special topics in selected area of studio art.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ART 609. Independent Study in Other Media. 1-6 Credit Hours.

Course content decided between student and professor. Independent study course may be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 630. Graduate Digital Photography I. 1-6 Credit Hours.

Advance Digital Photography Course: Content decided between student and professor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 631. Graduate Digital Photography II. 1-6 Credit Hours.

Advance Digital Course: Content decided between student and professor-Lecture

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 632. Graduate Independent Study in Photography. 1-6 Credit Hours.

Independent Study in Photography: Content decided between student and professor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 633. Graduate Digital Photography III. 1-6 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 634. Graduate Digital Photography IV. 1-6 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 641. Graduate Painting I. 1-6 Credit Hours.

Self-directed study in consultation with instructor. Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 642. Graduate Painting II. 1-6 Credit Hours.

Self-directed study in consultation with instructor. Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 643. Graduate Painting III. 1-6 Credit Hours.

Self-directed study in consultation with instructor. Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 644. Graduate Painting IV. 1-6 Credit Hours.

Self-directed study in consultation with instructor. Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 645. Graduate Painting V. 1-6 Credit Hours.

Self-directed study in consultation with instructor. Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 646. Advanced Painting VIII. 1-6 Credit Hours.

Professional and concentrated experiences in media and subject matter decided in conference between candidate and instructor.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 651. Intaglio/Relief. 1-6 Credit Hours.

Advanced intaglio/relief processes: course requirements decided between candidate and professor.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 652. Lithography. 1-6 Credit Hours.

Advanced lithography. Course requirements decided between candidate and professor.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 653. Silkscreen. 1-6 Credit Hours.

Advanced work in silkscreen.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 655. Topics in Printmaking. 1-6 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 663. Portfolio/Business of Design. 3 Credit Hours.

Individually supervised graphic design portfolio. Professional practices in design.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 664. Special Projects/Multimedia/Portfolio. 3 Credit Hours.

Video Art, print design, illustration or multimedia portfolio preparation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ART 665. Graphic Design. 3 Credit Hours.

Advanced graduate projects in graphic design.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 666. Multimedia. 3 Credit Hours.

Advanced graduate projects in multimedia.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 671. Graduate Sculpture I. 1-6 Credit Hours.

Examination of ongoing work in relationship to historical and contemporary interpretations issues.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 672. Graduate Sculpture II. 1-6 Credit Hours.

Continuation of ART 517

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 673. Graduate Sculpture III. 1-6 Credit Hours.

Content decided in conference between candidate and instructor.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 674. Sculpture. 3 Credit Hours.

Continuation of ART 617.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 675. Graduate Sculpture V. 1-6 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 676. Graduate Sculpture VI. 1-6 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 681. Writing About Art. 3 Credit Hours.

Writing about art on a professional level.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ART 682. Contemporary Ceramic Art I. 1-6 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 683. Contemporary Ceramic Art II. 1-6 Credit Hours.

Development of artistic style and technical abilities in relation to contemporary trends in ceramic art.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 684. Contemporary Ceramics Art III. 1-6 Credit Hours.

Content to be decided in conference between candidate and instructor.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 685. Contemporary Ceramics Art IV. 1-6 Credit Hours.

Continuation of ART 661.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 686. Contemporary Ceramic Art V. 1-6 Credit Hours.

Prerequisite: ART 685.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 687. Contemporary Ceramic Art VI. 1-6 Credit Hours.

Prerequisite: ART 686.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 688. Independent Study in Ceramics/Glass. 1-6 Credit Hours.

Course content decided between student and professor. An independent study course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 689. Directed Research and Projects in Ceramics/Glass. 3 Credit Hours.

Historical to contemporary approach to ceramics; furthering of the technical ability, and development of artistic style.

Requisite: Graduate Status and Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 693. Seminar in Professional Practices. 1-6 Credit Hours.

Advanced course with a required placement in a professional design or multimedia setting. Classroom sessions on professional topics and issues. Portfolio required.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 699. Exhibition Preparation. 3 Credit Hours.

A seminar class devoted to the preparatory work needed to plan and promote a solo exhibition, including installation/lighting concerns. Preliminary written assignments will also be given in preparation for ART 710 Thesis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ART 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ART 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ART 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

Art History (ARH)

ARH 107. History of Photography. 3 Credit Hours.

A study of photography as a visual medium of expression and communication: a chronological examination of its origins, styles and uses.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 131. Survey of Western Art I. 3 Credit Hours.

The art of western cultures from pre-history through the Middle Ages.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARH 132. Survey of Western Art II. 3 Credit Hours.

The art of western cultures from the Renaissance through the 20th century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ARH 220. Student Docent Practicum at the Lowe Art Museum. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARH 225. Introduction to Museum Studies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 250. Special Topics In Non-European Art. 3 Credit Hours.

Special Topics in Non-European Art

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 260. Islamic Art. 3 Credit Hours.

Islamic art from the 7th to the 17th century including architecture, manuscript illumination, textiles, ceramics, and small-scale luxury objects. Study of Islam as a religious and political entity showing how the Islamic world defined itself in cultural creation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARH 270. Spanish Art. 3 Credit Hours.

A chronological study from prehistory to the present, addressing significant periods in Spanish art history, and establishing the unique characteristics of this art. How the effects of historical conditions (Islamic presence on the peninsula, American colonies, Franco) have defined Spain as distinct from its European neighbors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 321. Andean Art. 3 Credit Hours.

South American art from formative times through the Incan empire and the Spanish conquest (A.D. 1521).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 325. Museum Studies Internship. 3 Credit Hours.

The Museum Studies internship is an independent study course in which the student works on educational projects or programs in a museum.

Prerequisite: ARH 131 or ARH 132. Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 326. The Art of South Asia. 3 Credit Hours.

The Arts of South Asia with selections from India and Thailand.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ARH 327. The Art of East Asia. 3 Credit Hours.

The Art of East Asia with selections from China, Korea, and Japan.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 332. Greek Art. 3 Credit Hours.

The art of ancient Greek civilization.

Prerequisite: ARH 131. Requisite: Two additional art history classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 333. Roman Art. 3 Credit Hours.

Roman art from the 1st century B.C. through the 4th century A.D.

Prerequisite: ARH 131. Requisite: Two additional art history classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 335. Early Christian and Byzantine Art. 3 Credit Hours.

Christian art from the second through the fifteenth centuries in Rome and the Byzantine Empire.

Prerequisite: ARH 131. Requisite: Two additional art history classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 336. Medieval Art. 3 Credit Hours.

Western European art from the 4th through the 12th century.

Prerequisite: ARH 131. Requisite: Two additional art history classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 337. Italian Renaissance Art. 3 Credit Hours.

The painting, sculpture, and architecture of Florence in the 15th century.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 338. Sixteenth Century Italian Art. 3 Credit Hours.

The painting, sculpture, and architecture of Italy in the 16th century.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 339. Northern Renaissance Art. 3 Credit Hours.

The painting of France and the Netherlands in the 14th and 15th centuries.

Prerequisite: ARH 132 or ARH 131.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 340. Baroque Art. 3 Credit Hours.

Art and architecture of the seventeenth century, focusing on major cultural centers in Europe and the Americas.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 341. Eighteenth-Century European Art. 3 Credit Hours.

European art from 1700-1820, including Rococo and Neoclassicism, ending with Goya in Spain.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 342. Nineteenth-Century European Art. 3 Credit Hours.

Neo-Classicism, Romanticism, Realism, Impressionism, 1760-1900.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 343. Modern Art. 3 Credit Hours.

Cezanne to Surrealism. Primarily European Art c. 1880-1940 in the context of the development of Modernism and its aesthetic theories. Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 344. Contemporary Art. 3 Credit Hours.

American and European Art from the Second World War to the present in its social, political, and theoretical contexts.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 346. History of Graphic Design. 3 Credit Hours.

Evolution of Graphic Design from the invention of writing through the twentieth century concentrating on contemporary themes and technical innovations.

Prerequisite: ARH 131 or ARH 132.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 347. Special Topics in Art History. 3 Credit Hours.

Prerequisite: ARH 131 or ARH 132.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 349. Special Topics in Art and the Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 357. Critical Issues in the History Photography. 3 Credit Hours.

The history and theory of photography in visual culture and an exploration of debates regarding how this medium of mass communication has transformed our perceptions and conceptions of art, society, and culture over the past two centuries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 360. Art and Cinema. 3 Credit Hours.

Exploration of the relationship between art, art history, and cinema.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 365. Latin American Modernism. 3 Credit Hours.

The art and theories of Latin American Modernism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 385. Studies in Art History. 1-3 Credit Hours.

Art History studies taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ARH 405. Special Topics In Medieval Art. 3 Credit Hours.

Changing topics in Medieval Art.

Prerequisite: ARH 131. Requisite: Two additional art history classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 407. Special Topics: Renaissance and Baroque Art. 3 Credit Hours.

Seminar on changing topics in Renaissance and Baroque Art.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 408. Special Topics In Modern Art. 3 Credit Hours.

Seminar on changing topics in Modern Art.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 409. Special Topics in Contemporary Art. 3 Credit Hours.

Seminar on changing topics in contemporary art.

Prerequisite: ARH 132. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 411. Special Topics: Museum Studies. 3 Credit Hours.

Seminar on changing topics in Museum studies.

Prerequisite: ARH 225. Requisite: Two additional art history courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 505. Problems in Art History. 3 Credit Hours.

A means by which the student of advanced standing may investigate areas of a specialized nature, or those which are not offered as a regular part of the curriculum. Course content will be decided in joint conference between student and instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 506. Problems in Art History. 3 Credit Hours.

A means by which the student of advanced standing may investigate areas of a specialized nature, or those which are not offered as a regular part of the curriculum. Course content will be decided in joint conference between student and instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 507. Museum Studies Seminar. 3 Credit Hours.

The museum as an institution and as a site for the construction of knowledge. Students will also explore the relationship between museums and academia.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 508. Museum Exhibition. 3 Credit Hours.

Organizing an art museum exhibition, and participating in the installation. Writing and composing the catalogue.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 509. Museum Internship. 1-3 Credit Hours.

UM sponsored internship with Miami-area museum.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 510. Arts Administration Internship. 1-3 Credit Hours.

UM sponsored internship with Miami-area arts institution.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 511. Artlab @ The Lowe. 3 Credit Hours.

Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

Prerequisites: ARH 131, ARH 132. Requisite: Two additional art courses and Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 530. Seminar in Art History. 3 Credit Hours.

Special topics in western and nonwestern art. Semester's topic will be announced.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 540. Seminar in The History of Museums and Collecting. 3 Credit Hours.

History of museums and collecting practices in western Europe and the United States from the sixteenth to the twentieth century.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 550. Seminar in Theory and Methodology in the History of Art. 3 Credit Hours.

Basic methodologies that inform the discipline of art history and an introduction to the key authors and ideas that have shaped and continue to shape how critics and art historians write about art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 560. Seminar in Nineteenth and Twentieth Century Art. 3 Credit Hours.

Special topics including museum practices and theory, women's art and contemporary issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 570. Seminar in Non-European Art. 3 Credit Hours.

Special Topics in Non-European Art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 598. Seminar in Contemporary American Art. 3 Credit Hours.

Issues in Art since 1960: Aesthetic theories and ideological issues generated in contemporary art as expressed in the writing of artists and art critics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ARH 605. Problems in Art History. 3 Credit Hours.

Components: LEC.

Grading: CNC.

Typically Offered: Fall & Spring.

ARH 606. Problems in Art History. 3 Credit Hours.

Components: LEC.

Grading: CNC.

Typically Offered: Fall & Spring.

ARH 607. Museum Studies Seminar. 3 Credit Hours.

The museum as an institution and as a site for the construction of knowledge. Students will also explore the relationship between museums and academia.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 608. Museum Exhibition. 3 Credit Hours.

Organizing an art museum exhibition, and participating in the installation. Writing and composing the catalogue.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 609. Museum Internship. 3 Credit Hours.

UM sponsored internship with Miami-area museum.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 610. Arts Administration Internship. 1-3 Credit Hours.

UM sponsored internship with Miami-area arts institution.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ARH 611. Artlab @ The Lowe. 3 Credit Hours.

Organizing an art exhibition at the Lowe Art Museum. Taught by a different faculty member each year.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ARH 630. Seminar in Art History. 3 Credit Hours.

Special topics in western and nonwestern art. Semester's topic will be announced.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 640. Seminar in The History of Museums and Collecting. 3 Credit Hours.

History of museums and collecting practices in western Europe and the United States from the sixteenth to the twentieth century.

Components: SEM.

Grading: GRD.

ARH 650. Seminar in Theory and Methodology in the History of Art. 3 Credit Hours.

Basic methodologies that inform the discipline of art history and an introduction to the key authors and ideas that have shaped and continue to shape how critics and art historians write about art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 660. Seminar in Nineteenth and Twentieth Century Art. 3 Credit Hours.

Special topics including museum practices and theory, women's art and contemporary issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 670. Seminar in Non-European Art. 3 Credit Hours.

Special Topics in Non-European Art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ARH 698. Seminar in Contemporary Art. 3 Credit Hours.

Issues in Art since 1960: Aesthetic theories and ideological issues generated in contemporary art as expressed in the writing of artists and art critics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ARH 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ARH 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ARH 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

Atmospheric Science (ATM)

ATM 102. Introduction To Weather And Climate. 3 Credit Hours.

The structure, physics, dynamics and thermodynamics of the atmosphere. Weather, weather forecasting, climate and climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 103. Survey of Modern Meteorology. 3 Credit Hours.

Dynamics and thermodynamics of the atmosphere as they relate to contemporary issues in meteorology. Overview of numerical weather prediction techniques and new technologies for monitoring weather and climate. Open to majors or minors with permission of instructor.

Prerequisite: MTH 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 118. Current Weather Topics. 2 Credit Hours.

Weather-and Climate-related phenomena such as hurricanes, severe storms, global warming, and acid rain. (Notes and analysis materials provided)

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 220. Climate And Global Change. 3 Credit Hours.

The Earth's climate system and the role of natural and anthropogenic processes in shaping climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ATM 243. Weather Forecasting. 3 Credit Hours.

Application of physical principles to weather forecasting. Use and interpretation of computer-generated forecasting guidance products of the U.S. Weather Service.

Prerequisite: MSC 103, ATM 103, and MTH 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 265. Atmospheric Chemistry. 3 Credit Hours.

ATM 265 is focused on those aspects of environmental chemistry of most relevance to meteorology students. The class fulfills the American Meteorological Society (AMS) chemistry expectations for a Bachelor's Degree in Meteorology, and in addition, addresses further recommendations from the AMS. AMS expects knowledge of atomic structure and chemical bonding, and, of the properties of gases. Recommended 'beyond the basics' goals include air quality and environmental science applications. ATM 265 fulfills the chemistry requirement for the undergraduate meteorology program. Students interested in pursuing upper-level chemistry courses, including MSC 215 (Chemical Oceanography), and pre-med majors, are recommended to take CHM 111 to meet requirements for the Meteorology B.S. Degree.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 303. Atmospheric Observation. 3 Credit Hours.

Techniques for measuring meteorological variables at the ground and in the free atmosphere.

Prerequisite: ATM 103, and PHY 101 or PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 305. Atmospheric Thermodynamics. 3 Credit Hours.

Equation of state; water vapor and moist air thermodynamics; phase changes and latent heat; buoyancy and atmospheric convection; thermodynamic diagrams. Prerequisites: PHY 205

Prerequisite: PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 306. Advanced Principles In Broadcasting Meteorology. 3 Credit Hours.

Broadcast meteorology including the production of professional weather briefings and weather news for on camera delivery. Emphasis on accurately communicating complex meteorological concepts, use of computer graphics, and on-camera delivery.

Prerequisite: ATM 103. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 307. Introduction To The Physics Of Climate. 3 Credit Hours.

The physical mechanisms which govern the earth's climate and climate variability.

Prerequisite: MSC 305 and ATM 305.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 321. Scientific Programming In The Atmospheric Sciences. 3 Credit Hours.

An introduction to scientific programming in a linux environment using the FORTRAN 90/95 language with specific applications to Meteorology.

Prerequisites: CSC 120.

Prerequisite: CSC 120.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 371. Readings In Atmospheric Science. 1-2 Credit Hours.

Library research with faculty supervision. Bibliography to be submitted in preparation for laboratory and/or field research project.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

ATM 405. Atmospheric Dynamics I. 3 Credit Hours.

Derivation and scaling of the equations of atmospheric motion; hydrostatic and geostrophic balance; circulation and vorticity.

Prerequisite: ATM305.

Prerequisite: ATM 305 or MSC 305.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 406. Atmospheric Dynamics II. 3 Credit Hours.

Baroclinic and barotropic instability; boundary layer dynamics; mathematical principles of numerical weather prediction; maintenance of the general circulation.

Prerequisite: MSC 405 or ATM 405.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 407. Weather Analysis. 4 Credit Hours.

Three-dimensional analysis of synoptic-scale weather systems; application of the fundamental laws of atmospheric dynamics to observed weather patterns; practical questions of worldwide data exchange and display.

Prerequisite: ATM 305 or MSC 305.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ATM 409. Cloud Physics And Radiation. 3 Credit Hours.

Atmospheric radiation; absorption and scattering principles of remote sensing of the atmosphere; cloud microphysics; nucleation, coalescence, ice crystal growth, atmospheric electricity and lightning.

Prerequisite: MSC 305 and ATM 305.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ATM 411. Projects In Atmospheric Science. 1-3 Credit Hours.

Individual, independent research projects with faculty supervision. A formal written report is required.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

Biochemistry and Molecular Biology (BMB)

BMB 145. Introduction To Bmb Research. 2 Credit Hours.

Students will collaborate on a research project and learn valuable laboratory skills. The goal for this course is to make students "research-ready" through an active, inquiry-based, platform for developing core competencies in biology, genetics, BMB (biochemistry & molecular biology), bioinformatics, scientific discourse and ethics.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 151. Freshman Seminar. 1 Credit Hour.

Students acquire and discuss basic BMB information in a group project setting. Topics are identified by the instructor but refined in response to student interest and discovery. As students create a scientific review manuscript suitable for publication, they learn about the publication process, research ethics and politics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 245. Introduction To Bmb Or Nutrition Research. 2 Credit Hours.

Students shadow a research assistant in the lab of a BMB faculty member and learn about the research projects and techniques used by the group. Students will assist in preparing reagents, conducting experiments, analyzing data and generating brief reports. Attendance in lab group meetings is expected. Students maintain a weekly online journal and will write a paper describing the research in the lab and proposing a research problem and approach to solve in BMB545.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 251. Sophomore Seminar. 1 Credit Hour.

Students acquire and discuss basic BMB information in a group project setting. Topics are identified by the instructor but refined in response to student interest and discovery. As students create a scientific review manuscript suitable for publication, they learn about the publication process, research ethics and politics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 260. Introduction to Biochemistry and Nutrition. 3 Credit Hours.

The composition of food and the composition and functioning of a typical cell are described in chemical terms, leading to an understanding of how life processes such as digestion, and metabolism occur and are regulated at the level of individual molecule and reactions. Applications of biochemistry and nutrition are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 400. Principles Of Experimental Biochemistry And Molecular Biology. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 401. Biochemistry For The Biomedical Sciences. 3 Credit Hours.

The biochemical composition, structure, and cellular metabolism of proteins, carbohydrates, lipids, and nucleic acids are rigorously described, emphasizing problem solving strategies required of biomedical field applications.

Prerequisite: CHM 201 or CHM 222.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 402. Principles Of Experimental Biochemistry & Molecular Biology. 2 Credit Hours.

An active, inquiry-based, platform for developing core competencies in biochemistry & molecular biology, making students "research ready".

Prerequisite: CHM 202 or CHM 221 or BMB 401.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 411. Readings In Bmb. 1 Credit Hour.

Students read and discuss one BMB primary research article each week and answer a set of questions meant to provoke critical evaluation of the work. The course introduces students to critical reading of the primary literature in BMB and is open to students at any level. Peer-mentoring and informal student-led instruction is central to the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 417. Biochemistry of Food and Nutrition. 3 Credit Hours.

This course will provide thorough understanding of the role of different nutrients, their occurrence in food, uptake in the digestive system, transport in blood or lymph, uptake in cells, storage, function and metabolism and excretion. Biosynthesis of nutrients in plants and microorganisms will also be considered. The students will be taught how to gather information about the course topics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 501. Senior Seminars. 1 Credit Hour.

Students attend seminars of their own choice, presented by either visiting/residing faculty or graduate/postdoctoral students on recent research topics in BMB or any other discipline in the basic biomedical sciences. Students write short reports on these seminars and critically evaluate the presentations. This course can be taken more than once.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 506. Biomedical Case Studies. 1 Credit Hour.

Students explore topics in BMB in the context of solving problems presented in a clinical/biomedical framework. Students work in small groups and independently to acquire, critically evaluate, synthesize and present information.

Prerequisite: CHM 201 or CHM 222.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 507. Protein Structure, Function, & Biology. 3 Credit Hours.

The physical characteristics and behavior of proteins are described, including structure, folding, dynamics, modifications, and interactions. In addition, experimental approaches to protein structure and function are addressed. Readings include both textbook assignments and current research articles, and a term paper is written and submitted for writing credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 509. Molecular Biology Of The Gene. 3 Credit Hours.

Biochemical processes involved in the flow of genetic information in both prokaryotes and eukaryotes are described, including DNA replication, repair, genetic recombination, RNA transcription and processing, protein synthesis, control of gene expression, cell differentiation, and recombinant DNA technology. Extensive classroom discussion is mandatory. Reading includes BMB primary research papers, course notes and a textbook.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 511. Topics In Bmb. 2-3 Credit Hours.

Students independently explore the literature in BMB with guidance by a BMB Faculty mentor. BMB primary research literature in an area of mutual interest to the student and the Faculty mentor (usually a content expert in that area) is discussed. Students prepare a paper or other appropriate product (e.g. computer software, a structural model, a dynamic simulation) for evaluation. Writing credit is available for papers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 519. Nutrition And Genetics. 3 Credit Hours.

The influence of nutrition on gene expression through modification of DNA and proteins in chromatin is described (i.e., epigenetics). Also, genetic variations, as well as the influence of bacterial flora of the digestive tract, are considered with respect to abilities to metabolize various dietary components. Students learn how to gather information about course topics and present their findings.

Components: LEC.

Grading: GRD.

BMB 545. Research Problems In Bmb. 2-3 Credit Hours.

Students actively participate in the research laboratory of a faculty mentor to work on an independent research project. Students develop abilities to formulate good questions and sound hypotheses, design practical experiments, collect and analyze useful data, and make justifiable conclusions. Students maintain a weekly online journal, write a paper, and present their research in the lab. Two semesters of BMB545 is required to write a thesis (pre-requisite for graduating with honors in BMB). Writing credit is available for papers.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 617. Readings in Molecular Biology. 1 Credit Hour.

Discussion of classical papers in molecular biology beginning with the concept of the gene and continuing into modern studies. Format consists of student presentations and group discussions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 645. Research Problems in Biochemistry, Cell and Molecular Biology. 2-3 Credit Hours.

Laboratory research problems in various areas of biochemistry, cell biology, and molecular biology, including literature search, experimental design, data gathering, and evaluation of results. This course is the mechanism by which graduate laboratory rotations are done in preparation for selection of Ph.D. mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 680. Research Ethics. 0 Credit Hours.

The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. This program should be an integral part of the proposed training effort. The University of Miami School of Medicine has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and will be given in two sessions of three hours each.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 701. Research Journal Club.. 1 Credit Hour.

All registered BMB students must participate in the Journal Club/Seminar. Students are required to critically review published paper(s) of their choice and describe in detail the findings described therein. Senior students will present their own research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 702. Biochemical Science Seminar. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BMB 709. Advanced Biochemistry and Molecular Biology. 3 Credit Hours.

This course is a continuation course for BMB 616. It covers essentially the same topics as BMB 616 but at a more advanced level. It brings the student to the forefront of research in Molecular Biology. The course material is discussed exclusively in the form of original research papers. Based on this experience, students are required to propose experimental approaches to biological problems and defend them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BMB 710. Advanced Topics in Biochemistry. 1-5 Credit Hours.

Senior seminars designed to cover in depth recent developments in the field of biochemistry with the purpose of keeping advanced graduate students abreast with new theoretical and experimental findings. General subjects such as mechanisms of enzyme action, oxidative phosphorylation, active transport, metabolic controls and disorders, steroid biochemistry, and biochemical genetics are discussed. The detailed program is announced annually. Majors in Biochemistry and Molecular Biology are expected to take this course each semester in their second and third years.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BMB 714. Molecular Genetics. 2 Credit Hours.

This course deals with mechanisms and fundamental concepts of genetic inheritance. The first part of the course is devoted to the genetics of bacteria and bacteriophages. Topics include genetic complementation, recombination, suppression, transposition, conjugation, transformation, transduction, and regulation of prokaryotic gene expression. The second part of the course covers selected topics in eukaryotic genetics (including molecular genetics of yeast, mitochondria, Drosophila, mice and humans). Problem solving is emphasized in homework and exams. The objective of the course is to provide students with an appreciation of the value of molecular genetics as a tool they can use to solve a wide variety of problems in biomedical research.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 715. Structural Biology and Applications to Drug Discovery. 2 Credit Hours.

This course focuses on the relationships between structure and function in biological macromolecules, and how this knowledge has led to the discoveries of new drugs.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 716. Analysis And Prediction Of Gene Regulation And Protein Function. 4 Credit Hours.

This course will introduce to a diverse array of biophysical methods employed to study macromolecular interactions at structural, thermodynamic, hydrodynamic and kinetic level.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BMB 720. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in BMB 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 731. Special Work. 1-3 Credit Hours.

Special work, lecture, or laboratory or a combination of these, as determined by advisor in accord with student's individual interest.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BMB 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BMB 830 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BMB 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Components: DIL.

Grading: SUS.

BMB 850. Research In Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Biology (BIL)

BIL 101. Introductory Biological Science. 3 Credit Hours.

An introduction to life sciences for the non-major. Students with credit in BIL 150 may NOT take this course to fulfill the natural science requirement. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 102. Elementary Biotechnology. 3 Credit Hours.

Major aspects of the biotechnology field for the non-science major. Food biotechnology, enzymes, environmental biotechnology, transgenic animals and plants, analytical biotechnology and more. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 103. Introduction to Ecology. 3 Credit Hours.

Overview of ecological and evolutionary principles; Relationships of organisms to living and non-living aspects of their environment; human impact on ecosystems. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 104. Genetics and Society. 3 Credit Hours.

The impact of new knowledge in genetics and heredity on society, including a consideration of questions about the inheritance of I.Q. and behavior, racial differences, genetic screening, control of reproduction, genetic engineering, forensic applications. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 105. Biology of Plants. 3 Credit Hours.

Evolution and diversity of the plant kingdom; economic and cultural importance of plants to humans. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 106. Biology of Animals. 3 Credit Hours.

Evolution and diversity of the animal kingdom and the relationship between humans and other animals. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 107. Introduction to Evolution. 3 Credit Hours.

Processes and mechanisms of evolution. A scientific approach to the study of evolution by natural selection, concepts of fitness and adaptation, genetic and developmental bases of evolutionary change, how new species arise, major trends in evolution, extinction and human evolution. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 108. Molecular Journey To Being Human. 3 Credit Hours.

With a focus on the human species, students will explore the nature of DNA and proteins, the origin of life, RNA World hypothesis, the origins of human ancestors and modern humans, the recently-completed Human Genome Project, the genetic basis human diversity, and the ethics of using genetic knowledge to improve the quality of human life.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 109. Human Biology. 3 Credit Hours.

A survey of human anatomy and physiology and the relationship of our species to its environment and other species. Not for credit in the biology major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 112. Human Hereditary Disease. 3 Credit Hours.

An overview of genetics, emphasizing human traits and disorders and their effects on individuals, families, and society. Discover the beauty of human nature, and our knowledge of it, as you develop an understanding of human genetics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 113. General Biology Honors Seminar. 1 Credit Hour.

Special topics in biology correlated with BIL 150.

Corequisite: BIL 150.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

BIL 114. General Biology Honors Seminar. 1 Credit Hour.

Special topics in biology correlated with BIL 160.

Components: DIS.

Grading: GRD.

Typically Offered: Spring.

BIL 149. First Year Information. 1 Credit Hour.

First year seminar for incoming Biology majors. Facilitation and encouragement of development of critical thinking skills, proficiency in oral and written expression, and an ability to solve problems by integrating knowledge from different disciplines in Biology.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

BIL 150. General Biology. 4 Credit Hours.

Principles of biology at the cellular, genetic, and organismal levels of organization. Cell structure and function, energy transduction, biological information transfer, genetics, physiology.

Prerequisites: ENG 105 or MTH 107 or higher. Or Corequisites: ENG 105 or MTH 107 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

BIL 151. General Biology Laboratory. 1 Credit Hour.

A laboratory approach to applying the scientific method. Experimental design and hypothesis testing at the cellular and molecular level.

Corequisite: BIL 150.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Summer.

BIL 152. HHMI General Biology Laboratory.. 1 Credit Hour.

Laboratory exercises to accompany BIL 150. Students teams engage in two inquiry-based laboratory research projects, each lasting six weeks, per semester.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

BIL 160. Evolution and Biodiversity. 4 Credit Hours.

Mechanisms of evolution from an organismal perspective. Systematics, biodiversity, evolutionary theory and mechanisms with emphasis on the morphological, ecological, and behavioral adaptations of selected representatives of the Domains of living organisms.

Corequisite: BIL 161 or BIL 162.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

BIL 161. Evolution and Biodiversity Laboratory. 1 Credit Hour.

A laboratory approach to applying the scientific method. Experimental design and hypothesis testing at the organismal and ecological level.

Corequisite: BIL 160.

Components: LAB.

Grading: GRD.

Typically Offered: Spring & Summer.

BIL 162. HHMI Evolution And Biodiversity Laboratory.. 1 Credit Hour.

Laboratory exercises to accompany BIL 160. Student teams engage in two inquiry-based laboratory research projects, each lasting six weeks, per semester.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BIL 175. First Year Seminar in Biology. 1 Credit Hour.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**BIL 178. Community Science: Autism. 3 Credit Hours.**

Student citizens in both science and communication will collaborate on content intended to reach audiences on multiple platforms. Students will be exposed to both history and cutting edge research surrounding Autism Spectrum Disorder, as well as the neuroscience and genetic basis of autism spectrum disorders. Students will connect with people in the local community, to lend these issues a face and context. Information from readings, experts at the University of Miami, and the larger South Florida Community. Students will work in teams to share expertise from their fields of study to generate content for community consumption.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BIL 190. Studies in Biology. 1-5 Credit Hours.**

Special topics taken at other institutions with no direct equivalents.

Components: LEC.**Grading:** GRD.**BIL 194. Studies in Biology. 1-5 Credit Hours.**

Special topics taken at other institutions with no direct equivalents.

Components: LEC.**Grading:** GRD.**BIL 195. Studies in Biology. 1-5 Credit Hours.**

Special topics taken at other institutions with no direct equivalents.

Components: LEC.**Grading:** GRD.**BIL 212. Human Genetics. 3 Credit Hours.**

A review of genetics, emphasizing human traits and disorders and their effects on individuals, families, and society. After briefly reviewing cellular and reproductive biology, we will explore genetics more deeply while examining the implications of genetic processes and heredity patterns for human health. We will then examine the genetic basis of human evolution, finishing the semester with a discussion of genetic technologies and their implications for human welfare.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**BIL 220. Evolution and Disease. 3 Credit Hours.**

Evolutionary insights on the origins and emergence of diseases, drug resistance, and how diseases have shaped human evolution.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**BIL 221. Biology of Birds. 4 Credit Hours.**

General biology of birds, field identification, natural history and migrations of southern Florida species. Lecture, 2 hours; laboratory, 3 hours; 4 field trips, 6 hours each. Binoculars required.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**BIL 226. General Botany. 3 Credit Hours.**

Survey of the plant kingdom, including evolution, plant diversity, reproduction, structure, function and ecology.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**BIL 227. General Botany Laboratory. 1 Credit Hour.**

Laboratory exercises to accompany BIL 226.

Prerequisite: BIL 226. Or Corequisite: BIL 226.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**BIL 228. Medical Botany. 3 Credit Hours.**

History of medical botany, approaches to health by different cultures, separation and identification of secondary compounds and mechanisms of action. Molecular and physiological action of different secondary compounds in the treatment of common western ailments. In vivo identification of local medicinal plants.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**BIL 230. Introduction to Marine Biology. 3 Credit Hours.**

The sea as an environment. Marine life, its special problems and adaptations. Emphasis on Caribbean organisms. Lecture, 3 hours. Identical to Marine Science 230.

Corequisite: BIL 231.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BIL 231. Introduction to Marine Biology Laboratory. 1 Credit Hour.**

Experimental laboratory exploring ecology, physiology and behavior of marine organisms in southern Florida marine habitats. Exercises cover laboratory techniques in behavior, functional morphology, productivity, fisheries research, osmoregulation and community ecology.

Corequisite: BIL 230.

Components: LAB.**Grading:** GRD.**Typically Offered:** Fall.**BIL 244. Hormones And Behavior. 3 Credit Hours.**

A comparative approach to the relationship between hormonal mechanisms and behavior in both animal model systems and humans. An introduction to the endocrine system, sex differences in behavior, parental behavior, hormones and social behavior, learning and memory, stress and affective disorders, interactions between brain, hormones and behavior from a historical perspective viewing the emergence of key theories.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**BIL 250. Genetics. 3 Credit Hours.**

The nature, organization, replication, expression, and evolution of the genetic materials.

Prerequisites: BIL 150, BIL 151, BIL 160, BIL 161.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.

BIL 251. Principles of Genetics Laboratory. 1 Credit Hour.

Laboratory exercises in genetics.

Prerequisite: BIL 250. Or Corequisite: BIL 250.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 252. HON: Honors Laboratory in Genetics. 2 Credit Hours.

Laboratory exercises in genetics.

Prerequisite: BIL 250. Or Corequisite: BIL 250.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BIL 255. Cellular and Molecular Biology. 3 Credit Hours.

Structure, molecules, and functions of cells.

Prerequisites: BIL 150, BIL 151, BIL 160, BIL 161.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 256. Cellular and Molecular Biology Laboratory. 2 Credit Hours.

Laboratory exercises in cellular and organismal biology involving current research techniques and applications.

Prerequisite: BIL 255. Or Corequisite: BIL 255.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BIL 258. Core Laboratory Techniques. 2 Credit Hours.

Conceptual and applied "methods" course in modern analytical techniques. It will expose students to the Department of Biology's three best-developed core laboratory facilities for imaging, molecular biology, and element analysis.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 259. Life In The Cell. 3 Credit Hours.

A comprehensive overview of the molecular biology of the cell, cells, and genomes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 267. Community Science: Autism. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 268. Neurobiology. 3 Credit Hours.

Neurons, organization of the nervous system, electrical properties of neurons, neurotransmitters, receptors, synaptic transmission, sensory and motor system, and complex brain functions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 281. Undergraduate Learning Intern in Biology. 1 Credit Hour.

Undergraduate Learning Intern in Biology Students serve as peer mentors in a laboratory setting, assisting a graduate laboratory instructor in teaching basic biological concepts to first year undergraduates in BIL 151 and BIL 161.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 285. Special Topics in Biology. 3 Credit Hours.

Topics relevant to the biological sciences, co-listed with other departments or programs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 299. Seminar in Research Problems. 2 Credit Hours.

Discussion of current research of the Biology Faculty.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 311. Biostatistics. 3 Credit Hours.

Descriptive and inferential univariate and bivariate statistics applied to biological data. Probability, probability distributions, data description and presentation, hypothesis testing, decision making and experimental design. (Not open to students with credit in MTH 224, PSY 204 or equivalent).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 312. Biostatistics Laboratory. 1 Credit Hour.

Computer laboratory exercises to complement BIL 311.

Prerequisite: BIL 311. Or Corequisite: BIL 311.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 315. Marine Biota and Biogeochemical Cycles. 3 Credit Hours.

The diverse sources, transformations, and sinks of chemical constituents in the sea; distribution of dissolved and particulate materials in the sea. Role of marine organisms in marine biogeochemical cycling and the marine carbon cycle and its interaction with the terrestrial biosphere and atmosphere.

Prerequisite: MSC 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 316. Global Primary Production. 3 Credit Hours.

Photosynthesis supports the vast majority of life on planet earth. Although terrestrial and aquatic photoautotrophs share the same basic photosynthetic mechanisms, the physical environment and the fate of primary product on differ on land versus in the sea. This course reviews the magnitude and processes that shape primary production in terrestrial, oceanic, and freshwater habitats. It includes the fate of primary production in the earth's biomes, and the role of terrestrial and aquatic productivity in regulating, and responding to, variable climate.

Prerequisite: BIL 160.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 321. Invertebrate Zoology. 4 Credit Hours.

Biology of invertebrates, with emphasis on tropical and subtropical marine forms. Field work and combined lecture-laboratory sessions. Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 324. The Biology of Fishes. 3 Credit Hours.

Selected topics on the ecology and physiology of fishes. Lectures on reproduction, respiration, osmoregulation, sense systems, hormonal control.

Prerequisite: BIL 255 and BIL 360.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 330. Ecology. 3 Credit Hours.

The interactions of living organisms with each other and with their abiotic environment.

Prerequisite: BIL 250 or BIL 255, Calculus strongly recommended.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 331. Ecology Laboratory. 2 Credit Hours.

Lab and field exercises in ecology. Some Saturday field trips required.

Prerequisite: BIL 330. Or Corequisite: BIL 330.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 332. Tropical Ecology. 3 Credit Hours.

Tropical ecosystem including world distribution of tropical climate biogeographical regions, deserts and environmental factors, grassland and primary production, savannah population dynamics, energy flow, biogeochemical cycling, succession, and biodiversity of tropical ecosystem.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 335. Tropical Field Biology. 3 Credit Hours.

Intensive field study in the Costa Rican rainforest conducted during semester recesses with additional pre-trip lectures. Requires payment of trip costs.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 337. Coastal Ecology. 3 Credit Hours.

Unprecedented pressure from population growth, tourism, and resource exploitation of coastal ecosystems provides a theme for an overview of current coastal ecology, especially within a conservation and management framework. Hands-on learning in ecophysiology, coastal oceanography, integration of biological communities, and coastal wetland classification for tropical Florida and the insular Caribbean. Students will review and actively participate in water quality and environmental monitoring.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 343. Animal Communication. 3 Credit Hours.

Communication evolves and functions across species - from invertebrates to humans-to a vast range of acoustic, visual, and chemical signals. Investigate how physical constraints shape animal signals, how animals convey information through signaling, and how honesty is maintained in communication systems. Learn about signaling in a variety of behavioral contexts, including mate attraction, competition, and predation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 350. Survey of Marine Mammals. 3 Credit Hours.

The evolution and ecology of the cetaceans, pinnipeds, manatees, and allies: Natural history, zoo geography, physiology, husbandry, and biomedical aspects.

Prerequisite: BIL 150 and MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 352. Techniques in Scanning Electron Microscopy. 3 Credit Hours.

Tissue preparation, use of the scanning electron microscope, photography, and analysis and manipulation of digital images. Lecture 1 hour; laboratory 5 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BIL 353. Projects in Scanning Electron Microscopy. 2 Credit Hours.

Individual research projects in scanning electron microscopy. Six hours of laboratory.

Prerequisite: BIL 352.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

BIL 360. Comparative Physiology. 3 Credit Hours.

Animal and plant physiological processes such as homeostasis, energy budget, movement, sensation, and reproduction with emphasis on the organismal level.

Prerequisite: BIL 250 or BIL 255 or BIL 259.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 365. Endocrinology. 3 Credit Hours.

The endocrine glands and the chemistry, mechanisms of action, and physiological effects of hormones. Emphasis on vertebrate hormones, including clinical aspects of human endocrinology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 367. Biology Of Cancer. 3 Credit Hours.

A multifaceted exploration of human cancer biology from molecular, cellular, genetic, and histological perspectives, highlighting cellular homeostasis as a precarious life-and-death balancing act.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 369. Fundamentals of the Biology of Aging. 3 Credit Hours.

How and why we age. The biology of aging at the molecular, cellular, and organismal levels in a comparative and evolutionary context.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 371. Readings in Biology. 1 Credit Hour.

Independent readings on selected topics in biology under the supervision of individual faculty.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

BIL 372. Readings in Biology. 1 Credit Hour.

Independent readings on selected topics in biology under the supervision of individual faculty.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 374. Seminar in Biology. 1 Credit Hour.

Seminar on selected topics in biology.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 375. Seminar in Biology. 1 Credit Hour.

Seminar on selected topics in biology.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 376. Complementary and Alternative Medicine. 2 Credit Hours.

Almost 40% of Americans use health care approaches outside of mainstream Western medicine. These non-traditional approaches include acupuncture, meditation, massage therapy, reiki, yoga, hypnotherapy, chiropractic manipulation, and herbal medicine. Some of these approaches seem to hold promise in the healing process, while others have had little research to date. In this course, we will examine scientific evidence for the efficacy of these different approaches.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 381. Workshop Leaders in Biology I. 1.00 Credit Hour.

Peer-led Team Teaching of workshops for groups of BIL 150 students. May be taken once only for credit in the BIL major, but may be taken additional times for a general education credit. Students may serve as workshop leaders for a second time for a stipend if they (1) have taken the course once before and (2) are graduating seniors.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

BIL 382. Workshop Leaders in Biology II. 1.00 Credit Hour.

Peer-led Team Teaching of workshops for groups of BIL 150 students. May be taken once only for credit in the BIL major, but may be taken additional times for general education credit. Students may serve as workshop leaders for a second time for a stipend if they (1) have taken the course once before and (2) are graduating seniors.

Components: DIS.

Grading: GRD.

Typically Offered: Spring.

BIL 384. Special Laboratory Topics in Biology. 1-3 Credit Hours.

Topics relevant to the biological sciences, listed as subtitle. May be co-listed with other departments or programs.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 385. Special Topics in Biology. 2-6 Credit Hours.

Topics relevant to the biological sciences, listed as subtitle. May be co-listed with other departments or programs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 390. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: SEM.

Grading: GRD.

BIL 395. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 399. "DNA And The Changing World". 1 Credit Hour.

This is an online course, not intended for biology majors. It covers in-depth knowledge of DNA, gene, gene function, genome and inheritance with the focus on applying the knowledge to real-world issues; both personal and societal, from the history of life to challenges and opportunities in the modern times at the molecular level. Does not count towards a Biology major or minor.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 402. Seminar In Biology. 1 Credit Hour.

Components: LEC.

Grading: GRD.

BIL 403. Neuroscience Laboratory. 4 Credit Hours.

Research methods and laboratory experiments in contemporary neuroscience from individual cells to behavior. Scientific writing and computer applications in experimental design and analysis. Combined lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BIL 415. Coral Reef Science and Management. 3 Credit Hours.

Coral reefs as biophysical and socioeconomic systems. Coral reef typology, geomorphology; biotic and abiotic components of coral reef ecosystems.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 426. Native and Introduced Plants of the Galapagos. 3 Credit Hours.

Introduction to the unique vegetation and introduced flora of the Galapagos Islands in Ecuador. Current conservation measures used to control the threats affecting native flora, and future prospects for conserving indigenous plants and for ensuring their rational utilization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 432. Ecology in the Galapagos. 3 Credit Hours.

Organisms in relation to their environment, with focus on interactive, hands-on learning that connects empirical nature with abstract thinking. Lectures, discussion and fieldwork on ecosystem ecology, plant dispersal and colonization; organisms' responses to spatial and temporal variability in their environments, plant/animal interactions. Origins and effects of invasive species and actions of bio-control agents. Taught in the Galapagos as part of the UGalapagos semester.

Prerequisite: BIL 332.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 433. Conservation in Practice. 3 Credit Hours.

Intersection between economic development, science and conservation in one of the world's most pristine and fragile ecosystems, the Galapagos Islands. Exploration of how tourism offers an alternative to unsustainable fisheries that once drove the local economy, yet has created a new set of pressures on the people and the environment. Mitigation efforts, science, and international conservation mesh with an understanding of local politics, customs and cultures. Taught in the Galapagos as part of the UGalapagos semester.

Prerequisite: BIL 432.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 435. Origins, Ecology and Conservation of Insular Diversity. 1-3 Credit Hours.

Three-week field course in the Solomon Islands. Ecological and evolutionary processes that maintain and create biological diversity in tropical islands. Natural selection, island biogeography, phylogenetics, community assembly, predator-prey interactions, sexual reproduction, mating systems, and social behavior. On-site field surveys and experiments. Combined lecture and laboratory/field course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

BIL 441. Animal Behavior. 3 Credit Hours.

Mechanistic and evolutionary aspects of animal behavior. A survey of systems that illustrate the control, development and function of behavior in a variety of animals.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 451. Ethics and Genetics. 3 Credit Hours.

Pressing social, ethical, and legal issues raised by our constantly increasing knowledge of genetics, and the applications of this knowledge already available or being proposed. Access to and use of personal genetic information; race and genetics; the diagnosis and treatment of inherited diseases; new modalities of healthcare delivery through genetics; the current state of stem cell research; genetically modified animals and plants as sources of food, medicines, and fuel; and the use of genomics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 454. Biological Core Concepts Through Medical Case Studies. 2 Credit Hours.

A capstone course in which students will complete a series of medically-oriented case studies. Knowledge of biology, chemistry, math, and physics will be applied to real-world issues. Critical thinking will be used to solve basic medical problems, and facilitate understanding of the interdisciplinary nature of medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 455. Developmental Biology. 3 Credit Hours.

Principles of differentiation, morphogenesis and development. Critical analysis of the methods used to study these problems.

Prerequisite: BIL 250 or BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 456. Developmental Biology Laboratory. 2 Credit Hours.

Exploration of developmental genetics by exposing students to a variety of developmental biology experiments using microscopy, molecular biology, genetics and immunohistochemical techniques in three distinct model animals. Following a short series of introductory labs and lectures, students will develop a research proposal with the instructors and spend the remaining weeks of the semester working to complete their proposal under the guidance of the instructors. This class is restricted to students that have taken cell and molecular biology, developmental biology AND genetics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 468. Developmental Neuroscience. 3 Credit Hours.

Molecular, cellular, and physiological mechanisms controlling the proper development and function of neurons and neural circuits. Signaling mechanisms that regulate cell determination, proliferation, and differentiation. Neural migration and outgrowth, synaptic connectivity and plasticity, and neural basis of animal behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 481. Undergraduate Teaching Assistant Training in Biology. 1-3 Credit Hours.

Training and teaching assistance for undergraduate workshops or laboratories, under the direct supervision of faculty. Specific topic is indicated by course subtitle. This course may be taken no more than twice for credit in the Biology major or minor, and if taken twice, teaching assistance must be for two different BIL courses. May be taken multiple times for general elective credit only.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 482. PRISM Teaching Fellow. 2 Credit Hours.

Undergraduate mentors to PRISM students, and teaching fellows to PRISM course instructors in biology.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 483. Civic Engagement In The Galapagos. 3 Credit Hours.

Biological and/or conservation projects in cooperation with citizens of the Galapagos.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 485. Special Topics in Biology. 2-6 Credit Hours.

Topics relevant to the biological sciences, co-listed with other departments or programs.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 491. Departmental Seminar in Biology. 1 Credit Hour.

Research seminars by distinguished biologists.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

BIL 492. Departmental Seminar in Biology. 1 Credit Hour.

Research seminars by distinguished biologists.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BIL 495. Projects in Biology. 2 Credit Hours.

Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 496. Projects in Biology. 2 Credit Hours.

Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 497. Projects in Biology. 2 Credit Hours.

Individual, original laboratory or field research supervised by a member of the department faculty and concluded by a formal written report.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 498. Senior Thesis. 2 Credit Hours.

Formal thesis preparation supervised by a member of the departmental faculty including a public oral defense and submission of the written document to the department.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 499. Research Colloquium. 1 Credit Hour.

Discussion of current research done by undergraduate students.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 511. Biometry. 3 Credit Hours.

Descriptive and analytical statistics as used in biology. Emphasizes sampling, presentation of quantitative data, probability theory applications, distributions, parametric and non-parametric test procedures.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 520. Evolution. 3 Credit Hours.

Evolutionary mechanisms and pathways: sources of hereditary variation, evolutionary forces, origins of adaptations, speciation, macro-evolution, origin of life and humankind.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 521. Systematics. 3 Credit Hours.

Concepts and methods in phylogenetic systematics. Lectures, discussions, and computer labs, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 523. Advanced Biology of Marine Invertebrates. 4 Credit Hours.

Detailed study of major phyla of marine invertebrates. Special emphasis on taxa found in waters off southern Florida. Field course. Lectures, laboratory, special projects, and seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 525. Advanced Herpetology. 3 Credit Hours.

Systematics, biogeography, and evolutionary biology of amphibians and reptiles, with emphasis on modern families. Combined lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 531. Advanced Field Ecology. 5 Credit Hours.

Principles of and practical experience in quantitative sampling of community structure, plant and animal populations, and animal activities. Emphasis on individual projects. Lecture, 3 hours; laboratory/field, 10 hours on alternate Saturdays, plus research projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 532. Stable Isotope Ecology. 3 Credit Hours.

Stable isotope analysis applied to ecological questions such as nutrient cycling, photosynthesis and trophic level studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 535. Molecular Ecology. 3 Credit Hours.

Molecular markers and analyses, and their applications to different problems in biology. Appropriate sampling, methods for assessing genetic diversity and differentiation. Approaches to studying gene flow, tools for behavioral ecology, remote sampling, tracking individuals, and paternity analysis, hybridization and speciation, DNA bar codes, and gene expression from a population biological perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 536. Molecular Ecology Laboratory. 1 Credit Hour.

Laboratory techniques, molecular tools, applications, and analysis methods commonly used by researchers in the areas of molecular ecology and population genetics.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 537. Ecosystem Ecology. 3 Credit Hours.

Concepts and models of energy and nutrient flow, food webs, successional processes, human influences and effects of spatial heterogeneity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 539. Conservation And Protected Areas. 3 Credit Hours.

The science and policy of park planning and management will be explored through four case studies. The case studies will explore key concepts in ecology and population biology relating to loss of habitat, habitat fragmentation, invasive species, pollution and declines in population size.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 551. Population Genetics and Genomics. 3 Credit Hours.

Introduction to population genetics, which examines the evolutionary processes that affect the genetic composition of natural populations: mutation, genetic drift, natural selection, and gene flow. Theoretical and empirical aspects will be examined via mathematical models, methods of measuring genetic variation, and readings of published case studies. Taxonomic focus will be broad and will include both model organisms (e.g., *Drosophila*), and non-model organisms.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 552. Bioinformatics Tools. 3 Credit Hours.

Databases and tools of bioinformatics as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, protein structure- function analysis and various applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 553. Biomedical Data Science. 3 Credit Hours.

Computational skills for analysis of genomic data sets. Basics of using a command line interface (text editor, Unix/Linux/iOSX), and logging into and getting started on Pegasus2. Python will be used to write scripts for downloading, manipulating, and analyzing data. File sharing and version control using github will be introduced at this stage, which will include RCR training. Analysis, interpretation, and presentation of Next Generation Sequencing data set (RNAseq, exome, or whole genome; public or their own). Interpreting and presenting results, to enable students to extract information from the data rather than just statistically analyze it.

Prerequisite: BIL 250.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 554. Electron Microscopy. 4 Credit Hours.

Techniques in transmission electron microscopy (TEM) including tissue preparation, use of the electron microscope, photography, and interpretation of micrographs. Lecture, 1 hour; laboratory, 6 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

BIL 555. Projects in Electron Microscopy. 2 Credit Hours.

Individual research projects in transmission electron microscopy, 6 hours.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

BIL 556. Ecological and Evolutionary Genomics. 3 Credit Hours.

The evolution of genomes, and the ecological interactions that drive their evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 565. Evolution and Development. 3 Credit Hours.

Exploration of the relationship between common descent and biological diversity, principally changes in organismal development through time.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 568. Evolution and development of Nervous Systems. 3 Credit Hours.

Mechanisms/pathways/modules underlying formation of the nervous system during embryo development. How some properties of nervous systems have resisted change while others have diverged dramatically during evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 575. Advanced Special Studies in Biology. 1-6 Credit Hours.

Content of course will vary by semester. Content in any semester will be indicated via subtitle in the class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 591. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 592. Studies in Biology. 1-5 Credit Hours.

Special topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

BIL 610. Lab Group Meeting. 1 Credit Hour.

Weekly seminar meeting for discussion of research projects and other academic issues in graduate faculty research laboratories. (Fall semesters)

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

BIL 611. Lab Group Meeting. 2 Credit Hours.

Weekly seminar meeting for discussion of research projects and other academic issues in graduate faculty research laboratories. (Spring semesters)

Components: DIS.

Grading: GRD.

Typically Offered: Spring.

BIL 612. Graduate Core. 3 Credit Hours.

A two-term sequence of modules addressing core principles across Biology in a format based on and fostering trans-disciplinary thought. Each module is one credit, taught dually by two faculty for 15 hours per module over a period of three weeks, and graded independently of other modules. Five modules are taught sequentially each term, for a total of ten credits for the academic year. Different modules may be offered in different years. (Fall semesters)

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 613. Graduate Core Module. 1 Credit Hour.

A two-term sequence of modules addressing core principles across Biology in a format based on and fostering trans-disciplinary thought. Each module is one credit, taught dually by two faculty for 15 hours per module over a period of three weeks, and graded independently of other modules. Five modules are taught sequentially each term, for a total of ten credits for the academic year. Different modules may be offered in different years. (Spring semesters)

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BIL 614. Professional Writing and Grantsmanship. 3 Credit Hours.

Elements of argumentative writing, reader-oriented writing strategies, fundability of submitted grants, and techniques for mastering presentation venues such as posters and talks.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 621. Systematics. 3 Credit Hours.

Concepts and methods in phylogenetic systematics. Lectures, discussions, and computer labs, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 622. Evolution. 3 Credit Hours.

Evolutionary mechanisms and pathways: sources of hereditary variation, evolutionary forces, origins of adaptations, speciation, macro-evolution, origin of life and humankind.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 623. Advanced Biology of Marine Invertebrates. 4 Credit Hours.

Detailed study of major phyla of marine invertebrates. Special emphasis on taxa found in waters off southern Florida. Field course. Lectures, laboratory, special projects, and seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 625. Advanced Herpetology. 3 Credit Hours.

Systematics, biogeography, and evolutionary biology of amphibians and reptiles, with emphasis on modern families. Combined lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 630. Population and Community Ecology: Theory. 3 Credit Hours.

Classical and contemporary theory in population and community ecology including population dynamics, matrix models, life tables, predator-prey models and food webs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 631. Advanced Field Ecology. 5 Credit Hours.

Principles of and practical experience in quantitative sampling of community structure, plant and animal populations, and animal activities. Emphasis on individual projects. Lecture, 3 hours; laboratory/field, 10 hours on alternate Saturdays, plus research projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 632. Population and Community Ecology: Theory II. 3 Credit Hours.

Classical and contemporary theory in population and community ecology including population dynamics, matrix models, life tables, predator-prey models and food webs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 633. Molecular Ecology Laboratory. 1 Credit Hour.

Laboratory techniques, molecular tools, applications, and analysis methods commonly used by researchers in the areas of molecular ecology and population genetics.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 634. Stable Isotope Ecology. 3 Credit Hours.

Stable isotope analysis applied to ecological questions such as nutrient cycling, photosynthesis and trophic level studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 635. Molecular Ecology. 3 Credit Hours.

Molecular markers and analyses, and their applications to different problems in biology. Appropriate sampling, methods for assessing genetic diversity and differentiation. Approaches to studying gene flow, tools for behavioral ecology, remote sampling, tracking individuals, and paternity analysis, hybridization and speciation, DNA bar codes, and gene expression from a population biological perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 636. Tropical Biology: An Ecological Approach. 8 Credit Hours.

The tropical environment and biota; ecologic relations, communities and evolution in the tropics. Conducted in Costa Rica under the Organization for Tropical Studies. Lecture, laboratory, and fieldwork.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 637. Ecología de Poblaciones. 7 Credit Hours.

Theory and practice in field study of plant and animal populations in tropical ecosystems. Given in Spanish in Costa Rica under the Organization for Tropical Studies.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 638. Tropical Managed Ecosystems. 8 Credit Hours.

Application of ecological principles to problems in agriculture, forestry, conservation and natural resource management in the tropics. Conducted in Costa Rica under the Organization for Tropical Studies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 639. Ecosystem Ecology. 3 Credit Hours.

Concepts and models of energy and nutrient flow, food webs, successional processes, human influences and effects of spatial heterogeneity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 649. Seminar in Behavior. 1 Credit Hour.

Discussion of current literature in animal behavior. This course may be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

BIL 651. Population Genetics and Genomics. 3 Credit Hours.

Prerequisite: BIL 250 and BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 652. Bioinformatics Tools. 3 Credit Hours.

Databases and tools of bioinformatics as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, protein structure- function analysis and various applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 653. Bioinformatics Algorithms. 3 Credit Hours.

The complexity of bioinformatics computations. Introduction to Perl and Bioperl. Pattern matching and sequence homology. Genome assembly. Transcription factor binding site recognition and motif finding, gene prediction, phylogeny, micro array analysis, RNA folding, gene design and synthesis.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 654. Electron Microscopy. 4 Credit Hours.

Techniques in transmission electron microscopy (TEM) including tissue preparation, use of the electron microscope, photography, and interpretation of micrographs. Lecture, 1 hour; laboratory, 6 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

BIL 655. Techniques in Scanning Electron Microscopy. 3 Credit Hours.

Tissue preparation, use of the scanning electron microscope (SEM), photography, and analysis and manipulation of digital images. Lecture 1 hour; laboratory 5 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 656. Ecological and Evolutionary Genomics. 3 Credit Hours.

The evolution of genomes, and the ecological interactions that drive their evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 665. Evolution and Development. 3 Credit Hours.

Exploration of the relationship between common descent and biological diversity, principally changes in organismal development through time.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 668. Evolution and development of Nervous Systems. 3 Credit Hours.

Mechanisms/pathways/modules underlying formation of the nervous system during embryo development. How some properties of nervous systems have resisted change while others have diverged dramatically during evolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 675. Advanced Study in Plant or Animal Sciences. 1-6 Credit Hours.

Content of course will vary by semester. Content in any semester will be expressed as course subtitle.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 678. Current Topics in Biological Research. 1 Credit Hour.

Content will vary by semester. Readings and discussions with eminent scholars temporarily resident in the department's Distinguished Visiting Professor program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 680. Research Ethics. 0 Credit Hours.

An interdisciplinary graduate course in compliance with The NIH Guide for Grants and Contracts, Vol. 18. No. 45, Dec. 22, 1989. A program in the principles of scientific integrity that forms an integral part of the proposed research training effort.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BIL 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her Master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BIL 820. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the Master's degree after the student has enrolled for the permissible cumulative total in BIL 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BIL 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of BIL 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BIL 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of BIL 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BIL 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Biomedical Engineering (BME)

BME 100. Introduction to Biomedical Engineering for Summer Scholars. 3 Credit Hours.

This introductory course is designed to expose high school students to biomedical engineering. The program is designed for the exemplary high school student interested in applied mathematics and science. The students will be provided with an understanding and some hands-on experience on topics relative to the discipline of Biomedical Engineering. The course content changes throughout the 3-week duration and includes topics on lasers, medical imaging, biomaterials, bioelectricity and biomechanics. The students will be able to understand the challenges associated with the design, testing and FDA clearance of biomedical devices and the importance of the scientific methods in engineering. The laboratory and field trip experiences will deal with the design and testing of a bioelectric device. Summer Scholar Students only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BME 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools for problem solving are discussed. Topics include the use of computer techniques for data acquisition, analysis, presentation, software design, computer aided drafting, and development of design skills through several design and building competitions. Introduction to professional ethics and intellectual property rights, the use of MATLAB, AutoCAD, and programming in C++.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 112. Introduction to Engineering II. 3 Credit Hours.

Introduction to biomedical engineering analysis, design, and manufacturing processes. Ethics, regulatory factors, and biomedical engineering design tools (mechanical, electrical and computer tools) are introduced. Hands on experience is provided through a project in which the students design, assemble, program, and test biomedical devices.

Prerequisite: BME 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 211. Introduction to programming for Biomedical Engineers. 3 Credit Hours.

This course will provide a comprehensive introduction to programming using MATLAB. The students will learn MATLAB functions for importing, analyzing, visualizing and exporting data, numerical computation, modeling and solving biomedical engineering problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 265. Medical Systems Physiology. 3 Credit Hours.

Human physiological processes from a bioengineering and medical point of view. Pertinent aspects of anatomy, biophysics, biochemistry, and disease mechanisms are also included.

Prerequisite: BIL 150, BIL 151, and CHM 112.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 302. Cellular Engineering. 3 Credit Hours.

Cellular engineering addresses issues related to understanding and manipulating cell structure-function relationships. This course is intended to bridge between cell biologists and engineers, to understand quantitatively cell biological aspects. Central to biomaterial and tissue engineering is our use of cells and our understanding of their interactions with their environment. It is important to understand how cells respond to external signals from their substrata or their milieu, how they move, and what they need in order to perform their desired function. Students are provided with an introduction to engineering principles and modeling at the cellular level. Of particular interest are cytomechanics, receptor/ligand binding, genetic engineering, enzyme kinetics, and metabolic pathway engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 305. Biomedical Technology. 3 Credit Hours.

Non-mathematical introduction to technical and clinical aspects of biomedical engineering. Biomedical signals and instrumentation, sensors, transducers, physiological measurements, laboratory instrumentation, implants, cardiac assist devices, radiology, ultrasound, CT, MRI, transmission, and scanning electron microscopy. Field trips to clinical and research laboratories are included. Open only to non-BME students.

Prerequisite: BIL 150 and CHM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 310. Mathematical Analysis in Biomedical Engineering. 3 Credit Hours.

Mathematical modeling of physiological and other biomedical engineering systems and devices. Basic engineering principles and mathematical tools are covered for rigorous understanding of physiological regulation and control in biosystems.

Prerequisite: MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 311. MATLAB for Biomedical Engineers. 1 Credit Hour.

Laboratory course for applications of Matlab in biomedical engineering. Upon the completion of this course, students will be able to write Matlab scripts to solve engineering problems and perform basic analysis and processing of biomedical signals. The course includes Matlab programming environment; Matlab variables; FOR, IF and WHILE statements, plotting and advance graphics, user defined functions, symbolic computation, data file management and graphical user interfaces. The course concludes with a final project focused in biomedical applications.

Prerequisites: ECE 118, BME 310. Or Corequisite: BME 310.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 312. Biomedical Statistics and Data Analysis. 3 Credit Hours.

The course will provide a comprehensive introduction to biostatistical models and methods, with applications in clinical trials research, observational studies, physiology, genomics and public health. Various examples will be solved using MATLAB and the results will be compared and discussed. A brief introduction to R will be provided.

Prerequisite: BME 211.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 320. The Evolution of Technology. 3 Credit Hours.

Organized and taught by an interdisciplinary team, this innovative course is designed for juniors and seniors. An experimental elective, the course uses multimedia to explore the ways in which innovation is driven by the needs of society and individuals, and nurtured by improvements in tools and production. Five broad subject areas will receive special attention: survival, communication, transportation, entertainment and medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 330. Foundations of Medical Imaging. 3 Credit Hours.

Physical and biological principles of medical imaging, including ultrasound, X-ray, nuclear, magnetic resonance, electrical impedance and optical imaging. Propagation and interaction of ultrasonic waves, light waves, X-ray photons, and nuclear radiation in hard and soft biological tissue. Corequisite: BME 310.

Prerequisite: BME 310. Or Corequisite: BME 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 335. Biomaterials. 3 Credit Hours.

Introduction to the field of Biomaterials. Review of materials science for four main types of biomaterials: ceramics, metals, polymers, and composites. Lectures on special topics given by guest lecturers who are active in their specific areas, under supervision of the instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 375. Fundamentals of Biomechanics. 3 Credit Hours.

Application of solid and fluid mechanics to describe the mechanical behavior of human motion, mechanical behavior of soft and hard biological tissues, cells and biofluids. Review of fundamental concepts and techniques of mechanics (stress, strain, constitutive relations).

Focus on mechanical properties of specific tissues, including tendon, skin, smooth muscle, heart muscle, cartilage, and bone. Cellular and biofluid mechanics will be presented.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 395. Undergraduate Research in Biomedical Engineering. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 399. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. May be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 401. Biomedical Design. 3 Credit Hours.

Planning Phase of an individual or group project for seniors, to be taken during the penultimate semester to graduation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 402. Senior Design I. 1-2 Credit Hours.

Completion of individual or group project for seniors, to be taken during the final semester before graduation. A total of 3 credits in this 401-402 sequence.

Prerequisite: BME 401.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 403. Senior Design II. 1 Credit Hour.

Completion of individual or group project for seniors, to be taken during the final semester before graduation.

Prerequisite: BME 402.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 440. Biomedical Measurements. 4.00 Credit Hours.

Introduction to the principles of measurements in physiological and biological systems, as well as a discussion of measurable parameters, transducers, sensors, signal conditioning, and processing. Laboratory experiments are conducted in parallel with the course.

Prerequisite: BIL 150 and BIL 151.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 450. Biomedical Transport Phenomena. 3 Credit Hours.

Fundamentals of transport phenomena in biological systems including diffusion, osmosis, convection, electrophoresis, and transport with binding. Applications to cell electrophysiology and drug delivery.

Introduction to physiological fluid flow in tissues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 460. Introduction to Physiological Fluid Mechanics. 3 Credit Hours.

The role of transport processes in biological systems, mathematical modeling of physiological fluid transport, conservation of mass and momentum rheology of blood flow in large and small vessels, approximation methods for the analysis of complex physiological flow, fluid flow in the circulation and tissue. Basic engineering principles and mathematical tools are covered for rigorous understanding of physiological fluid flow.

Prerequisite: BME 310 and PHY 206.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 470. Biomedical Signal Analysis. 3 Credit Hours.

Time and frequency description, analysis and processing of biophysical and physiological signals. This course covers analytical and computational tools for measuring, manipulating and interpreting signals fundamental to biomedical engineering. Fourier analysis, Fourier transform, data acquisition, averaging, digital filter design, discrete Fourier transform, correlation, convolution, coherence are discussed.

Prerequisite: BME 311. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 480. Biomedical Instrumentation. 3 Credit Hours.

Analysis and design of systems and electronic circuits in biomedical instrumentation including modeling and simulation of dynamic measurement systems and implementation of analog signal processing. The functional principles, operation, clinical context and technological trends of medical instrumentation systems used in clinical and research applications will be discussed.

Prerequisite: BME 440.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 501. Unified Medical Sciences I. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry and certain aspects of clinical medicine are unified with an emphasis on cellular and subcellular systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 502. Unified Medical Sciences II. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on cardiovascular, renal, digestive, endocrine, and reproductive systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 503. Unified Medical Science III. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on neural, sensory, and muscular systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 506. Computer Aided Design in Biomedical Engineering. 1 Credit Hour.

Laboratory course for computer based two and three dimensional drawing and design based on ProEngineer. Parametric design, parts, features, assemblies for complex modeling. Applications in biomedical engineering design.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 507. LabView Applications for Biomedical Engineering. 1 Credit Hour.

Laboratory course for computer based instrumentation and design based on Labview. Virtual instrumentation, data acquisition and display, GPIB instrument control, biomedical applications in biosignal recording, and monitoring are discussed.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 510. Introduction to Medical Robotics. 3 Credit Hours.

This course will discuss the basic principles of robotics and focus on its medical applications. The course integrates previously learned math, programming and imaging knowledge into an application platform to enable students to understand fundamentals of robotics methods in biology and medicine and to train students to build a robotics prototype through hands-on projects.

Prerequisite: BME 310, BME 311, and BME 330.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 512. Regulatory Control of Biomedical Devices. 3 Credit Hours.

Regulatory agencies and requirements, Food and Drug Administration, 510(k) and premarket approval (PMA), international regulatory requirements, ISO 9000 series, CE, UL, product and process validation, quality engineering, quality improvement programs, rapid prototyping, packaging and sterilization, and project management are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 520. Medical Imaging System. 3 Credit Hours.

Engineering and scientific principles of medical imaging systems. The concepts of instrumentation and diagnostic applications of different techniques and systems are presented. Demonstrations or exhibitions of medical systems are given in the visits to clinic and research laboratories. Topics include digital image and image processing fundamentals, radiographic (X-ray, CT), magnetic resonance (MRI) and radio-isotopic (PET) systems, and associated image reconstruction techniques. Basic concepts and simulation of imaging systems are emphasized.

Prerequisite: ECE 118 and ECE 201. Corequisite: BME 470 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 521. Medical Imaging Applications. 3 Credit Hours.

Medical applications of imaging systems and image processing techniques. Topics include image fundamentals (resolution, format, and storage), image processing fundamentals (transformation, compression, enhancement, segmentation, registration, and reconstruction), and image analysis fundamentals (calibration, quantification, correlation, linearity and depiction). Course includes dedicated computer laboratory projects and demonstrations given in clinical and research laboratories at the medical campus. Corequisite: BME 570 or equivalent.

Prerequisite: ECE 118 and ECE 201. Corequisite: BME 470 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 522. Scanning Electron Microscopy in Biomedical Devices. 3 Credit Hours.

Physics and operating principles of scanning electron microscope (SEM), transmission electron microscope (TEM), and optical light microscope. Biological tissue preparation, storage, fixation and digital image storage. Each student will learn to use the SEM in the design and/or analysis of a biomedical device.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 525. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 526. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 531. Technical Entrepreneurship I. 1 Credit Hour.

The first half of a two-semester sequence that simulates the work of a product development team to gain experience in technical entrepreneurship. The students propose product ideas, assess those collectively, select a few, form teams, define the product, and perform market analysis. The course is concluded with a business and technical development plan for the team's project. Lectures are presented on a variety of entrepreneurial topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 532. Technical Entrepreneurship II. 2 Credit Hours.

The second half of a two-semester sequence that simulates the work of a product development team to gain experience in technical entrepreneurship. The students complete the development of a working prototype and refine their marketing and business plan based on experience gained during the development phase. Lectures are presented on relevant entrepreneurial topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 535. Advanced Biomaterials. 3 Credit Hours.

Applications of biomaterials in different tissue and organ systems. Relationship between physical and chemical structure of materials and biological system response are discussed as well as choosing, fabricating, and modifying materials for specific biomedical applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 540. Microcomputer-Based Medical Instrumentation. 3 Credit Hours.

Principles and design of microcomputer-based biomedical instruments, analog and digital signal conversion, microcomputer hardware and software design, algorithm development for medical applications, medical signal processing with microcomputers, software safety in life support systems, and current applications are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 541. Medical Electronic Systems Laboratory. 2 Credit Hours.

Laboratory course for BME 540. Design of medical instruments integrated with microcomputers and telemetry devices. Corequisite: BME 540.

Prerequisite: BME 540.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 545. Biomedical Optical Instruments. 3 Credit Hours.

Introduction to geometrical optics, light sources, detectors, and fiber optics with an emphasis on engineering aspects and medical applications. Fiber-optic delivery systems for medical applications, optics of the eye and visual instruments, and optical instruments used in medicine (microscopes, endoscopes, ophthalmic instruments) are discussed. Hands-on sessions in the laboratory are included.

Prerequisite: PHY 207 and MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 546. Medical Applications of Lasers. 3 Credit Hours.

Review of geometrical optics, fiber optics, wave optics, laser physics, and technology. Medical laser systems, optical properties of tissue, light propagation in tissue, laser-tissue interactions, and surgical applications of lasers are also covered. Hands-on sessions in the laboratory are included.

Prerequisite: PHY 207 and MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 555. Fundamentals of Computational Neuroscience. 3 Credit Hours.

Major concepts include neural signaling and communication from the single neuron to system of neural ensembles and the role of neural computation in engineering applications. Theory and principles of information processing in the brain are presented. Experimental data and computer simulations are used to provide real examples for students experimentation.

Prerequisite: BME 265. Corequisite: BME 470.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 560. Biomedical Transport Phenomena. 3 Credit Hours.

Fundamentals of transport phenomena in biological systems including diffusion, osmosis, convection, electrophoresis, and transport with binding. Applications to cell electrophysiology and drug delivery. Introduction to physiological fluid flow in tissues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 565. Principles of Cellular and Tissue Engineering. 3 Credit Hours.

Introduction to cellular and tissue engineering. Current therapeutic approaches for lost/damaged tissue or organ function, tissue engineering strategies to replace/repair tissue or function: infusion of cells, production and delivery of tissue-inducing substances, cells placed on or within biomaterial scaffolds, examples of tissue engineering applications: skin, heart muscle, blood vessels, and blood.

Prerequisite: BIL 150 and BME 335.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 566. Cell and Tissue Engineering Laboratory. 1 Credit Hour.

The principles of cell and tissue engineering will be presented in a hands-on laboratory experience. General techniques learned will include sterile methods, cell culture techniques and integration of cells within biomaterials. Cell engineering topics include cell cycle/metabolism, adhesion, signal transduction, and assessment. Tissue engineering topics include fabrication, biomaterials/scaffolds and cell integration, and functional assessment.

Corequisite: BME 565.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 570. Advanced Biomedical Signal Processing. 3 Credit Hours.

This course provides an overview of advanced topics in biomedical signal processing with an emphasis on practical applications. Topics include quantitative description, analysis, on-line and real-time processing of biophysical and physiological signals (cardiovascular, neural, sensory, muscular, respiratory and other) using adaptive, learning, pattern recognition and data dimension reduction methods.

Prerequisite: ECE 118 and BME 470.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 571. Introduction to Biosignal Processing Lab. 1 Credit Hour.

Laboratory course in conjunction with BME 570 course. Corequisite: BME 570.

Prerequisite: BME 570. Or Corequisite: BME 570.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 575. Biomechanics II. 3 Credit Hours.

Applications of linear and nonlinear viscoelastic concepts to the biomedical characteristics of biological tissues and structures at small and large deformations of blood flow, experimental methods of analysis, artificial organs, and life-support systems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 581. Radiation Biology and Physics. 3 Credit Hours.

The principles, methods, and results of radiation biology with physics applications in radiation therapy will be introduced in the course. The course will focus on mechanisms of radiation and biological system interaction, biological aspects of the foundation of radiation therapy, and mathematical models for radiobiological analysis. Corequisite or pererequisite: BME 502 or permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 582. Radiation Therapy Physics. 3 Credit Hours.

The principles and instrumentation of radiation dosimetry with focus on the applications in radiation therapy will be introduced in this course. The course will emphasize radiation dose computation algorithms and applications in treatment dose planning. The course will also cover a categorized dosimetric analysis of radiation therapy to different clinical conditions.

Prerequisite: BME 310 and BME 581.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 583. Radiation Protection. 3 Credit Hours.

This course covers radiation safety principles for all areas of clinical medical physics, including regulatory requirements for personnel, equipment and facilities and detailed structural shielding design requirements for medical facilities. The student will become proficient in practical aspects of radiation safety objectives and regulatory requirements in clinical practice, including those for patients, members of the general public and staff. Students will learn the principles for designing and installing structural shielding in clinical facilities that satisfies both regulatory requirements and clinical needs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 587. Finite Element Analysis for Engineers. 3 Credit Hours.

Introduction to the finite-element method. Hands-on applications of FEMLAB software to the analysis of structural, thermal, chemical, electro-magnetic, optical, and fluid flow problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 599. Cooperative Education.. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 601. Unified Medical Sciences I. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry and certain aspects of clinical medicine are unified with an emphasis on cellular and subcellular systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 602. Unified Medical Sciences II. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on cardiovascular, renal, digestive, endocrine, and reproductive systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 603. Unified Medical Science III. 3 Credit Hours.

Treatment of the basic biological and medical elements in physiological systems. The anatomy, physiology, biophysics, biochemistry, and certain aspects of clinical medicine are unified with an emphasis on neural, sensory, and muscular systems. Not open to BME undergraduates.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 606. Computer Aided Design in Biomedical Engineering. 1 Credit Hour.

Laboratory course for computer based two and three dimensional drawing and design based on ProEngineer. Parametric design, parts, features, assemblies for complex modeling. Applications in biomedical engineering design.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 607. LabView Applications for Biomedical Engineering. 1 Credit Hour.

Laboratory course for computer based instrumentation and design based on Labview. Virtual instrumentation, data acquisition and display, GPIB instrument control, biomedical applications in biosignal recording, and monitoring are discussed.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 610. Introduction to Medical Robotics. 3 Credit Hours.

This course will discuss the basic principles of robotics and focus on its medical applications. The course integrates previously learned math, programming and imaging knowledge into an application platform to enable students to understand fundamentals of robotics methods in biology and medicine and to train students to build a robotics prototype through hands-on projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 612. Regulatory Control of Biomedical Devices. 3 Credit Hours.

Regulatory agencies and requirements, Food and Drug Administration, 510(k) and premarket approval (PMA), international regulatory requirements, ISO 9000 series, CE, UL, product and process validation, quality engineering, quality improvement programs, rapid prototyping, packaging and sterilization, and project management are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 620. Medical Imaging System. 3 Credit Hours.

Engineering and scientific principles of medical imaging systems. The concepts of instrumentation and diagnostic applications of different techniques and systems are presented. Demonstrations or exhibitions of medical systems are given in the visits to clinic and research laboratories. Topics include digital image and image processing fundamentals, radiographic (X-ray, CT), magnetic resonance (MRI) and radio-isotopic (PET) systems, and associated image reconstruction techniques. Basic concepts and simulation of imaging systems are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 621. Medical Imaging Applications. 3 Credit Hours.

Medical applications of imaging systems and image processing techniques. Topics include image fundamentals (resolution, format, and storage), image processing fundamentals (transformation, compression, enhancement, segmentation, registration, and reconstruction), and image analysis fundamentals (calibration, quantification, correlation, linearity and depiction). Course includes dedicated computer laboratory projects and demonstrations given in clinical and research laboratories at the medical campus. Corequisite: BME 570 or equivalent.

Components: LEC.

Grading: GRD.

BME 622. Scanning Electron Microscopy in Biomedical Devices. 3 Credit Hours.

Physics and operating principles of scanning electron microscope (SEM), transmission electron microscope (TEM), and optical light microscope. Biological tissue preparation, storage, fixation and digital image storage. Each student will learn to use the SEM in the design and/or analysis of a biomedical device.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 625. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 626. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 631. Technical Entrepreneurship I. 1 Credit Hour.

The first half of a two-semester sequence that simulates the work of a product development team to gain experience in technical entrepreneurship. The students propose product ideas, assess those collectively, select a few, form teams, define the product, and perform market analysis. The course is concluded with a business and technical development plan for the team's project. Lectures are presented on a variety of entrepreneurial topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 632. Technical Entrepreneurship II. 2 Credit Hours.

The second half of a two-semester sequence that simulates the work of a product development team to gain experience in technical entrepreneurship. The students complete the development of a working prototype and refine their marketing and business plan based on experience gained during the development phase. Lectures are presented on relevant entrepreneurial topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 635. Advanced Biomaterials. 3 Credit Hours.

Applications of biomaterials in different tissue and organ systems. Relationship between physical and chemical structure of materials and biological system response are discussed as well as choosing, fabricating, and modifying materials for specific biomedical applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 640. Microcomputer-Based Medical Instrumentation. 3 Credit Hours.

Principles and design of microcomputer-based biomedical instruments, analog and digital signal conversion, microcomputer hardware and software design, algorithm development for medical applications, medical signal processing with microcomputers, software safety in life support systems, and current applications are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 641. Medical Electronic Systems Laboratory. 2 Credit Hours.

Laboratory course for BME 540. Design of medical instruments integrated with microcomputers and telemetry devices. Corequisite: BME 540.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

BME 645. Biomedical Optical Instruments. 3 Credit Hours.

Introduction to geometrical optics, light sources, detectors, and fiber optics with an emphasis on engineering aspects and medical applications. Fiber-optic delivery systems for medical applications, optics of the eye and visual instruments, and optical instruments used in medicine (microscopes, endoscopes, ophthalmic instruments) are discussed. Hands-on sessions in the laboratory are included.

Components: LEC.

Grading: GRD.

BME 646. Medical Applications of Lasers. 3 Credit Hours.

Review of geometrical optics, fiber optics, wave optics, laser physics, and technology. Medical laser systems, optical properties of tissue, light propagation in tissue, laser-tissue interactions, and surgical applications of lasers are also covered. Hands-on sessions in the laboratory are included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 655. Fundamentals of Computational Neuroscience. 3 Credit Hours.

Major concepts include neural signaling and communication from the single neuron to system of neural ensembles and the role of neural computation in engineering applications. Theory and principles of information processing in the brain are presented. Experimental data and computer simulations are used to provide real examples for students experimentation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 660. Biomedical Transport Phenomena. 3 Credit Hours.

Fundamentals of transport phenomena in biological systems including diffusion, osmosis, convection, electrophoresis, and transport with binding. Applications to cell electrophysiology and drug delivery. Introduction to physiological fluid flow in tissues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 665. Principles of Cellular and Tissue Engineering. 3 Credit Hours.

Introduction to cellular and tissue engineering. Current therapeutic approaches for lost/damaged tissue or organ function, tissue engineering strategies to replace/repair tissue or function: infusion of cells, production and delivery of tissue-inducing substances, cells placed on or within biomaterial scaffolds, examples of tissue engineering applications: skin, heart muscle, blood vessels, and blood.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 666. Cell and Tissue Engineering Laboratory. 1 Credit Hour.

The principles of cell and tissue engineering will be presented in a hands-on laboratory experience. General techniques learned will include sterile methods, cell culture techniques and integration of cells within biomaterials. Cell engineering topics include cell cycle/metabolism, adhesion, signal transduction, and assessment. Tissue engineering topics include fabrication, biomaterials/scaffolds and cell integration, and functional assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 670. Advanced Biomedical Signal Processing. 3 Credit Hours.

This course provides an overview of advanced topics in biomedical signal processing with an emphasis on practical applications. Topics include quantitative description, analysis, on-line and real-time processing of biophysical and physiological signals (cardiovascular, neural, sensory, muscular, respiratory and other) using adaptive, learning, pattern recognition and data dimension reduction methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 671. Introduction to Biosignal Processing Lab. 1 Credit Hour.

Laboratory course in conjunction with BME 570 course. Corequisite: BME 570.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 675. Biomechanics II. 3 Credit Hours.

Applications of linear and nonlinear viscoelastic concepts to the biomedical characteristics of biological tissues and structures at small and large deformations of blood flow, experimental methods of analysis, artificial organs, and life-support systems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 681. Radiation Biology and Physics. 3 Credit Hours.

The principles, methods, and results of radiation biology with physics applications in radiation therapy will be introduced in the course. The course will focus on mechanisms of radiation and biological system interaction, biological aspects of the foundation of radiation therapy, and mathematical models for radiobiological analysis. Corequisite or prerequisite: BME 502 or permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 682. Radiation Therapy Physics. 3 Credit Hours.

The principles and instrumentation of radiation dosimetry with focus on the applications in radiation therapy will be introduced in this course. The course will emphasize radiation dose computation algorithms and applications in treatment dose planning. The course will also cover a categorized dosimetric analysis of radiation therapy to different clinical conditions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 683. Radiation Protection. 3 Credit Hours.

This course covers radiation safety principles for all areas of clinical medical physics, including regulatory requirements for personnel, equipment and facilities and detailed structural shielding design requirements for medical facilities. The student will become proficient in practical aspects of radiation safety objectives and regulatory requirements in clinical practice, including those for patients, members of the general public and staff. Students will learn the principles for designing and installing structural shielding in clinical facilities that satisfies both regulatory requirements and clinical needs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 687. Finite Element Analysis for Engineers. 3 Credit Hours.

Introduction to the finite-element method. Hands-on applications of FEMLAB software to the analysis of structural, thermal, chemical, electro-magnetic, optical, and fluid flow problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 699. Cooperative Education.. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 705. Master's Design Project I. 3 Credit Hours.

Comprehensive M.S. design project in biomedical engineering. Open to students in the BS/MS and MS programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 706. Master's Design Project II. 3 Credit Hours.

Comprehensive M.S. design project in biomedical engineering. Open to students in the BS/MS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 713. Application of Computers in Medicine. 3 Credit Hours.

Applications in the clinical and medical research laboratories for physiological data acquisition, analysis, and management of patient records. Differences among computer systems and languages for clinical and research activities are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 722. Scanning Electron Microscopy Special Projects. 3 Credit Hours.

An advanced course for graduate students with basic skills in SEM. Course is open only to masters or Ph.D. students. Students will have an opportunity to do independent research under supervision of the instructor on special projects of interest that may be related to their field of study as long as it is not part of their thesis or dissertation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 723. Neural Engineering. 3 Credit Hours.

Biophysics of neural communication, quantitative electroencephalography and evoked potentials, sleep, seizure, anesthesia and intraoperative monitoring, neural stimulation, artificial and biological neural networks, cochlear and visual implants, brain and muscle stimulation.

Prerequisite: BME 503 and BME 570.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 724. Neuroengineering and Neurorehabilitation. 3 Credit Hours.

Advances in Neural Engineering have led to improved medical-device designs with novel functions. This course focuses on the engineering approaches, R&D advances, and the technical principles of NeuroMotor medical implants. Neural Engineering theory and applications from the perspectives of electronics design, neural signal analysis, and neurophysiology will be covered.

Prerequisite: BME 603.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BME 725. Special Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 726. Special Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 728. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 729. Advanced Medical Imaging. 3 Credit Hours.

Analysis of contemporary medical imaging systems and the associated technologies. The course focuses on principles of advanced medical imaging systems. Topics include multimodality imaging, three-dimensional image reconstruction and visualization, clinical and research applications, and derivation and comparison of algorithms.

Prerequisite: BME 520. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 731. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 732. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 735. Auditory and Visual Neural Systems. 3 Credit Hours.

Design and application of auditory and visual neural systems and devices for medical purposes. Methodologies and instrumentation using electrophysiological, psychophysical and other measurements are explored focusing on diagnostic and therapeutic applications.

Prerequisite: BME 603.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 740. Implantable Biomedical Devices. 3 Credit Hours.

Development and advances in implantable materials and devices especially those used as electrically driven prostheses. Topics include pacemakers, defibrillators, catheters, neurological stimulators, heart assist, bone repair, and other diagnostic and therapeutic devices. The historical, medical significance, business, economic, and technical aspects of these devices and the associated instruments for monitoring are discussed. Fundamentals of electrochemical corrosion and stimulation as well the technology of implantable power sources are reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 745. Biomedical Optical Imaging and Diagnostics. 3 Credit Hours.

Review of geometrical optics, fiber optics, and tissue optics. Introduction to physical optics: interference, diffraction, and polarization; optical imaging resolution limits, super-resolution imaging, advanced optical microscopy, and optical coherence tomography (OCT). Imaging through scattering tissue, imaging and diagnostics with polarized light, fluorescence, infrared, and Raman spectroscopy and applications are also discussed. Optical diagnostics using scattered light: laser Doppler flowmetry, and dynamic light scattering; and opto-chemical and evanescent wave sensors are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 750. Advanced Biomedical Transport Phenomena. 3 Credit Hours.

Continuum mixture theory and applications to mass transport in biological tissues, hydrogels, and other porous media. Mechano-electrochemical coupling phenomena in biological tissues and cells.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 760. Fundamentals of Cellular and Tissue Engineering. 3 Credit Hours.

Principles and advanced topics on cellular and tissue engineering. Topics include biodegradable and non-biodegradable biomaterials, cytokines, the traditional and stem cell-based tissue engineering approaches, bioreactors and special topics such as bone, cartilage and other tissues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BME 780. Biomedical Engineering Seminar. 1 Credit Hour.

Presentation of biweekly seminars by selected speakers and graduate students on current topics of interest in biomedical engineering. Attendance is required of all students registered in the PhD program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BME 781. Radiation Dosimetry And Physics. 3 Credit Hours.

Application of radiation physics in the field of radiation therapy. The course will cover the relevant subjects of modern physics, the basic modalities and basic instrumentations of radiation therapy, the principles of particle transport and radiation dose computation and quality assurance of radiation therapy instruments. The subject of radiation protection will also be discussed.

Prerequisite: BME 582. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 783. Radiation Therapy Physics Clinical Rotation. 3 Credit Hours.

Students will observe clinical activities at a designated radiation therapy center for ten hours per week. Rotation includes observation of daily treatment, simulation, dose planning, physics quality assurance and routine physics support activities (special physics consultation, weekly physics chart check, monitoring radiation safety activities, support of brachytherapy procedures). Students will meet with the course instructor one and a half hours/week to discuss the schedule and the progress of the rotation activities. Students need to submit reports on each radiation therapy category.

Prerequisite: BME 582. Or Requisite: Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 784. Medical Physics Journal Club. 1 Credit Hour.

The course aims to keep track of recent developments in the field of Medical Physics for therapeutic and diagnostic purposes in oncology through reading, discussion and presentation of identified scientific papers from the major journals of Medical Physics among enrolled students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BME 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BME 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in BME 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BME 830. Pre-candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of BME 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BME 840. Post-Candidacy Doctoral Dissertation. 1-13 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in BME 740 may be taken in a regular semester, nor more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BME 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Biostatistics (BST)

BST 610. Introduction to Statistical Collaboration. 4 Credit Hours.

This course will introduce students to the art of statistical collaboration. The class will be highly interactive and will include an orientation to the process of statistical collaboration, individual and group assessment of the same consulting projects, and the completion of an individual "live" statistical collaboration project. For the final, live collaboration project, students will meet with the faculty and/or staff of the University of Miami who contributed their particular assigned consulting project(s). Students will need to research different statistical methods to find the best, feasible approach to address the particular consulting project. Students will present their plans for their own consulting projects in class and also help in the discussion/exploration of approaches for other student's consulting projects during class time. After finalization of the analysis plan the student will complete the statistical analyses described within the plan and create a final report.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

BST 625. Survey Of Statistical Computing. 3 Credit Hours.

This three credit course aims to familiarize students with the basic use of SAS and R for routine statistical analysis and prepare them for more advanced courses and/or thesis research. Statistical computation will be illustrated with examples in medical research, biological study and business. The focus of the course is on the computing environment, therefore a thorough discussion of statistical theories will not be provided. It is expected that students will already be prepared statistically.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

BST 630. Longitudinal and Multilevel Data. 3 Credit Hours.**Components:** LEC.**Grading:** SUS.**Typically Offered:** Fall.**BST 640. Modern Numerical Multivariate Methods. 3 Credit Hours.**

This course covers multivariate topics from both a classical as well as modern perspective. Topics to include: Multivariate Normal Distribution; Spectral Decomposition; Principal Component Analysis; Canonical Correlation Analysis; Newton's Method; Steepest Descent; Gradient Boosting; Coordinate Descent Algorithms; Trees; Forests; Discriminant Analysis. The R programming language (<http://www.r-project.org>) will be used extensively throughout the course for computation and statistical analysis.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**BST 649. Advanced Individual Study. 1-3 Credit Hours.**

Individual work on a special project under faculty guidance.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**BST 650. Topics in Biostatistical Research. 1 Credit Hour.****Components:** LEC.**Grading:** SUS.**Typically Offered:** Fall & Spring.**BST 660. Spatial Statistics. 3 Credit Hours.****Components:** LEC.**Grading:** CNC.**Typically Offered:** Fall.**BST 665. Design And Analysis Of Clinical Trials. 3 Credit Hours.**

This first part of this course is an advanced treatment of the key ideas undergirding the design and analysis of contemporary clinical trials.

By the end of the course, students will have learned the statistical foundations of Phase I, II, and III trials from the standpoint of classical Frequentist, Bayesian, and adaptive designs. In addition, students will learn the usual mechanisms for preparing a clinical trial protocol, data safety and monitoring, interim analysis, and proper close out of a trial.

Components: LEC.**Grading:** CNC.**Typically Offered:** Fall.**BST 670. Bayes Data Analysis: Theory And Computing. 3 Credit Hours.**

This first part of this course is an advanced and comprehensive treatment of the foundations of Bayesian theory. Beginning with the Bayesian alternative to sampling theory, the course covers Savage's axioms, the standard Bayesian inference procedure, subjective Bayes interpretation and prior selection, the minimax and complete class theorems, a variety of Bayesian principles (likelihood, stopping time etc.), and a selection of standard parametric and non-parametric examples.

The second part focuses on the computational implementation of Bayesian inference, namely Gibbs sampling, Metropolis-Hastings, and other Markov-Chain-Monte Carlo techniques for obtaining the posterior and posterior quantities. Computational examples will be illustrated using R and WinBUGS. Special topics will include approximate Bayes computing (ABC) and particle methods.

Components: LEC.**Grading:** CNC.**Typically Offered:** Spring.**BST 675. Introduction To Generalized Linear Models. 3 Credit Hours.**

GLM's are an extension of the standard linear model to permit more general outcomes. In this class, we will study GLM's in detail. By the end of the course, we will examine recent extensions of GLMs. We will provide a unifying framework for formulation, estimation and inference. Throughout the course, real data applications from medicine will be used and extensive use of the R programming language will be made to implement ideas discussed.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**BST 680. Advanced Statistical Theory. 3 Credit Hours.**

The first part of this course is a searching treatment of many of the key ideas undergirding hypothesis testing and estimation. In particular, several of the main theorems in mathematical statistics will be stated and proved in full detail. By the end of the course, students will have acquired enough background material for the treatment of a special topic, through a mix of lectures and assignments. Topics will include asymptotic expansions, information theory and non-parametrics.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BST 690. Theory Of Survival Analysis. 3 Credit Hours.**

Survival analysis is an important tool of statistic with many applications. In this course, without losing sight of such applications, we will give special emphasis to the probabilistic foundations, in terms of counting processes and martingales. Topics include: Failure time models, inference in parametric models, Cox models, counting processes and martingales, likelihood, competing risks and analysis of recurrent event data. The R programming language will be used.

Prerequisite: MTH 524, MTH 525, and BST 680.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BST 695. Special Topics. 3 Credit Hours.**

The course is designed to allow the listing of special topics within the Division of Biostatistics degree programs and cross list topics with other department's offerings.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**BST 698. Major Paper. 3 Credit Hours.**

The student is working on their culminating project for the degree. The student is expected to explain a collection of related methods in some branch of statistics, use several of them to solve a motivated problem, explaining and contrasting the results. A faculty advisor and second reader are required.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**BST 699. Thesis Project. 1-6 Credit Hours.****Components:** LEC.**Grading:** CNC.**Typically Offered:** Fall, Spring, & Summer.

BST 830. Doctoral Dissertation (pre-candidacy). 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BST 730 may be taken in regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BST 840. Doctoral Dissertation (Post-Candidacy). 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credits as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of BST 740 may be taken in regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BST 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the PhD. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Business (BUS)

BUS 100. Fundamentals in Business. 3 Credit Hours.

We will expose students to the fundamental activities of the functional areas of business.

Components: LEC.

Grading: GRD.

BUS 101. First Step (Freshman Integrity, Responsibility, and Success through teamwork). 3 Credit Hours.

This course is designed to provide entering freshman business majors an enriched curriculum that examines key issues in the global business environment and emphasizes the importance of ethical business practices. The course culminates with a team project that encourages students to address real world problems and encourages a lifelong commitment to civic engagement.

Requisite: School of Business Administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 150. Business Analytics. 3 Credit Hours.

The primary purpose of this course is to build skills in learning and using software technologies to support business-oriented problem solving and decision making. Specifically, you will develop the ability to solve problems, to organize and analyze data using spreadsheet and database software, and to learn to distribute information to others through the effective use of collaborative technologies and the Web. Case problems will cover areas such as accounting, finance, marketing, statistics and operations management. Professors from several business school departments will discuss how their disciplines use spreadsheets to solve problems.

Requisite: School of Business Administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 155. Exploration of Faculty Research in SBA. 1 Credit Hour.

Students will be exposed to some of the SBA's top faculty researchers to learn more about research opportunities and styles of research methodologies within business.

Components: LEC.

Grading: CNC.

Typically Offered: Offered by Announcement Only.

BUS 200. Introduction To Business. 3 Credit Hours.

Businesses today operate in an exceedingly complex environment. Such factors as commodity prices, labor and capital markets, as well as trends in tastes and preferences are constantly changing. This course will explore many of the key issues facing business decision makers in the contemporary environment, including an introduction to business ethics and corporate social responsibility. The course will take an interdisciplinary perspective, touching on essentially all of the business functions including economics, finance, accounting, marketing, management, and business communications. Using approaches from different business disciplines, students will gain insight into the structures and systems of business, as well as the strategies that firms use to compete effectively in the global business environment. BUS200 serves as the foundational course for the Business Cognate in People & Society, and it is offered for Gen Ed credit only.

Requisite: Non Business Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 201. Money. 3 Credit Hours.

Financial decisions are at the heart of success in today's economy. Thus, financial literacy and the ability to manage personal finances is increasingly important. This GENERAL EDUCATION course delivers a comprehensive introduction to savings and borrowing, investments, and insurance, including such topics as budgeting, banking and consumer credit, the purchase of residential real estate, planning for retirement, starting a business, and understanding basic financial statements. Not for credit toward any business major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 202. Introduction To The Legal Environment Of Business. 3 Credit Hours.

Prerequisite: BUS 200.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 203. Managing Effectively: A Skills Development Approach. 3 Credit Hours.

Prerequisite: BUS 200.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 206. PRINCIPLES OF INTERNATIONAL BUSINESS. 3 Credit Hours.

This course is designed to provide nonbusiness students with an understanding of what global business is, in particular how international business is conducted across countries with different sets of formal and informal institutions. It also addresses the issues facing multi-national corporations and the factors influencing their success or failure globally.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 255. Business & Society: Inquiry + Discourse. 2 Credit Hours.

This seminar will explore the relationships between business firms and their regulatory, ethical, political, cultural, and social environments. Students will be exposed to a wide range of source materials and academic activities, with the objective of developing their capacity for principled professionalism.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

BUS 300. Critical Thinking & Persuasion for Business. 3 Credit Hours.

The modern businessperson faces a constantly evolving environment and must be able to confront and respond to an array of business issues. At the heart of an effective response is a critical, comprehensive analysis coupled with the ability to meaningfully and persuasively communicate that assessment and recommendations to a variety of constituencies.

This course prepares business students for this by exposing them to a three-step process of problem solving in which they critically analyze the problem, and then communicate their analysis both in writing and orally.

Prerequisite: ENG 106 with a C or better.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 498. Special Topics In Business. 1-3 Credit Hours.

Topics in selected areas of Business

Components: LEC.

Grading: GRD.

BUS 499. Special Topics. 3 Credit Hours.

Prerequisite: BUS 300.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 600. Fundamentals of Critical Thinking and Effective Writing. 1 Credit Hour.

Critical thinking skills are developed by studying questions that transcend any single business discipline. Utilizing a variety of written formats, students hone analytic and persuasive skills, with emphasis on identifying critical issues, developing reasoned positions, and making compelling written arguments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 601. Mba Math Module. 3.00 Credit Hours.

This course provides the student with the necessary mathematical skills to progress toward an MBA degree. The course begins with a review of algebra and continues with the fundamentals of differential and integral calculus. The focus is on applying these concepts in solving business problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 602. Critical Thinking and Effective Writing. 1 Credit Hour.

Critical thinking skills are developed by studying questions that transcend any single business discipline. Utilizing a variety of written formats, students hone analytic and persuasive skills, with emphasis on identifying critical questions, developing reasoned positions, and making compelling written arguments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BUS 603. Critical Thinking and Effective Speaking. 1 Credit Hour.

Builds on critical thinking and writing skills acquired in BUS 602. Topics include oral persuasion, prepared and impromptu speeches and dealing with the media, defending one's view before adversarial audiences, display of data, and effective use of visual aids.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 604. Career Development and Enrichment. 1.00 Credit Hour.

This course will expose students to a variety of academic and industry career lectures, events, and workshops to enhance their MBA experience. The focus is to establish added-value to an MBA student through real world and relevant access to information and resources beyond the traditional curriculum.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 605. Residential Session Abroad. 1-6 Credit Hours.

One two-week session of the Global Executive MBA program is held abroad. During this corporate and international experience students attend lectures and institutional visits. This experience exposes students to other cultures and different perspectives on business issues, and widens international networking opportunities.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 620. Exchange Program- IE Business School-Madrid Spain. 1-16 Credit Hours.

Course enrollment will vary based on student selection.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 622. Global Business Project (GBP) - CIBER. 1-6 Credit Hours.

The Global Business Project (GBP) is a collaborative course offered by participating CIBER schools to their MBAs and other interested graduate students. Students in related disciplines work in teams both virtually and in person on real business issues with multinational and local businesses and not-for-profits. Project supervision and final grade provided by Country Lead Professor CIBER.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 624. Asian/Pacific Business Environment- International Trip. 1-4 Credit Hours.

Course content, dates and location will vary from semester to semester at selected universities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 625. Latin America Business Environment - International Trip. 1-4 Credit Hours.

Course content, dates and location will vary from semester to semester at selected universities.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 626. Exchange Program- Tel Aviv University - Tel Aviv Israel. 1-16 Credit Hours.

Course enrollment will vary based on students selection.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 627. Exchange Program - IESE Business School - Barcelona Spain. 1-16 Credit Hours.

Course enrollment will vary based on student selection.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 628. Multidisciplinary Action Projects. 2-4 Credit Hours.

The Multidisciplinary Action Projects core course (MAP) places students with organizations throughout the world to address pressing organizational challenges. Students work in teams with guidance from faculty advisors to develop actionable and valuable recommendations for sponsors. For students, MAP provides an opportunity to augment and integrate knowledge of fundamental business concepts and tools learned in classroom settings. MAP also offers opportunities to develop and test both critical thinking and leadership skills through practical experience with real business challenges. For sponsoring organizations, MAP offers access to a high-caliber team of 4-6 students, the latest business concepts and tools, an external viewpoint, and rapid turnaround. The ultimate deliverable to the sponsor from a MAP project is a set of actionable, data-driven recommendations. MAP projects are based on sponsor needs and address a wide range of business issues – from identifying new processes and improving existing operations to launching new products and targeting new growth opportunities. Sponsors come from many different industries – from alternative energy to business process outsourcing to consumer products to financial services to healthcare to real estate to telecom. Sponsoring organizations may be large corporations, small entrepreneurial start-ups, or non-profit organizations. While each MAP project is different in context, all have essential features in common. All confront students with a real business challenge of significant importance and no existing solution. All require applying concepts and tools from multiple disciplines to successfully complete. All require dynamic sense-making, fact-based decisions, and high-performance teamwork. All unfold in unpredictable ways. All conclude with teams presenting actionable recommendations to project sponsors and faculty advisors.

Components: EXP.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 630. Fundamentals Of Economics, Accounting And Finance. 4 Credit Hours.

This course provides an overview of business economics, accounting, and finance. Economic themes primarily focus on microeconomic topics such as demand, supply, elasticity, and forms of competition. Accounting concepts include corporate financial statements, cost-volume-profit analysis, and traditional and activity-based cost accounting. Finance topics include time value of money, capital budgeting basics, foreign exchange, risk and return, modern portfolio theory, and financial markets. The course includes an integration of many of these concepts through an exposure to business plan development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 631. Business Analytics And Operational Excellence. 4 Credit Hours.

This course combines three disciplines that form the basis of a modern analytical approach to business management: statistics, optimization, and operations management. Many of the concepts covered are cross-disciplinary and can be applied to a variety of business functions and situations. Although specific examples will be used during the course to illustrate each concept, instruction will focus on the general applicability of the material. Topics to be covered include: numerical and categorical data, population/sample, parameter/statistic, introduction to excel, frequency distributions, histograms, pie charts, measures of variability, pivot tables, measures of association, random variables and distributions, sampling, types of hypothesis and of statistical errors, linear programming, network models, sensitivity analysis, integer and goal programming, forecasting, inventory management and location analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 632. Introduction To Strategy, Market And Management. 4 Credit Hours.

This integrated course focuses on the external environment in which business firms operate and on the management techniques through which managers organize and motivate human resources to support strategic initiatives. It emphasizes in particular three critical sets of actors: customers, competitors, and employees. The purpose of the course is to introduce the student to basic conceptual frameworks and analytic models that managers use to a) identify and understand the customer segments that make up a marketplace, b) formulate strategies that achieve a competitive advantage within that marketplace, and c) lead and motivate employees in the execution of competitive strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 633. Business Plan Fundamentals And Communications. 4 Credit Hours.

This course provides students with the fundamentals in the development and preparation of a business plan, as well as of oral and written business communications. Students, after exploring new venture opportunities, will develop a comprehensive business plan, including its functional components (marketing, finance, operational, human and intellectual capital plans), the support with which to secure the needed financial and human resources, and the organization to manage the new venture. Students will also enhance their communication skills with which to identify critical issues, develop reasoned positions, display data, use visual aids effectively, state persuasive and compelling arguments for written documents as well as prepared and impromptu speeches, and deal with the media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BUS 634. Research Project. 1-6 Credit Hours.

Individually supervised research project in selected field. Scope of work must be approved by supervision instructor prior to registration. Total enrollment may not exceed six credits.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BUS 635. Research Project. 1-6 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 640. Quantitative And Analytical Fundamentals For Finance. 1-4 Credit Hours.

This four-credit course provides graduate students with an intensive review of the fundamentals of financial accounting and finance, and as well as microeconomic concepts and quantitative skills, needed as appropriate foundation to pursue the Master of Science in Finance degree or other master degrees that entail taking an elective course in finance. Topics include: Math concept review (functions, exponents, notation, weighted average, derivatives as applied to maximization/minimization); Measures of central location, variability, and association; Supply and demand curves, elasticity; Profit maximization; Markets: perfect competition, monopoly, oligopoly; Economic role of Government (monetary and fiscal policy, regulation, taxation); Basic financial statements (income statement, balance sheet, statement of cash flow, statement of changes in shareholders' equity); Working capital, noncurrent liabilities and owners' equity, investments and long-lived assets; Common size and ratio analysis; Principles in finance; Time value of money; Valuation (including bonds and stocks); Fixed income securities; Term structure of interest rates; Interest rate risk and duration; Capital markets, how securities trade, intermediaries; Capital market efficiency, arbitrage; Risk and return, portfolio math; Diversifiable vs. non-diversifiable risk; Asset Pricing Models (CAPM, beta, Fama-French); Capital structure; Capital budgeting; Cost of capital; Foreign exchange and global investing; Introduction to derivatives. The course will be taught over a two-week period, primarily in lecture, homework, and test format.

Components: DIL.

Grading: GRD.

Typically Offered: Summer.

BUS 641. Business Analytics Capstone Project. 2 Credit Hours.

including data collection and analysis. The description of the problem in question, the approach used to address it, and the findings obtained by the group are to be described in formal written reports. The reports will be evaluated both on their quantitative value and on the quality of the writing.

Prerequisites: MAS 631, MAS 632, MAS 637, MAS 639 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 650. Introduction To The Miami Emba For The Americas. 1 Credit Hour.

This course provides incoming Executive MBA students an orientation to program tools and resources central to program success. Students will receive training in Blackboard, learn to access e-materials and navigate the business fundamental virtual modules, and increase their knowledge of business networking and influence. Students will also be introduced to business information resources and research strategies that they will use throughout the program. They will partake in Case Study preparation and receive an overview of the Integrated Project from Global Management, Global Enterprise, and Global Strategic Marketing perspectives. Students will also receive guidance on operating in teams both virtually and during the residency components of the program. Students will also participate in a corporate visit. This orientation also helps build a sense of affiliation among students and with the University.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

BUS 651. Global Strategic Marketing. 4 Credit Hours.

The purpose of this course is to acquaint the student with the theories and practice of strategic marketing management in the Americas. This course will enable the student to understand markets, develop strategies to capture value, and develop marketing plans based on the nature of national as well as international markets. Specifically, the issues of strategic marketing in the context of firm level strategy will be addressed, as well as issues of value capture and delivery, customer life-time value, pricing, distribution, branding and communication in markets.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 652. Global Strategy. 2 Credit Hours.

The purpose of this course is to change how the strategic environment is viewed, how students think about their own organizations and other others, and how strategy and its execution is viewed. This course will help the student: understand organizations as complex systems embedded in a set of evolving cooperative and competitive economic relationships; identify the distinct resources and capabilities that form the foundation of an organization's competitive advantage; formulate business strategies that anticipate imitation and competitor response; evaluate the relationship between a firm's competitive advantage and its growth opportunities; understand the role of the corporate center in supporting and enhancing the competitive success of operating divisions; and see the interplay of organizational structures, systems, networks, and influence centers that form the basis of effective strategy implementation.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BUS 653. Global Institutions Infrastructure And Environment. 4 Credit Hours.

This course considers how a country's legal and economic institutional arrangements influence managerial strategy involving goods, services and financial flows across nations. The course addresses how economic problems are dealt with by institutional arrangements in different ways around the world. Discussions will emphasize the influence that these institutional arrangements have on managerial project strategy when firms operate across borders. Specific emphasis will be placed on legal, economic and financial institutions in the Americas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BUS 654. Corporate Financing And Investing. 4 Credit Hours.

This course considers financing and investing within the corporation. As such, it will consider the theoretical structure of the problem, the boundaries that management faces and how these decisions are made by management. The inter-residency portion will focus on the theoretical development and computational aspects of solving the problems. The residency portion will emphasize case discussion and simulation to demonstrate the practical implementation as well as integrating these concepts into the overall management picture. The objective of the course is to develop your understanding of the principles that define financial decision making in the firm. These topics are an important component of the strategic planning and top-level management of the firm. The course will guide you through the theory and computational aspects applying the theory, then through application to situations that will enhance and cement your understanding. Finance theory is universal and therefore does not apply to any given country or system. All of the applications will be international, multinational, or global in context. A central theme of the course is decision making. Specifically we will focus on the financial aspects of major strategic decisions. We will build on previous courses to understand how institutions, accounting, legal structures and more, affect these decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 655. Public Policy and Health. 3 Credit Hours.

Development of public policy at the federal, state and local level. Policy process, models of policy analysis, policy development in several government service areas, and plans for policy change. Special emphasis on health policy formulation, implementation and the use of epidemiological tools in health policy analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BUS 656. Integrated Business Project. 1-6 Credit Hours.

The Integrated Project course (IP) requires students to formulate, develop and implement three business projects that address pressing organizational challenge, over the 17-month duration of the EMBA for the Americas. Students may work in teams or individually to develop actionable and valuable recommendations for their chosen organization and present project outcomes to faculty advisors during the February, June and October residencies. For students, IP provides an opportunity to augment and integrate knowledge of fundamental business concepts and tools learned in classroom settings. IP also offers opportunities to develop and test both critical thinking and leadership skills through practical experience with real business challenges.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 657. Optimizing Human Capital. 4 Credit Hours.

The 21st century workplace has often been characterized as the "Age of Intellectual Capital," a time in which competitive advantage is linked intricately to optimizing human resources in distinctive ways. In this dynamic, global marketplace, Darwin rules. To survive, organizations must provide the best products, the best services with the best labor or risk extinction. Contextual factors including changing demographics; global social, economic, and regulatory issues; and technological innovations have created major challenges for organizational sustainability. In a recent publication based on survey results from 94 countries, talent acquisition, retention, management, and engagement were viewed as "urgent" global trends for the 21st century. Utilizing a variety of pedagogical approaches, this course will focus on the ways in which human capital can be leveraged to create sustainability as well as work environments that engage the minds and hearts of participants to achieve strategic initiatives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BUS 658. Business Analytics. 4 Credit Hours.

One of the strengths of Business Analytics is its broad applicability. The skills learned in this module can be used in virtually any context of business, including but not limited to: finance, marketing, strategy, operations, logistics, transportation, health care, real estate, sports, manufacturing, etc. For that reason, rather than focusing on a single central theme, as do other modules in the MEMBAA program, the Business Analytics module touches on a variety of themes that illustrate its potential.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

BUS 660. High Performance Leadership. 4 Credit Hours.

The High Performance Leadership course was developed to help executives build a high-performance work environment and effectively operate in the multi-cultural environment of the Americas and the World. The course is divided into two parts. The first part, the inter-residency will concentrate on the facets of high-performance leadership. It will explore the fundamentals of leadership; investigate the major leadership theoretical concepts; explore a wide-range of leadership research; convey practical leadership implications; and share lessons in conquering self-leadership. This section will be taught online through readings, discussion boards, and case and leader analyses. The emphasis will be on building a sound grasp of good practice, and on developing the ability to apply such knowledge to actual business problems. The theories will be applied to specific situations. The second part of the course, the residency concentrates on the cross-cultural environment of the Americas (and global markets) and addresses four main topics. The first session focuses on Cross-Cultural Communication in Business and allows executives to understand culturally-specific communication patterns, negotiation styles, expectations, cues, and norms. The second session addresses Leadership Issues in Organizational Control and participants will explore ethical and moral dilemmas, and external communications by senior executives. The third session focusses on Cross Cultural Issues in Leadership and examines effective leadership across cultures. The final session addresses Guanxi and Doing Business in China. China is currently or will soon become the world's largest economy (PPP basis) and is increasingly becoming important to the Americas. This session addresses critical thinking, cultural understanding, solutions to problems, and evaluating different options when doing business with China.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 661. Enhancing Global Operations. 4 Credit Hours.

This course focusses on how to manage more complicated global networks; how to optimize service and quality levels of performance; and, how to minimize risks yet maintain required capacities. Operational transformation requires commitment and expertise in strategy and execution to achieve lasting improvements. This course draws on research and real world issues confronting manufacturing and service companies today, providing strategic frameworks to enable executives to make smart choices so that their firms can deliver the products and services they are committed to providing their customers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 662. Decision Making in Global Environment. 4 Credit Hours.

This course provides students with a systematic way to carefully think about decisions to arrive at more informed choices while doing business globally and specifically in the Americas. The course covers structuring decisions, creating alternatives, making tradeoffs among conflicting objectives, accounting for uncertainties and risk tolerance, and analyzing and evaluating alternatives. The course is intended to make participants aware of decision making issues surrounding global business, the dynamic issues surrounding their context, and how these affect managerial strategy. An objective of the course is to increase participants' competence in managerial decision making related to globalization, institutions, incentives, corporate governance, regulation, business law, international finance and accounting, organizations and management (including culture), and international trade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 663. Entrepreneurship & Innovation. 4 Credit Hours.

This course considers entrepreneurship and innovation within the Americas, together with a special emphasis on the Latin American context. The course covers the building blocks of the entrepreneurial process and pays special attention to the family business model where ownership is closely held. The objective of the course is to develop an understanding of the venture formulation process within the Americas and the processes that surround this. The topics of innovation; venture capital; venture formulation; human capital; market dynamics; technological readiness; role of government, regulation, and culture will be assessed. An objective of the course is to consider new models for venture design such as the agile model of development and the creation of the business canvases, a lean version of the traditional business plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 698. Selected Topics. 1-6 Credit Hours.

Topics in selected areas of business.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BUS 700. Introduction To Commercial Real Estate: Analysis And Field Experience. 3 Credit Hours.

Students enrolled in the Accelerated MBA in Real Estate program are required to participate in a one-week, four module, on-campus class followed by a full-time internship at a local Commercial Real Estate Institution during the first summer of the program. Module I: Students are introduced to the complexities of commercial construction techniques used in South Florida and the important links between architectural plans and economic value to owners and tenants. Module II: Students are introduced to the terminology and financial analysis of commercial real estate. Module III: Students are introduced to the application of real estate finance and valuation principles using ARGUS Valuation – DCF. Module IV: Students participate in a required internship at a local Commercial Real Estate Institution. Regarded as a full-time student.

Components: EXP.

Grading: SUS.

Typically Offered: Summer.

BUS 701. Commercial Real Estate Field Experience. 3 Credit Hours.

Students enrolled in the Accelerated MBA in Real Estate program are required to participate in a full-time internship at a local Commercial Real Estate Institution during the first fall semester of the program. This internship is subsequent to their previous summer internship (BUS 700). Regarded as a full-time student.

Components: EXP.

Grading: SUS.

Typically Offered: Fall.

Business Law (BSL)

BSL 212. Introduction to Business Law. 3 Credit Hours.

Introduction to business law and ethics for the undergraduate student.

Topics include business ethics, contracts (the nature and requisites, formation, interpretation, performance and breach, and remedies), and sales (Uniform Commercial Code, Convention on the International Sale of Goods, transfer of title, warranties, and rights and remedies of buyers and sellers).

Requisite: School of Business Administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BSL 304. Corporate Law. 3 Credit Hours.

Introduction to the law and regulation of corporations and other business entities. Topics include: tort and other business liabilities, agency and fiduciary duty, partnerships, limited liability companies, corporations (including the legal relationships underpinning their financial structure, director and officer liability, and laws relative to change of control), securities regulation, and antitrust law.

Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BSL 305. Legal and Social Aspects of Business Regulation. 3 Credit Hours.

An introduction to the legal and ethical issues arising out of business and the regulatory environment. Topics include business ethics and subjects as environmental law antitrust, securities, administrative process, consumer protection, and employment regulation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 313. Coastal Law. 3 Credit Hours.

Basic doctrines and public policy related to the use and regulation of the United States coast zone and seabed. PREREQUISITE: BSL 212 OR EQUIVALENT. Not available for credit toward either the major in Legal Studies or the minor in Business Law.

Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 314. Ocean Law. 3 Credit Hours.

The principles of international ocean law regarding ocean management. Topics include ocean delimitation and issues of environmental ocean regulation within international legal framework. PREREQUISITE: BSL 212 OR EQUIVALENT. Not available for credit toward either the major in Legal Studies or the minor in Business Law. Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 324. Negotiation. 3 Credit Hours.

This experiential course is designed to introduce undergraduate business students to the theory and practice of negotiation. The lectures and readings will discuss negotiation theory, equipping students with the concepts and terminology to prepare and execute value-creating, interest-based negotiations. Negotiation exercises will provide the student with an opportunity to apply the theoretical elements of the course in live, simulated negotiations. Extensive review of these simulated negotiations through classroom discussion and film analysis will assist students in cementing their understanding of the use of negotiation theory in practice. Although negotiation theory is applicable to a wide variety of academic contexts, this course focuses on negotiations in the practice of law and business.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 333. Legal Aspects of Real Estate Transactions. 3 Credit Hours.

Legal principles controlling the acquisition, ownership, financing, and development of real property. Topics include nature and acquisition of rights in real property, theory of estates, co-ownership, fixtures, easements, legal descriptions, evidence of title, title insurance, deeds, mortgages, closing the sales and mortgage transactions, condominiums and cooperatives, brokers, and land use.

Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BSL 401. The Law of Financial Transactions. 3 Credit Hours.

Overview of the law of commercial finance as it relates to existing and emergent payment systems, secured credit, and bankruptcy. Topics include: negotiable instruments, bank deposits and collections, secured transactions, personal and commercial bankruptcies, and accountant liability.

Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BSL 412. International Business Law. 3 Credit Hours.

International law and organizations, international sales, credits and commercial transactions, U.S. trade law, and the regulation of the international market place are discussed.

Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BSL 424. Intellectual Property Law. 3 Credit Hours.

This course is designed to acquaint the business student with the general framework of laws that regulate innovation, marketing, competition, and business development in the U.S. Special emphasis will be placed on discussion of ethical issues in information property, unfair competition, and management of intellectual property across various industries. Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 435. Law Of Entrepreneurship. 3 Credit Hours.

Overview of the legal aspects of entrepreneurship and business management. Special emphasis on entity formation, intellectual property protection, capital formation, securities, tax planning, and risk management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 460. Health Care Law and Ethics. 3 Credit Hours.

This course is designed to offer the business student an appreciation of the legal foundations and ethical considerations in health care administration in the United States. Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 476. The Law Of Risk. 3 Credit Hours.

This course offering will analyze risk in business and examine the tools that the law offers to identify danger and risk in the workplace and shift and minimize potential losses. This highly interactive course will first examine the various sources of legal risk, from criminal liability to employment discrimination to personal injury claims and toxic tort exposures. It will then examine the ways business and law pool, shift, and minimize risk. This seminar-style course will also include a significant experiential, hands-on component. Students will also practice contract construction and interpretation in a workshop environment. Prerequisite: BSL 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 485. Managing the Legal Factor. 3 Credit Hours.

This course offers the business manager a frank and analytical view of law and legal practice as they affect business decision-making. It addresses both the issues of cost containment and relationships between counsel and the company with the objective of achieving a more effective management of the legal function in business. Prerequisite: BSL 212 or equivalent. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 499. Special Topics. 1-3 Credit Hours.

Independent investigation of special subjects. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 555. Business Law Honors Research Project.. 3.00 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Business Law.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

BSL 575. Advanced Business Law. 3 Credit Hours.

Legal problems encountered by Certified Public Accountants, Finance, Management and Marketing Executives, including agency, commercial paper, bank deposits and collections, secured transactions, suretyship, bankruptcy, partnership, corporations, contracts, anti-trust, insurance, property, wills and estates, SEC law, and accountants' legal responsibility. Special attention is given to the commercial law segment of the Uniform Public Accountant Examination.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 612. Legal Aspects of International Business. 3 Credit Hours.

International legal framework, transactional legal issues in finance, marketing, management, distribution, and a review of theory and practice of negotiations. Case studies on such topics as legal implications of GATT, European Competition, C.I.S.G., and Export Import Rules are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 624. Negotiation: Theory & Practice. 2 Credit Hours.

This experiential course is designed to introduce graduate business students to the theory and practice of negotiation. The lectures and readings will discuss negotiation theory, equipping students with the concepts and terminology to prepare and execute value-creating, interest-based negotiations. Negotiation exercises will provide the student with an opportunity to apply the theoretical elements of the course in live, simulated negotiations. Extensive review of these simulated negotiations through classroom discussion and film analysis will assist students in cementing their understanding of the use of negotiation theory in practice. Although negotiation theory is applicable to a wide variety of academic contexts, this course focuses on negotiations in the practice of law and business.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 675. Advanced Business Law. 2 Credit Hours.

Advanced Business Law focuses on the following substantive subject areas commonly encountered by Certified Public Accountants and tested on the Uniform Certified Public Accountancy Examination: business ethics, contracts (including formation, performance, breach, and remedies), commercial transactions under UCC Article 2, commercial paper, agency principles, and secured transactions. Special attention is given to the areas tested on Regulation section of the Uniform CPA Exam.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BSL 685. Legal Aspects of Health Administration. 3 Credit Hours.

Derivation of rule of law governing health providers, vicarious liability of administrative and medical personnel, informed consent, and other related problems are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 690. Legal and Ethical Implications of Business Decision Making. 2 Credit Hours.

The course provides an introduction to our legal and governmental regulatory system, as well as a review of constitutional considerations for businesses. Morality and ethics are defined and distinguished. Applied philosophy is then introduced, to give the student a foundation upon which to analyze the ethical dimensions of common business questions. The relationship between the letter and the spirit of the law is examined. Specific business topics and their legal and ethical aspects are then addressed. This includes, but is not limited to, discussion of the following areas: consumer relationships; business organizations; the balancing of corporate vs. individual power (employee rights and responsibilities, employment discrimination); and the emerging ethic of a global economy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BSL 691. The Public Corporation: Legal Perspectives. 2 Credit Hours.

The Public Corporation: Legal Perspectives reviews the laws governing the formation, operation, regulation, and governance of the public corporation with the objective of providing the graduate business student a sophisticated examination of the legal and social aspects of managing the money of others. Further, the course examines the rules and regulations governing the raising of capital from the public through the sale of securities for the development of and investment in a private enterprise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 692. Legal Implications of International Business Transactions. 2 Credit Hours.

International legal framework, transactional legal issues in finance, marketing, management, and distribution. Case studies in substantive international legal topics such as international sales contracts, international documentary sale, international terms of trade, legal implications and substantive rules governing international finance, collections, payments, and letter of credit, the resolution of international disputes with a particular emphasis and examination upon the management of litigation, enforcement of foreign judgments, and alternative dispute resolution are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 694. Real Estate Law. 2 Credit Hours.

Real Estate Law focuses on the U.S. legal system as it relates to the buying, selling, and financing of real property. In addition to traditional text material, the analysis of U.S. court cases is used to detail the legal factors of ownership rights and liabilities, specific interests in real property, contracting issues related to the purchase and sale of real property, as well as financing and closing the real estate transaction. The course provides a problem-solving experience, which is intended to develop graduate students' critical thinking process as well as their skills in oral and written communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BSL 695. Legal Implications in Executive Decision Making. 3 Credit Hours.

Law and legal process are examined as they mix with the politics and ethics of business, including the weight given to legal implications in the executive decision-making process.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 696. Legal and Ethical Implications in Executive Decision Making. 3 Credit Hours.

Business and public administration cases requiring identification of the legal, ethical, and social elements as well as the determination of the weight such elements should have in setting policy are discussed. Integration of law and ethics with public and business administration is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BSL 698. Selected Topics. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Business Technology (BTE)

BTE 120. Introduction to Computer Information Systems. 3 Credit Hours.

An introduction to computers and information processing, with emphasis on application software. The course material includes: spreadsheet design and analysis, as well as the use of spreadsheet tools in facilitating decision making; relational database design and the development of database management tools; basic Internet terminology and Web design; development of team-work, presentation, and communication skills through presentation software; and the use of advanced word processing features to create a more efficient and productive working environment, as well as software application integration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 210. Fundamentals Of Business Technology & Innovation. 3 Credit Hours.

This course covers the fundamental technologies used in business today. Topics include information technology platforms; enterprise technology concepts; network infrastructure; enterprise resource planning; information security; technology architectures; internet; cloud, mobile, and web platforms; analytical technologies; business intelligence; expert systems, and Big Data. Students work on an innovation project to create a specification/business canvas for a new technology product.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 320. Introduction to Programming. 3 Credit Hours.

This course covers the fundamentals of programming logic and structured programming principles—including problem solving, algorithm design, and program development—using a high level programming language. Topics covered include fundamentals of algorithms, flowcharts, problem solving, programming concepts, classes and methods, control structures, arrays, and strings, pointers, and data structures.

Requisite: Must have a CIS and CSC Major or Minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 324. Object-Oriented Programming. 3 Credit Hours.

This course introduces the concepts and fundamental techniques of object-oriented programming. Topics include: data abstraction, encapsulation, inheritance, polymorphism, class library, graphics/GUI, exception handling, multithreading, multimedia, files and streams, Internet applets, application development, integrated development environment, interactive program debugging and the eXtensible Markup Language (XML).

Prerequisite: CIS 320 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 360. Systems Analysis and Design. 3 Credit Hours.

This course introduces the techniques of systems analysis and design. Topics include: the Software Development Life Cycle (SDLC), Agile Programming, Extreme Programming, lean software development, Universal Modeling Language (UML), requirements modeling, data modeling, user interface design, data design, normalization, systems architectures, implementation methods, and testing methodologies.

Prerequisites: CIS 320 or CSC 120 or ECE 118 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 361. Design of Information Systems. 3 Credit Hours.

Continuation of CIS 360. Topics include concepts, tools, and techniques of systems design, prototyping, file/database design, and physical process modeling. Students work in groups to design an application system for a business related problem.

Prerequisite: CIS 360.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 389. Launching High Technology Ventures. 3 Credit Hours.

This course develops an understanding of the entrepreneurial processes as they apply to new technology ventures. Topics include: venture formation, venture and angel investments, innovation and creativity, business plan creation, human capital, ethics, and intellectual property.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 400. Web-Mobile-Cloud. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 401. Computers In An Inter-Networked Society. 3 Credit Hours.

This course provides students with fundamental knowledge of the technology and tools that integrate big data, cloud, and mobile computing within a business and social context. Students will study these technologies and their impact on socioeconomic, political, organizational, and personal environments. The course covers the cultural components of a social media society and examines the systems and processes that need to be developed for effective management of that environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 410. Information Systems and Technology. 3 Credit Hours.

Course develops an understanding of the role of information technology within an organizational perspective. The course focuses upon the basic building blocks of information technology architectures and examines the issues facing a Chief Technology Officer in developing systems solutions. Topics include enterprise systems, database, decision support, intelligent systems, the Internet and e-business, as well as the ethical policy issues that affect systems architectures and their use.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

BTE 412. Foundations of Business Enterprise Technologies. 3 Credit Hours.

This course provides an understanding of the foundations of enterprise technologies. Topics include: making the business case for technology, distributed architectures, customer relationship management systems (CRM), enterprise resource planning systems (ERP), requirements modeling and design for enterprise systems, software development and outsourcing for the enterprise, enterprise productivity technologies (RFID, internet of things, machine data), 3D-design technologies, cloud technologies, and technologies for the global enterprise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 413. Big Data Strategy. 3 Credit Hours.

This course provides an introduction to the area of business intelligence termed Big Data. The concepts of high volume, velocity, and variety data are examined. The course examines how big data can be used to create business intelligence strategies in the areas of marketing, product development, systems deployment, and innovation. The course utilizes business intelligence software and Structured Query Languages (SQL) to analyze data. Other Big Data topics covered include the ethics, security, streaming data, sourcing, emergent technologies, and international data regulations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 417. Fundamentals Of Tech Project Management. 3 Credit Hours.

This course is designed to provide the fundamental project management knowledge necessary for a business manager, consultant, project manager, IT professional, and/or team member to successfully initiate and plan IT and other business projects. It is structured to provide principles, methodology, and practical information through a combination of lectures, group collaboration and hands-on exercises. Emphasis is placed on the importance of standardization and best practices as defined by the PMI's Project Management Body-of-Knowledge (PMBOK®).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 420. Analysis of Information Systems. 3 Credit Hours.

Overview of the systems development life cycle (SDLC). Topics include concepts, tools, and techniques of systems analysis; data modeling; process modeling; CA SE tools; and the role of the systems analyst in the organization. Students will work in groups to analyze an application system for a business related problem. Prerequisite: Knowledge of a high level programming language.

Components: LEC.

Grading: GRD.

BTE 421. Design of Information Systems. 3 Credit Hours.

Continuation of CIS 420. Topics include concepts, tools, and techniques of systems design; prototyping; file/database design; and physical process modeling. Students will work in groups to design an application system for a business related problem. Prerequisite: CIS 420.

Components: LEC.

Grading: GRD.

BTE 423. Database Management Systems. 3 Credit Hours.

This course covers the foundations of database management systems (DBMS). Topics include: database systems design, SQL, the relational model, entity-relationship modeling, distributed DBMS, object DBMS, web technology and DBMS, semi-structured data, XML, business intelligence, data warehousing, data warehousing design, introduction to OLAP, and a brief overview of data mining. Students will engage in hands-on exercises for the design and implementation of database business applications. Prerequisite: CIS 360.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 430. Business Networks. 3 Credit Hours.

In this course, students will learn the underlying concepts and technologies in the field of business networks with specific focus on their applications in businesses. Topics covered include: network types, networking standards, protocols, and architectures; the characteristics of physical and logical networking components and technologies; the security issues that affect network systems and their implications on business applications; the technical and organizational issues concerning wireless networks; emerging networking technologies and software tools for designing and troubleshooting various aspects of networks.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 450. Introduction to Health Informatics. 3 Credit Hours.

The course develops an understanding of the role of information systems and technology within a healthcare organization. It examines the business and technical issues associated with the selection, deployment and use of health informatics, both in the clinical and back office areas. Health informatics, for the purpose of the course, is defined as the convergence of information technology, information management, and health care, at various levels, ranging from simple data gathering, to the design and implementation of new health care information systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 465. Web Application Development. 3 Credit Hours.

This course will explore Internet and mobile application development methodologies. Topics include: HTML 5, CSS3, scripting languages (JavaScript); jQuery, AJAX, web services, Web Servers (IIS and Apache) and relational databases (MySQL/Apache Derby/Java DB)—all the skills and tools needed to create dynamic Web-based and mobile applications. The coverage will be both on the client side and the server side of Web-based applications, and the course will provide instruction on building rich Internet applications that enhance the presentation of online content and give web applications the look and feel of desktop applications. Students in the course will build Web-based, client/server, database-intensive, multi-tier, and mobile business applications.

Prerequisites: CIS 324, CIS 361, CIS 423, CIS 430.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 490. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 491. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 493. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 494. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 495. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 496. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 497. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 498. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 499. Directed Study in Computer Information Systems. 1-3 Credit Hours.

Individually supervised investigation or research project in selected topics. Offered by special arrangement only. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 523. Big Data Development. 3 Credit Hours.

This course covers foundational techniques and tools required for data science and big data analytics. The course delivers a thorough overview of and hands-on experience with Big Data technologies, including: Hadoop, Mapreduce, Association rules, Large scale supervised machine learning, Data streams, Clustering, NoSQL systems (Cassandra, Pig, Hive), and applications, including recommendation systems, Web, and security. Students will also examine current research and publications in Data Science/Big Data Analytics, with emphasis on systems and algorithms for large-scale advanced data analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 524. Mobile Apps Development. 3 Credit Hours.

This course covers the fundamentals of programming logic and structured programming principles—including problem solving, algorithm design, and program development for mobile environments—with a focus the Android Platform. The course introduces the requirements and methodologies for developing dedicated and client-server applications that target smartphones, tablet computers, and other mobile devices. Topics include: memory management, communications, power systems, APIs, and among others. The techniques studied are applicable to and can be transitioned to the iOS or Windows 8 platforms.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 535. Information Security. 3 Credit Hours.

This course introduces the principles of computer security. Information is an important strategic and operational corporate asset that needs to be protected from data breaches. This course investigates some of the security measures that can be employed to safeguard information and explores some of the tools and techniques used in designing these measures. Students will examine how system designs, network protocols, and software engineering practices can result in vulnerabilities. They will also explore how to detect and mitigate vulnerabilities in existing systems and, so, how to design and implement better future systems. Additional topics include ethical hacking, social engineering strategies, and other approaches to managing vulnerabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 550. Computer Information Systems Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight in information technology practice in the area of career interest. Periodic reports and conferences are required.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

BTE 565. Mobile to Cloud: Developing Distributed Applications. 3 Credit Hours.

This course introduces students to the basics of the emerging cloud computing paradigm. It also examines how to implement different algorithms for different applications in the cloud and how to deploy mobile applications in the cloud. The course covers the principles, systems, and applications of mobile cloud computing that integrates smart phones and tablets with virtualized distributed computing infrastructure. Students will learn the fundamentals of a variety of systems such as virtual machines, the principles and practices of client/server architectures, the concepts and practices of Infrastructure, Platform, and Software as a Service (IaaS/PaaS/SaaS), cloud platforms such as Google App Engine, Microsoft Azure, and Amazon Web Services(AWS), as well as security issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 572. Intr Exp Sys For Mgt. 3 Credit Hours.

Components: LEC.

Grading: GRD.

BTE 590. Topics in Computer Information Systems. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 610. Foundations of Management Information Systems. 2 Credit Hours.

Course is designed to provide the foundations in management information systems information systems required to understand and effectively use an enterprise wide information system. Topics include the role of the CIO, managing Information Technology (IT) as a strategic resource, business process reengineering, IT planning, IT governance and communication, the Internet, and eBusiness.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 612. Enterprise Technologies. 2 Credit Hours.

Course addresses the needs of business students who wish to expand their understanding of information technology fundamentals. Focusing upon their use in today's enterprises, the course aims to provide students with knowledge of a variety of technological concepts commonly used in the IT Organization's systems development initiatives and enables students to understand the implications of deploying such technologies within the enterprise.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 613. Business Intelligence Technologies. 2 Credit Hours.

Course facilitates business decision makers in their understanding of data analysis tools that operate over data warehouses and 'data marts' more commonly referred to as Business Intelligence. Course focuses upon using technologies to drive effective data driven decision making through effective mining of corporate data warehouses, thus improving operational efficiency and ultimately increasing profitability. Students are exposed to the concepts, analysis techniques, data cubes, and manipulation of information extracted from a data warehouse that enables the formulation and execution of business strategies. Data analysis case studies are used to reinforce students' understanding and strategic use of results to accomplish business objectives.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 617. Information Technology Project Management. 2 Credit Hours.

Course covers the identification and development of information technology plans for projects supporting the organization's business objectives and all activities required in the initiating, planning, executing, controlling, and closing phases of the project's lifecycle. Course is intended to provide the body of knowledge and best practices necessary for a new Consultant, Business Analyst or Project Manager to successfully perform his/her responsibilities on a wide variety of IT enterprise projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 621. Management Information Systems. 3 Credit Hours.

Course is designed to give prospective managers a foundation in MIS sufficient to understand and effectively use information systems. Topics include types of information systems, role of MIS in organizations, CIO issues, ERP systems, and electronic commerce.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 623. Database Management Systems. 3 Credit Hours.

Course covers the fundamental concepts of database management systems using the Oracle DBMS. Topics include database theory and terminology, logical modeling, normalization, SQL language, database design and implementation, database administration, data security, database transaction/concurrency, and data backup.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BTE 624. Mobile Apps Development. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 630. Fundamentals of Local and Wide Area Networks. 3 Credit Hours.

Course provides the graduate student the necessary knowledge to understand the design, integration, technologies, and services of local and wide area networks (LANs and WANs) in the business environment. Topics include signal transmission and propagation, standards and protocols, data communications media and devices, layered/encapsulated communications based on the hybrid TCP/IP-OSI standards, small and large-site PC LANs, Frame Relay, ATM, Virtual Private Networking (VPN), Telephony, Internet technologies, and network security.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 631. Computer and Network Security. 3 Credit Hours.

Protection of computers and networks against unauthorized access, access control, encryption, firewalls, proxy, digital certificates, and software security are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 635. COMP COMMUN SECURITY. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 640. Data Communications and Networking. 3 Credit Hours.

Course addresses advanced topics in computer networks from the perspective of a business decision-maker. The course begins with a focus on signal propagation, media characteristics, and digital and analog encoding techniques. It continues with a study of datalink, network, and transport layer functions as defined by the OSI and TCP/IP models. The architecture of the Internet is explored and routing algorithms for wired, wireless, and peer-to-peer networks are introduced. Course concludes with a high-level overview of the top OSI layers. After taking the class the students should be able to critically evaluate network solutions based on the capabilities and limitations of the equipment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 646. IT Planning and Project Management. 3 Credit Hours.

Course covers the development of information technology strategic and tactical plans for projects supporting the organization's business objectives and project management as applied to planning, implementing, controlling networking, information systems and e-commerce projects. Course is intended to provide a body of knowledge necessary for a new Consultant or Project Manager to successfully initiate, plan, manage, control, and report on a variety of project types. People skills required in the areas of team selection, structure, conflict resolution, and leadership is also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 650. Introduction to Health Informatics. 3 Credit Hours.

The course develops an understanding of the role of information systems and technology within a healthcare organization. It examines the business and technical issues associated with the selection, deployment and use of health informatics, both in the clinical and back office areas. Health informatics, for the purpose of the course, is defined as the convergence of information technology, information management, and health care, at various levels, ranging from simple data gathering, to the design and implementation of new health care information systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BTE 660. Computer Information Systems Graduate Internship. 1-3 Credit Hours.

Student is individually assigned to an operating business firm or other organization to gain insight and experience in information technology practice in area of career interest. Periodic reports and conferences are required. This course can only be taken as "satisfactory/unsatisfactory."

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

BTE 665. Applied Software Project Development. 3 Credit Hours.

Advanced concepts and techniques in application project development. Topics include project management, program testing, documentation, application installation, and application maintenance. Students will work on a group project to sharpen their implementation skills. Prerequisite: CIS 223 or 226 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BTE 680. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 682. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 684. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 685. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 686. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 687. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 688. Topics in Computer Information Systems. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 689. Topics in Computer Information Systems. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 690. Directed Study in Computer Information Systems. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 691. Directed Study in Computer Information Systems. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BTE 699. Directed Study. 1-3 Credit Hours.

Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Cancer Biology (CAB)

CAB 701. CAB Student Seminar. 1 Credit Hour.

This course (required of 2nd and 3rd year students) offers instruction on the fundamental elements of scientific speaking. The ability to communicate effectively is essential for scientists. All CAB students are required to present their research each year as a 25 min (2nd year students) or 55 min seminar (3rd year and above). Students who are 4th year+ give seminars but are not enrolled.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAB 705. Tumor Boards. 1 Credit Hour.

In the Fall of their second year, students attend Tumor Boards at the Sylvester Comprehensive Cancer Center. During these meetings, clinicians with expertise in different disciplines, review and discuss the medical conditions and treatment options of patients. These meetings provide an opportunity for students to interact with physicians and learn how pathologists, surgeons, medical oncologists and radiation oncologists review specific cases, create and coordinate customized treatment plans. Examples of cases include patients with solid tumors (i.e., breast, colon, liver, prostate), hematologic tumors (i.e., leukemia, lymphoma), and sarcomas (i.e., osteosarcoma, soft tissue). Students are expected to attend 10 different tumor board or site disease group meetings, a minimum of 5 must be attended during the Fall semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAB 710. Cancer Biochemistry & Molecular Biology. 3 Credit Hours.

This is an entry-level lecture course designed to introduce students to the major concepts and principles of cell growth deregulation in cancer with a major emphasis on molecular mechanisms. Topics include: oncogenes, tumor suppressors, mechanisms of uncontrolled cell growth, receptors and intracellular signal transduction pathways.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 712. Special Topics in Cancer Research - Viral Oncology and Tumor Immunology Module. 2 Credit Hours.

This module emphasized state of the art knowledge of each discipline, student participation in a problem based learning context. Topics include viral carcinogenesis and epidemiology, Hepatitis, Herpes, Epstein Barr and Human Papilloma Viruses, Kaposi's Sarcoma, viral induced lymphomas, viral oncolysis, and mechanisms of anti-tumor immunity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 713. Special Topics in Cancer Research - Molecular Cancer Therapeutics Module. 2 Credit Hours.

This module explores the signal transduction pathways critical for cancer cell proliferation and survival that may provide new therapeutic targets, approaches for identification and validation of molecular targets within these pathways. Students are introduced to the strategies used in the discovery and design of biological and drug based therapies, and the implementation of clinical trials.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 714. Cancer Epidemiology, Prevention and Biobehavioral Oncology. 2 Credit Hours.

The overall philosophy of this module is to introduce students to the basic principles of biobehavioral oncology and cancer epidemiology and cancer prevention and control. The course will explore cancer epidemiology approaches used to identify the molecular and genetic mechanisms of cancer risk and progression and how these are used to develop predictive models in treatment response. Methods for identifying social, environmental, and biological reasons for cancer disparities among different populations will also be covered. Sections on bio-behavioral oncology include: health behavior change processes in persons at risk for and diagnosed with cancer; methods to improve adaptation to cancer diagnosis and treatment, psychosocial intervention research techniques and bio-behavioral processes explaining their effects on health and quality of life (QOL), translation of behavioral and psychosocial intervention to the community, symptom/treatment side effects management approaches, predictors of late effects of cancer treatment and development of preventative interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 715. Special Topics in Cancer Research - Breast and Genitourinary Cancers Module. 2 Credit Hours.

This module highlights key aspects of the cellular and molecular mechanisms of breast, prostate, renal and bladder cancers as well as providing an overview of cancer detection, diagnosis, and therapy. Emerging research opportunities are identified. Topics include estrogen receptor and androgen receptor signaling, cancer progression, endocrine therapies and resistance. Key signaling pathways and the biology of metastasis will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 720. Dialogues with Cancer Clinicians (PIBS Module). 1 Credit Hour.

This module features physician mentors of the Cancer Biology Graduate Program who will discuss clinical aspects of cancer treatment with an emphasis on continuity of care of newly diagnosed patients between disciplines and will articulate unmet clinical needs and research. Mentors will provide clinical perspectives on their areas of specialization as it relates to patient care including diagnosis, staging, therapy, and outcomes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 750. Logic and Reasoning in Translational Cancer Research: Bench to Bedside Part 1. 3 Credit Hours.

An important facet of the Cancer Biology Ph.D. Program is the training of students in the interrelationships between basic research and clinical medicine, i.e., translational research. The goal of this advanced course is to expose students to the scientific reasoning and logic underlying problem solving in clinical cancer research. This course is designed to help students integrate information and develop the thought processes necessary to critically evaluate information in the literature and experimental approaches, conceptualize problems in the field and identify areas for scientific exploration. Students learn how the knowledge obtained from basic research laboratories is applied to clinical problems including prevention, diagnosis, prognosis, and therapeutic treatment of cancer. Specific examples of translational research, i.e., laboratory to clinic are emphasized. Students also learn the key role of clinical observation in identifying basic research problems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAB 830. Dissertation Research - Pre Candidacy. 2 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credits as determined by the Office of Graduate Studies but not less than a total of 24. Not more than six in the summer. If a student has a) passed qualifying exam(s) and (b) is engaged in an assistantship, he/she may still take the maximum allowable credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAB 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all Ph.D. candidates. Grade will remain IP until student dissertation is accepted by Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAB 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit is not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Chemistry (CHM)

CHM 099. Preparatory Chemistry 1. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 101. Chemistry And Society. 3 Credit Hours.

The basic principles of chemistry for the non-science major with an emphasis on understanding the chemistry of the world around us, especially as it pertains to the choices we make as consumers and as a society. Integrated themes include energy, the environment, food and nutrition, health and personal care, and other contemporary societal issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 102. Fundamentals of Chemistry II. 3 Credit Hours.

A continuation of Chemistry 101.

Prerequisite: CHM 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 103. Chemistry for Life Sciences I (Lecture). 3 Credit Hours.

Essentials of inorganic chemistry as it applies to biological systems. Designed for (but not limited to) those planning health-related careers. Lecture, 3 hours.

Corequisite: CHM 105.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 104. Chemistry for Life Sciences II (Lecture). 3 Credit Hours.

A continuation of CHM 103, with emphasis on organic and biological chemistry, including biochemical processes and metabolism. Lecture, 3 hours.

Prerequisite: CHM 103.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 105. Chemistry for Life Sciences I (Laboratory). 1 Credit Hour.

Designed for those students in CHM 103 requiring a laboratory course. Laboratory, 3 hours.

Prerequisite: CHM 103. Or Corequisite: CHM 103.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

CHM 106. Chemistry for Life Sciences II (Laboratory). 1 Credit Hour.

Designed for those students in CHM 104 requiring a laboratory course. Laboratory, 3 hours.

Prerequisite: CHM 104. Or Corequisite: CHM 104.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CHM 110. Chemical Problem Solving. 3 Credit Hours.

Components: LEC.

Grading: GRD.

CHM 111. Principles of Chemistry I. 3 Credit Hours.

Fundamental principles of chemical science. The beginning course for science majors and premedical students. Lecture, 3 hours.

Prerequisites: MTH 107 or Higher. Corequisites: MTH 107 or Higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 112. Principles of Chemistry II. 3 Credit Hours.

Continuation of CHM 111. Lecture, 3 hours.

Prerequisite: CHM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 113. Chemistry Laboratory I. 1 Credit Hour.

Laboratory techniques of chemistry. To accompany CHM 111. Laboratory, 3 hours.

Corequisite: CHM 111.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 114. Chemistry Laboratory II. 1 Credit Hour.

Continuation of CHM 113. Intermediate laboratory techniques and quantitative analysis. To accompany CHM 112. Laboratory, 3 hours.

Corequisite: CHM 112 or CHM 221.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 121. Chemistry For The Biosciences I. 4 Credit Hours.

This is the first course in a three course sequence designed to meet the needs of Life Science students interested in pursuing professional education in the health sciences. Topics to be covered in this course include: basic atomic structure, reaction stoichiometry, gases, chemical equilibrium, acids and bases, thermodynamics, and chemical kinetics. Co-registration with a separate recitation section is required.

Prerequisites: MTH 107 or Higher. Corequisites: MTH 107 or Higher.

Components: LEC.

Grading: GRD.

CHM 151. Chemistry for Engineers. 3 Credit Hours.

Fundamental principles of chemistry for engineering students. Not recommended for students that plan to enter Medical School. Lecture, 3 hours.

Prerequisites: MTH 105 or MTH 107. Or Corequisites: MTH 105 or MTH 107.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 153. Chemistry Laboratory for Engineers. 1 Credit Hour.

An introductory laboratory course to accompany CHM 151. The techniques of chemistry for engineering students.

Prerequisite: CHM 151. Or Corequisite: CHM 151.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 201. Organic Chemistry I (Lecture). 3 Credit Hours.

The chemistry of carbon compounds. Required of chemistry majors, and premedical students; recommended for majors in life sciences. Lecture, 3 hours.

Prerequisite: CHM 112 or CHM 221.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 202. Organic Chemistry II (Lecture). 3 Credit Hours.

Continuation of CHM 201. Lecture, 3 hours.

Prerequisite: CHM 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 205. Organic Chemistry Laboratory I. 1 Credit Hour.

Introduction to techniques of organic chemistry. Laboratory, 3 hours.

Prerequisites: CHM 201 or CHM 222. Or Corequisites: CHM 201 or CHM 222.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 206. Organic Chemistry Laboratory II. 1 Credit Hour.

Continuation of CHM 205. Laboratory, 3 hours.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 214. Quantitative Analytical Chemistry. 3 Credit Hours.

Prerequisites: CHM 202, MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 221. CHM211 Chemistry for the Biosciences II. 4 Credit Hours.

This is the second course in a three course sequence designed to meet the needs of Life Science students interested in pursuing professional education in the health sciences. Topics to be covered in this course include: electronic atomic structure, basic quantum mechanics, molecular geometry, identification of organic molecules, and interpretation of chemical structures via spectroscopic methods. Co-registration with a separate recitation section is required.

Prerequisite: CHM 121.

Components: LEC.

Grading: GRD.

CHM 222. CHM212 Chemistry for the Biosciences III. 4 Credit Hours.

This is the third course in a three course sequence designed to meet the needs of Life Science students interested in pursuing professional education in the health sciences. Topics to be covered in this course include: organic chemical reactivity, reaction prediction analysis, organic reaction mechanisms, electronic interactions, energy states, and reactivity of biomolecules. Co-registration with a separate recitation section is required.

Prerequisite: CHM 221.

Components: LEC.

Grading: GRD.

CHM 304. Structural Identification of Organic Compounds. 3 Credit Hours.

The fundamental principles of ultraviolet/visible, infrared, nuclear magnetic resonance and mass spectrometry. How the combination of these sophisticated analytical techniques can be used to elucidate the structures of organic compounds.

Prerequisite: CHM 202 and CHM 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 316. Instrumental Analytical Chemistry. 3 Credit Hours.

Modern methods of quantitative analysis. Lecture, 3 hours.

Prerequisite: CHM 304 and CHM 360.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 317. The Chemistry of Food and Taste.. 3 Credit Hours.

The chemical compositions of the raw materials and end products, and a survey of the changes that these undergo when exposed to human manipulations.

Prerequisite: CHM 201 and CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 320. Instrumental Methods in Chemistry and Biochemistry. 2 Credit Hours.

Instrumental methods in modern chemistry and biochemistry, including spectrometric, electrochemical, and chromatographic (separation) Laboratory, 8 hours. Satisfies writing requirement.

Prerequisite: CHM 304. Corequisite: CHM 316.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CHM 331. Physical Chemistry for Premedical Students. 3 Credit Hours.

Fundamentals of thermodynamics as applied to gases, liquids and solutions; chemical kinetics and other selected topics. Lecture, 3 hours.

Prerequisite: CHM 112, MTH 161, and PHY 102.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 360. Physical Chemistry I (Lecture). 3 Credit Hours.

Introduction to physical chemistry including thermodynamics, gaseous and liquid states, solutions, homogeneous and heterogeneous equilibrium. Lecture, 3 hours.

Prerequisites: CHM 112, MTH 162 or MTH 172. Requisite: One Semester of Physics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 364. Physical Chemistry (Laboratory I). 1 Credit Hour.

Representative experiments in physical chemistry. Laboratory, 4 hours.

Prerequisite: CHM 360 or CHM 331. Or Corequisite: CHM 360 or CHM 331.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 365. Physical Chemistry II (Lecture). 3 Credit Hours.

Chemical kinetics, introductory quantum chemistry, molecular spectroscopy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 381. Workshop Leaders in Chemistry I. 1 Credit Hour.

Students engaged in Peer-Led Team Teaching of workshops for groups of CHM 111 and/or CHM 112 students may enroll for this course. May be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 382. Workshop Leaders in Chemistry II. 1 Credit Hour.

Students engaged in Peer-Led Team Teaching of workshops for groups of CHM 111 and/or CHM 112 students may enroll for this course. May be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 391. Chemistry Internship For Credit. 1-3 Credit Hours.

Provides chemistry majors with an opportunity to apply skills learned in coursework within settings outside the university. For example students can work in local schools, assisting instructors and mentoring students. They can also work in companies or government agencies for a defined period of time with clearly delineated goals to expand their expertise and practical knowledge of chemistry. Each enrolled student will be closely mentored by a faculty member.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 400. Introduction to Teaching in Chemistry Labs. 1 Credit Hour.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

CHM 401. Environmental Chemistry. 3 Credit Hours.

Major environmental features of the earth; Role of natural and synthetic chemicals in the environment; Atmospheric and aquatic pollution; Application of acid-base theory and oxidation reduction to environmental problems.

Prerequisite: CHM 201 or CHM 222.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 441. Inorganic Chemistry (Lecture). 3 Credit Hours.

The relation of atomic and molecular structure to chemical and physical properties; introduction to nonaqueous solvents, coordination compounds, solid state chemistry and nuclear reactions. Lecture, 3 hours. Prerequisite: CHM 365.

Prerequisite: CHM 365.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 442. Inorganic Chemistry (Laboratory). 1 Credit Hour.

Synthesis of inorganic compounds and determination of their physical and chemical properties. CHM 541 is a co-requisite for ACS chemistry majors. Laboratory, 3 hours.

Prerequisite: CHM 365 and CHM 541.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CHM 464. Physical Chemistry (Laboratory II). 1 Credit Hour.

Continuation of CHM 364. Laboratory, 4 hours.

Prerequisite: CHM 365.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

CHM 488. Undergraduate Research. 1-3 Credit Hours.

Laboratory research under the direction of a member of the chemistry faculty. Thesis optional. Course may be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 490. Honors Research. 1-3 Credit Hours.

Laboratory research under the direction of a member of the Chemistry faculty. Thesis required. Course may be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 520. Physical Organic Chemistry. 3 Credit Hours.

Aspects of chemical bonding, acids and bases, stereochemistry, aromaticity, pericyclic reactions, linear free energy relationships, transition state theory, excited state chemistry, reactive intermediaries, mechanisms of uni- and bi-molecular reactions.

Prerequisite: CHM 202 and CHM 360.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 522. Synthetic Organic Chemistry. 3 Credit Hours.

Functional group transformations, Synthron approach. Retro-synthetic analyses, multistep syntheses.

Prerequisite: CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 524. Supramolecular Chemistry. 3 Credit Hours.

Complexation, recognition, and catalysis as applied to bio-organic chemistry. Steric, polar, and lipophilic interactions as well as proximity effects in the design of synthetic enzyme mimics, cationic transport species, etc.

Prerequisite: CHM 365 and CHM 520.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 525. Structural Organic Chemistry. 3 Credit Hours.

Use of electronic and vibrational spectroscopy in structure elucidation. Structure elucidation by modern NMR; EI, CI, MALDI and Electrospray mass spectrometry. Assignment of absolute configuration of chiral centers.

Prerequisite: CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 526. CHM523 Medicinal Chemistry. 3 Credit Hours.

Medicinal chemistry is primarily concerned with the development of drug molecules, and the interpretation of their mode of action at the molecular level, with an emphasis on chemical synthesis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 530. Fluorescence Spectroscopy and Microscopy. 3 Credit Hours.

The photophysical properties of organic compounds that illustrates the fundamental principles of fluorescence. It also explains how fluorescence spectra and images can be recorded and how these powerful analytical techniques can be used to address significant problems in biology and medicine.

Prerequisite: CHM 304 and CHM 360.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 535. Molecular and Supramolecular Photochemistry. 3 Credit Hours.

Generation of a model that will help rationalize/predict excited state reactions. A brief background on physical aspects of photochemistry will be given. Exploring and understanding of reactions that are triggered by light. Importance of light in life will be highlighted.

Prerequisite: CHM 201 and CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 541. Principles of Bonding and Reactivity in Inorganic Chemistry. 3 Credit Hours.

Bonding principles necessary to understand the structure, stability, and fundamental reactivity of main group and transition metal inorganic compounds.

Prerequisite: CHM 365.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 553. Modern Quantum Chemistry. 3 Credit Hours.

Many-electron wave functions and operators. Hartee-Fock approximation, density functional theory, configuration interaction, and many-body perturbation theory.

Prerequisite: CHM 365.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 565. Principles of Spectroscopic Techniques. 3 Credit Hours.

Spectroscopic techniques: nuclear magnetic resonance (NMR), mass spectra (MS), ultraviolet (UV), visible infrared (IR), fluorescence, and other specialized spectroscopic techniques.

Prerequisite: CHM 365.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 575. Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy. 3 Credit Hours.

Theory of nuclear magnetic resonance; Bloch equations; relaxation theory; time- domain versus frequency domain spectroscopies, and principles of multidimensional spectroscopy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 591. Topics in Chemistry. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, "Topics in Chemistry".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 592. Topics in Chemistry. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, "Topics in Chemistry."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 593. Readings in Chemistry. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 594. Readings in Chemistry. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 620. Physical Organic Chemistry. 3 Credit Hours.

Aspects of chemical bonding, acids and bases, stereochemistry, aromaticity, pericyclic reactions, linear free energy relationships, transition state theory, excited state chemistry, reactive intermediaries, mechanisms of uni- and bi-molecular reactions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 622. Synthetic Organic Chemistry. 3 Credit Hours.

Functional group transformations, Synthron approach. Retro-synthetic analyses, multistep syntheses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 624. Supramolecular Chemistry. 3 Credit Hours.

Complexation, recognition, and catalysis as applied to bio-organic chemistry. Steric, polar, and lipophilic interactions as well as proximity effects in the design of synthetic enzyme mimics, cationic transport species, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 625. Structural Organic Chemistry. 3 Credit Hours.

Use of electronic and vibrational spectroscopy in structure elucidation. Structure elucidation by modern NMR; EI, CI, MALDI and Electrospray mass spectrometry. Assignment of absolute configuration of chiral centers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 626. Structural Organic Chemistry. 3 Credit Hours.

Use of electronic and vibrational spectroscopy in structure elucidation. Structure elucidation by modern NMR; EI, CI, MALDI and Electrospray mass spectrometry. Assignment of absolute configuration of chiral centers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHM 630. Fluorescence Spectroscopy and Microscopy. 3 Credit Hours.

The photophysical properties of organic compounds that illustrates the fundamental principles of fluorescence. It also explains how fluorescence spectra and images can be recorded and how these powerful analytical techniques can be used to address significant problems in biology and medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 635. Molecular and Supramolecular Photochemistry. 3 Credit Hours.

Generation of a model that will help rationalize/predict excited state reactions. A brief background on physical aspects of photochemistry will be given. Exploring and understanding of reactions that are triggered by light. Importance of light in life will be highlighted.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 641. Principles of Bonding and Reactivity in Inorganic Chemistry. 3 Credit Hours.

Bonding principles necessary to understand the structure, stability, and fundamental reactivity of main group and transition metal inorganic compounds.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHM 653. Modern Quantum Chemistry. 3 Credit Hours.

Many-electron wave functions and operators. Hartee-Fock approximation, density functional theory, configuration interaction, and many-body perturbation theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 655. Electrochemistry. 3 Credit Hours.

Modern electrochemical techniques including voltammetry, chronocoulometry, rotating disk electrode, and ultramicroelectrodes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 665. Principles of Spectroscopic Techniques. 3 Credit Hours.

Spectroscopic techniques: nuclear magnetic resonance (NMR), mass spectra (MS), ultraviolet (UV), visible infrared (IR), fluorescence, and other specialized spectroscopic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 675. Principles of Nuclear Magnetic Resonance and Multidimensional Spectroscopy. 3 Credit Hours.

Theory of nuclear magnetic resonance; Bloch equations; relaxation theory; time- domain versus frequency domain spectroscopies, and principles of multidimensional spectroscopy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 691. Topics in Chemistry. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, "Topics in Chemistry".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 692. Topics in Chemistry. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule following the title, "Topics in Chemistry."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 693. Readings in Chemistry. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 694. Readings in Chemistry. 1-3 Credit Hours.

Supervised readings on special topics. Offered by special arrangement. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 779. Chemistry Seminar. 1 Credit Hour.

Participation in the departmental seminar program. Required each semester the student is in residence and not enrolled in CHM 680 (excluding summer sessions).

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 780. Chemistry Seminar. 1 Credit Hour.

Participation in the chemistry department seminar program, including an oral presentation of special topics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 785. Introduction to Research. 2 Credit Hours.

Research principles and practices, independent study in selected subject areas, and/or oral presentation of a proposed research topic. Open only to graduate students working toward the M.S. or Ph.D. in chemistry.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 788. Problems in Research Planning. 2 Credit Hours.

Formulation of a research program for investigating an original problem not related to the candidate's major laboratory research. A brief written summary and an oral defense of the plan will be required.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHM 805. Research Practices. 1-3 Credit Hours.

Research experiences in special techniques. For students electing the non-thesis M.S. option. May be repeated for a total not to exceed six credits.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CHM 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CHM 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in CHM 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHM 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CHM 840. Post-candidacy Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CHM 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CHM 851. Research in Residence. 0 Credit Hours.

Components: THI.

Grading: GRD.

Chinese (CHI)

CHI 101. Elementary Chinese (Mandarin). 3 Credit Hours.

Conversation, grammar, reading, elementary composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHI 102. Elementary Chinese (Mandarin). 3 Credit Hours.

Continuation of CHI 101, conversation, grammar, reading, elementary composition.

Prerequisites: CHI 101 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHI 201. Intermediate Chinese I. 3 Credit Hours.

Expanding further on language skills (grammar, composition and reading) while introducing students to aspects of Chinese customs, history and culture. Closed to native speakers.

Prerequisite: CHI 102 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CHI 202. Intermediate Chinese II. 3 Credit Hours.

Continuation of CHI 201. Further development of reading, writing, speaking and listening skills in Mandarin Chinese. CLOSED TO NATIVE SPEAKERS.

Prerequisite: CHI 201 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CHI 203. Advanced Chinese. 3 Credit Hours.

This course is designed to develop students' ability to use Chinese in a more advanced way. The course emphasizes accurate comprehension, expansion of vocabulary, and development of the ability to use increasing complex grammatical and sentence structures. In addition to improving their language abilities, students will also be exposed to different areas of Chinese culture.

Prerequisite: CHI 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CHI 204. Advanced Chinese II. 3 Credit Hours.

The course aims to develop students' ability to use Chinese in a more advanced way by continuing Chinese 203's emphasis on accurate comprehension, expansion of vocabulary, and development of the ability to use increasing complex grammatical and sentence structures. In addition to improving their language abilities, students will also be exposed to different areas of Chinese culture.

Prerequisite: CHI 203 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CHI 310. The Esoteric and the Mundane in the Chinese Literary Tradition. 3 Credit Hours.

Introduction to a variety of important genres and themes in the Chinese literary tradition through the close reading of texts spanning three millennia. Particular attention is paid to notions of humanity, divinity, and monstrosity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CHI 330. The Powerful Women of Medieval China in History, Fiction, and Modern Media. 3 Credit Hours.

An interdisciplinary examination of the portrayals of ruling-class women who lived during the medieval period in China and who have become a part of the Chinese literary-historical tradition. Works to be examined include short stories, novels, plays, films, and television.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

Cinema and Interactive Media (CIM)

CIM 103. Survey of Motion Pictures. 3 Credit Hours.

Examination of the aesthetic, social, and economic aspects of the motion picture industry. Concentration on the present state of the medium with particular emphasis on future trends.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 111. Web Lab. 3 Credit Hours.

This course is a practical introduction to web design and marketing. Students will learn how to produce and market dynamic websites using modern content management systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 113. Documentary Approaches. 3 Credit Hours.

Students will explore the varied forms and narrative approaches used in contemporary documentary filmmaking to understand the position of the filmmaker as a storyteller.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 126. Introduction to Screenwriting. 3 Credit Hours.

Creation and formatting of narrative material for motion pictures.

Emphasis on writing the short film.

Prerequisites: CIM 103 or JMM 102, ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 151. Introduction to Digital Production. 3 Credit Hours.

Lectures and laboratory work to acquaint the student with the basic techniques of motion pictures. Digital equipment is used to develop an understanding of the motion picture as a creative tool of communication and expression.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 204. History of International Cinema I. 3 Credit Hours.

Examination of the origin and history of the motion picture. Narrative and non-fiction genres in the American and world cinemas from their inception through 1940 are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

CIM 205. History of International Cinema II. 3 Credit Hours.

Examination of the history of the motion picture from 1941 to the present. Narrative and non-fiction genres in the American and world cinemas are included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

CIM 211. Interaction Design. 3 Credit Hours.

In this class students will familiarize themselves with the disciplines of user experience (UX) and interaction design (IxD) by understanding and learning how to apply creative and abstract thinking skills to facilitate communication through the design of interfaces that connect information, products, services, and space. Students will be taught to prototype rich interactive experiences and to assess ease of use, utility, perception of the value of the system, and efficiency in performing tasks.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 251. Motion Picture Workshop: Storytelling. 3 Credit Hours.

The practice of the grammar of cinematic language including shot selection, composition, pacing, story clarity, performance, pre-visualization and pre-planning for the creation of short narrative projects. Through critiques, students encounter and interact with an audience of their peers. This course requires students to master contemporary technology in use in the profession.

Prerequisites: CIM 103, CIM 151.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 255. Essentials Of Documentary Film. 3 Credit Hours.

This course is designed to teach students how to tell compelling cinematic documentary stories with a clear and effective point-of-view. We will compare and analyze various styles of documentary storytelling and use these methods in creating effective documentaries films. An emphasis will be put on the various styles of documentary filmmaking.

Prerequisites: CIM 151 or JMM 245 or JMM 209.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 310. Introduction To Game Design. 3 Credit Hours.

This is an introductory course about game design, theory, and development, and how games align themselves as a lens of study for all interactive media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 326. Intermediate Screenwriting. 3 Credit Hours.

Study of, and practice in, writing feature length, narrative motion pictures. Development of story line in treatment form, attention to cinematic structure, the development of character, and its presentation on screen is discussed.

Prerequisite: CIM 126.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 329. Writing for Series Television. 3 Credit Hours.

An introduction to the structures and techniques of writing situation-comedy and dramatic series television.

Prerequisite: CIM 126.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 351. Introduction to Film Production. 3 Credit Hours.

Introduction to key set crew positions through lectures, exercises and the production of a collective narrative assignment. Students are required to master contemporary and traditional technology in use in the profession including 16mm cameras and sync sound recording.

Prerequisites: CIM 204, CIM 205, CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 353. Post Production Sound Editing and Design. 3 Credit Hours.

Post production sound editing and design is a seminar/workshop that provides a practical and theoretical introduction to sound and its function in the narrative moving image process. The course explores the process from production recording through the final mix.

Prerequisite: CIM 351.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 356. Cinematography. 3 Credit Hours.

An overview of the cinematographer's process from script to screen. Working with camera, lighting, and grip equipment on exercises and projects is discussed.

Prerequisite: CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 357. Editing. 3 Credit Hours.

Introduction to the theory and practice of motion picture editing. Short editing assignments are designed to develop students' understanding of aesthetic, and technical considerations in the art of dramatic editing.

Prerequisite: CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 364. Business of Motion Pictures. 3 Credit Hours.

An examination of the industry's three part structure-production, distribution and exhibition. Consideration given to intellectual property, motion picture "creative accounting" and changes affected by new technologies. Surveys both studio films and independents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 386. Online Screenwriting. 3 Credit Hours.

The student will prepare and complete the first act of a feature-length screenplay or the student will prepare and commence the rewrite of an existing screenplay.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 394. Special Topics in Motion Pictures. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Prerequisites: CIM 204, CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 395. Directing Techniques I. 3 Credit Hours.

To teach the craft of directing through exercises, screen work, and readings.

Prerequisite: CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 401. Nonfiction Film and Digital Media. 3 Credit Hours.

An examination of American and world nonfiction films and media.

Prerequisites: CIM 204 or CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 403. Film Directors. 3 Credit Hours.

The study of the film authorship through a focus on specific directors.

Prerequisites: CIM 204 or CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 404. Aspects of Contemporary Cinema. 3 Credit Hours.

Study of contemporary movements in American and world cinemas.

Prerequisites: CIM 204 or CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 406. Genres. 3 Credit Hours.

Study of selected genres from a variety of critical perspectives. Issues pertaining to methodologies of defining and categorizing film are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 407. National Cinemas. 3 Credit Hours.

Selected films from Europe, Asia, Africa and Latin America will be studied in relation to their diverse social, political and cultural contexts.

Prerequisites: CIM 204 or CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 408. Women, Media, and Popular Culture. 3 Credit Hours.

Examination of film, media, and gender representation from the perspective of feminist theory and cultural studies. Students explore the many ways that women have been portrayed, and how they have portrayed themselves, within popular culture.

Prerequisites: CIM 204 or CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 409. Legal Aspects of Motion Pictures. 3 Credit Hours.

The law, contracts, and negotiating techniques of the business affairs aspects of the production of motion pictures.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 413. Mobile Application Development. 3 Credit Hours.

This course will provide students the ability to conceptualize, design, and develop a mobile application of their choosing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 426. Advanced Screenwriting. 3 Credit Hours.

A continuation of CIM 326. Study of, and practice in, writing feature length, narrative motion picture scripts. Attention is given to cinematic structure, the development of character, and its presentation on screen. Emphasis is placed on bringing the script to a completed draft.

Prerequisite: CIM 326.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 429. Advanced Television Writing. 3 Credit Hours.

This course explores how to create, format, and write the original Television Pilot and treatment. The class will cover TV pilot format, length, structure as well as techniques in creating TV characters and situations for both comedy and dramatic episodic TV.

Prerequisite: CIM 329.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 451. Motion Picture Practicum. 3 Credit Hours.

The theory and practice of motion pictures production from script to screen. Lecture and laboratory. Students will develop and produce a narrative, a documentary, or an experimental work of their choice.

Prerequisite: CIM 351.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 456. Advanced Cinematography. 3 Credit Hours.

Advanced work with camera, lighting, and grip equipment on exercises and projects.

Prerequisite: CIM 356. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 457. Advanced Editing. 3 Credit Hours.

Advanced concepts in aesthetics and theories of picture and sound editing, mixing, color correction, and finishing techniques.

Prerequisite: CIM 357. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 458. Documentary Production. 3 Credit Hours.

Students produce two short digital documentaries and explore various approaches to the documentary film.

Prerequisite: CIM 151.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 462. Motion Picture Marketing and Distribution. 3 Credit Hours.

Economic and marketing considerations in the production and distribution of motion pictures.

Prerequisite: CIM 364.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 465. Producing the Motion Picture. 3 Credit Hours.

A practical examination of the development, production and marketing responsibilities in producing theatrical feature films. Focus is placed on the processes involved including the ethical considerations that confront the producer.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 471. Social Impact Games. 3 Credit Hours.

Students will explore the use of games as a communication tool for social good and will create their own game-based interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 489. Projects in Screenwriting. 3 Credit Hours.

Individual study. This course and CIM 499 cannot count for more than three credits towards a Communication major or minor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 494. Motion Picture Internship. 1-3 Credit Hours.

Prescribed study and supervised work with practitioners in motion pictures.

Requisite: Sophomore Status, cumulative GPA of 2.5, and Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 499. Projects and Directed Research. 1-3 Credit Hours.

Individual study. No more than three credits may be counted toward a Communication major or minor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 501. Principles of Aesthetics and Analysis. 3 Credit Hours.

Provides graduate students with introductory immersion in aesthetics, analysis, and history of film and media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 510. Foundation of Screenwriting. 3 Credit Hours.

This course explores the fundamental skill set necessary to manipulate the basic elements of cinematic writing. The course will investigate common dramatic elements found in all screenplays as well as teach format principles of feature, TV and emerging media scripts.

Prerequisite: CIM 126.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 511. Writing the Short Film. 3 Credit Hours.

A course in the fundamentals of screenwriting focused on the creation of a 15-30 page screenplay suitable for an MFA project film. Study of and practice in writing short narrative motion picture scripts. Focus is placed on concept, content, cinematic story structure and presentation of character.

Prerequisite: CIM 510.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 513. UX Research Methods. 3 Credit Hours.

This course provides a comprehensive overview of User Experience research methods and how they are incorporated into the product development lifecycle. Students will learn about user-centered design and will conduct a wide range of research methods including ethnography, questionnaires, online studies, and usability testing. There will be considerable focus on practicing research skills and reporting findings from these activities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 518. Seminar In Documentary Film History: Cinema-Verite. 3 Credit Hours.

The primary focus of this course will be on the half-century old school or tradition of documentary filmmaking associated with the terms "Cinéma-vérité" and "direct cinema". Through close analysis of selected classic and contemporary documentaries, the class will explore their historical significance, their aspirations and achievements as films, and their ways of addressing the aesthetic, epistemological, political and moral issues that inevitably arise when filmmakers take their sync-sound camera into the world and undertake to film life as it is really lived.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 519. Seminar In Documentary Production. 3 Credit Hours.

The Seminar in Documentary Production is the capstone production class within the documentary track of the Cinema and Interactive Media Department. Students are entered into the course based on a proposal that outlines their documentary project.

Prerequisites: CIM 255, CIM 458 or JMM 541.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 529. Nonfiction Film. 3 Credit Hours.

An examination of American and world nonfiction films.

Prerequisites: CIM 204 or CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 540. Intro to Creative Coding. 3 Credit Hours.

This course will introduce students to the building blocks of creative coding within the visual and media environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 541. Technology Trends. 3 Credit Hours.

Trends is a foundation course intended to promote a dialogue about the current state of business, art, health, culture, and innovation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 542. Physical Computing And Prototyping. 3 Credit Hours.

This seminar will examine the differences and opportunities present, between a series of physical computing techniques and rapid prototyping.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 543. Intro To Systems: Designing Interactivity. 3 Credit Hours.

Students will explore the process of creating a dialogue between individuals or groups of people and a product, service, or system.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 544. Media Activism. 3 Credit Hours.

In this course, students will examine the role of media in shaping social reform to document social issues such as poverty, human rights, social inequities, the environment, and powerless groups. We will review the philosophy and history of media as activism ranging from photography, documentary, cinema, the Internet, social media and newer forms of media. Emphasis is placed on developing a critical understanding of current media advocacy practices with a conscious goal; awareness, change minds, to affect policy, and action. At the end of the semester, students will have a fully developed project concept.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 545. Managing Interactive Media Projects. 3 Credit Hours.

This course takes a comprehensive look at managing interactive media projects from inception to implementation and maintenance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 550. Motion Graphics And Compositing. 3 Credit Hours.

Methods, techniques and aesthetics of 2D computer animation and compositing including animated text, title design and green screen.

Prerequisites: CIM 204, CIM 205, CIM 251.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 551. Advanced Motion Graphics and Compositing. 3 Credit Hours.

Extend the 2D skills of students who have taken CIM 550 to 3D motion graphics and animation. Emphasis on title design and animation.

Prerequisite: CIM 550. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 552. Motion Picture Marketing and Distribution. 3 Credit Hours.

Economic and marketing considerations in the production and distribution of motion pictures.

Prerequisites: CIM 204 or CIM 205.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 553. Advanced Motion Picture Marketing. 3 Credit Hours.

Advanced marketing considerations in the distribution of motion pictures.

Prerequisite: CIM 552. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 560. Directing the Actor. 3 Credit Hours.

The purpose of this course is to teach and practice the craft of directing, including text analysis, characterization, visualization, design, intention and rehearsal: to train students to articulate their ideas to actors and film crew.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 566. Character and Dialogue. 3 Credit Hours.

An examination of the craft and techniques of creating original characters and dialogue.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 570. Producing the Motion Picture. 3 Credit Hours.

This course examines the creative and financial role performed by the Producer in the production of Hollywood and Independent films. Focus is on the Producer from development through marketing.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 590. Building Interfaces. 3 Credit Hours.

This course covers the production concepts and techniques to design and develop dynamic graphical user interfaces (GUIs) for web applications across multiple devices. Students will develop competency with several key technologies used in web development and providing them with the skills and principles needed to make effective use of these technologies.

Prerequisite: CIM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 591. Advanced Systems: Designing Playful Experiences. 3 Credit Hours.

Building on their systems foundation from the Intro to Systems course, students will continue to play and analyze the games along with designing games in order to build a more extensive vocabulary and toolkit to both understand and design interactive systems. Students will be exposed to a range of popular game prototyping technologies (for example: Twine, GameSalad, ARIS) and will create several mini projects as well as one final game project created using the platform of their choice. Students will explore a different core game mechanic with each prototyping tool thus broadening their ability to create targeted meaning within a playful experience.

Prerequisites: CIM 211 or CIM 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 593. Dynamic Data: Building Database Driven Websites. 3 Credit Hours.

This course teaches data analysis through the development of interactive web applications. The course focuses on communicating through computer programming. Students will learn to build and use databases as a primary source and explore data as content. For this course students will be required to build custom software solutions through web programming languages that utilize third party APIs to interpret, analyze and manipulate data.

Prerequisites: JMM 341 or CIM 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 594. Special Topics in Motion Picture. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 595. Directing Techniques. 3 Credit Hours.

To build a more advanced set of professional skills and practices through scene work, shooting, and collaboration.

Prerequisite: CIM 251. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 599. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. May be repeated for a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 601. Principles of Aesthetics and Analysis. 3 Credit Hours.

Provides graduate students with introductory immersion in aesthetics, analysis, and history of film and media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 603. Film Directors. 3 Credit Hours.

This course will address the conditions of authorship in film through an intensive study of the films of two or more directors, whose careers will serve as case studies. These directors will be historically important and their work will represent significant achievements in the art of film.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 604. Aspects of Contemporary Cinema. 3 Credit Hours.

The study of the ways in which film communicates. Intensive analysis and criticism of cinematic techniques exemplified through particular films.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 606. Genres. 3 Credit Hours.

A study of selected movie genres from a variety of critical perspectives. Issues pertaining to selfhood, sexual difference, and other concerns of present-day film criticism will be examined.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 608. National Cinemas. 3 Credit Hours.

Selected films from Europe, Asia, Africa and Latin America will be studied in relation to their diverse social/political and cultural contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 609. Legal Aspects of Motion Pictures. 3 Credit Hours.

The law, contracts, and negotiating techniques of the business affairs aspects of the production of motion pictures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 610. Foundation of Screenwriting. 3 Credit Hours.

This course explores the fundamental skill set necessary to manipulate the basic elements of cinematic writing. The course will investigate common dramatic elements found in all screenplays as well as teach format principles of feature, TV and emerging media scripts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 611. Writing the Short Film. 3 Credit Hours.

A course in the fundamentals of screenwriting focused on the creation of a 15-30 page screenplay suitable for an MFA project film. Study of and practice in writing short narrative motion picture scripts. Focus is placed on concept, content, cinematic story structure and presentation of character.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 612. Writing for Episodic Television. 3 Credit Hours.

The course will explore the art and craft required to write a "spec" Television episode. The course will explore how TV writing differs from feature writing and how the TV writer/producer business model works. By the end of the course the student will have finished an hour-long "spec" script for an existing TV show or a two-part sitcom teleplay.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 613. Mobile Application Development. 3 Credit Hours.

This course will provide students the ability to conceptualize, design, and develop a mobile application of their choosing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 618. Seminar In Documentary Film History: Cinema-Verite. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 619. Seminar In Documentary Production. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 620. Cinematography. 3 Credit Hours.

This hands-on course provides students with the aesthetic and technical aspects of professional concepts and techniques in film and digital media cinematography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 621. Narrative Production. 3 Credit Hours.

An introduction to film and digital production techniques on narrative projects. Emphasis on collaboration, group process and social purpose. Students will be expected to produce a short film abroad as part of this course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 622. Ux Research. 3 Credit Hours.

The course provides a comprehensive overview of User Experience research methods and how they are incorporated into the product development lifecycle. Students will learn about user-centered design and will conduct a wide range of research methods including ethnography, questionnaires, online studies, and usability testing. There will be considerable focus on practicing research skills and reporting findings from these activities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 629. Nonfiction Film. 3 Credit Hours.

An examination of American and world nonfiction films.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 630. Introduction to Editing. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 635. Introduction to Design. 3 Credit Hours.

This course is an exploration of the fundamental elements of graphic form, movement, and interaction as expressive and meaningful agents in digital media. Students will work through a series of structured studio exercises designed to iteratively move them from simple to complex visual vocabularies, methods of analysis, workflows, and problem solving using mainstream as well as lesser known software tools. No prior design experience is required but assignments are designed to benefit students of all levels; graduate students will have more flexibility for adapting work to their thesis subject.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 636. Collaborative Innovation Laboratory. 3 Credit Hours.

In this collaboration studio course, students will form small teams and undertake real-world projects with a partnering organization. Students will be provided a design brief outlining project objectives identified by the partnering organization. Over the course of the semester, students will research, brainstorm, design, and test innovative interactive solutions for this core objective, including proposing ideas and presenting prototypes to the partnering organization. Projects that satisfy the partner's needs may result in on-going work for full implementation and exposure for students' work.

Components: LEC.

Grading: GRD.

CIM 640. Intro to Creative Coding. 3 Credit Hours.

This course will introduce students to the building blocks of creative coding within the visual and media environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 641. Technology Trends. 3 Credit Hours.

Trends is a foundation course intended to promote a dialogue about the current state of business, art, health, culture, and innovation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 642. Physical Computing And Prototyping. 3 Credit Hours.

This seminar will examine the differences and opportunities present, between a series of physical computing techniques and rapid prototyping.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 643. Intro To Systems: Designing Interactivity. 3 Credit Hours.

Students will explore the process of creating a dialogue between individuals or groups of people and a product, service, or system.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 644. Media Activism. 3 Credit Hours.

In this course, students will examine the role of media in shaping social reform to document social issues such as poverty, human rights, social inequities, the environment, and powerless groups. We will review the philosophy and history of media as activism ranging from photography, documentary, cinema, the Internet, social media and newer forms of media. Emphasis is placed on developing a critical understanding of current media advocacy practices with a conscious goal; awareness, change minds, to affect policy, and action. At the end of the semester, students will have a fully developed project concept.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 645. Managing Interactive Media Projects. 3 Credit Hours.

This course takes a comprehensive look at managing interactive media projects from inception to implementation and maintenance.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 651. Motion Graphics And Compositing. 3 Credit Hours.

Methods, techniques and aesthetics of 2D computer animation and compositing including animated text, title design and green screen.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 654. Advanced Motion Graphics and Compositing. 3 Credit Hours.

Extend the 2D skills of students who have taken CMP 550 to 3D motion graphics and animation. Emphasis on title design and animation.

Prerequisite: CIM 651.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 658. Documentary Production. 3 Credit Hours.

An introduction to the documentary genre including the production of a documentary from start to finish.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 660. Directing the Actor. 3 Credit Hours.

The purpose of this course is to teach and practice the craft of directing, including text analysis, characterization, visualization, design, intention and rehearsal: to train students to articulate their ideas to actors and film crew.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 666. Character and Dialogue. 3 Credit Hours.

An examination of the craft and techniques of creating original characters and dialogue.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 670. Producing the Motion Picture. 3 Credit Hours.

This course examines the creative and financial role performed by the Producer in the production of Hollywood and Independent films. Focus is on the Producer from development through marketing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 686. Online Screenwriting. 3 Credit Hours.

The student will prepare and complete the first act of a feature-length screenplay or the student will prepare and commence the rewrite of an existing screenplay.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 690. Building Interfaces. 3 Credit Hours.

This course covers the production concepts and techniques to design and develop dynamic graphical user interfaces (GUIs) for web applications across multiple devices. Students will develop competency with several key technologies used in web development and providing them with the skills and principles needed to make effective use of these technologies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 691. Capstone. 3 Credit Hours.

The capstone seminar is designed to demonstrate a student's accumulated training in Interactive Media in a single original project of their choice, subject to the instructor's approval and under the additional supervision of a faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 692. Advanced Systems: Designing Playful Experiences. 3 Credit Hours.

Building on their systems foundation from the Intro to Systems course, students will continue to play and analyze the games along with designing games in order to build a more extensive vocabulary and toolkit to both understand and design interactive systems. Students will be exposed to a range of popular game prototyping technologies (for example: Twine, GameSalad, ARIS) and will create several mini projects as well as one final game project created using the platform of their choice. Students will explore a different core game mechanic with each prototyping tool thus broadening their ability to create targeted meaning within a playful experience.

Prerequisite: CIM 643.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 693. Dynamic Data: Building Database Driven Websites. 3 Credit Hours.

This course teaches data analysis through the development of interactive web applications. The course focuses on communicating through computer programming. Students will learn to build and use databases as a primary source and explore data as content. For this course students will be required to build custom software solutions through web programming languages that utilize third party APIs to interpret, analyze and manipulate data.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 694. Motion Picture Marketing and Distribution. 3 Credit Hours.

Economic and marketing considerations in the production and distribution of motion pictures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 695. Advanced Motion Picture Marketing. 3 Credit Hours.

Advanced marketing considerations in the distribution of motion pictures.

Prerequisite: CIM 694.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 696. Directing Techniques. 3 Credit Hours.

To build a more advanced set of professional skills and practices through scene work, shooting, and collaboration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 697. Topics In Film Analysis. 3 Credit Hours.

Content varies by semester. Topics such as Film Directors, National Cinemas, Silent Film, Contemporary Cinema. Course may be repeated for credit if content varies.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 705. Production Management. 3 Credit Hours.

A comprehensive examination of the skills and techniques employed by line producers and production managers in the preproduction, production, and post-production of motion pictures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 707. Pedagogy And Film. 3 Credit Hours.

This course covers a range of traditions in pedagogy, including history, theory, and practical applications. Intended for those who are currently teaching—or who intend to teach—at the college level, the course provides grounding in foundational approaches as well as a familiarity with recent research advancements in pedagogy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 710. Writing the Feature-Length Screenplay. 3 Credit Hours.

Study of and practice in writing feature-length, narrative motion picture scripts. Focus is placed on cinematic structure and presentation of character. Classes will generally be conducted as follows: a discussion of screenplay craft, an in-depth analysis of various films from the writer's POV, and a critique of the various stages of your fellow student screenplays as they evolve throughout the semester.

Prerequisite: CIM 510.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 721. Game Development Studio. 3 Credit Hours.

Components: LEC.

Grading: CNC.

Typically Offered: Fall.

CIM 727. Scriptwriting. 3 Credit Hours.

Study of and practice in writing feature-length, narrative motion picture scripts. Focus is placed on cinematic structure and presentation of character.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CIM 730. Advanced Editing. 3 Credit Hours.

An examination of the art and techniques of post-production designed for students completing advanced motion picture projects. Lectures, group discussions and screenings. Emphasis on rhythm, dramatic moments, character arcs, symbolic vs. thematic editing, elements of sound editing, sound design, and professional mastering standards. This class is designed to develop editorial skills that will prepare students for professional careers in editing. In-depth examination of effects and sound palettes of the Avid Media Composer, as well as a discussion of how to integrate visual effects from external applications. Finishing and mastering techniques for a variety of mediums as well as a reel building will be covered.

Prerequisite: CIM 630.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 738. Writing the Short Film. 3 Credit Hours.

A course in the fundamentals of screenwriting focused on the creation of a 15-30 page screenplay suitable for an MFA project film.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 740. Sound Design. 3 Credit Hours.

Sound Design through seminar and workshop provides a practical and theoretical introduction to sound and its function in the narrative moving image process. The course utilizes professional environments to instruct in the basics of sound editing, studio recording and mixing as it is practiced in the film industry. It will also present the aesthetic use of sound and its integral part in the moving image narrative process.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 752. Advanced Cinematography. 3 Credit Hours.

Advanced technical and photographic principles begun in CMP 651.

Preparation for the filming of the MFA project film.

Prerequisite: CIM 620.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 756. Motion Picture Post-Production Procedures. 3 Credit Hours.

An examination of the esthetics of editing, recording, re-recording, and laboratory procedures following completion of principal photography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CIM 761. Directing The Camera. 3 Credit Hours.

An introduction to directing actors in low budget, independent films utilizing traditional, modern and evolving directorial techniques used by independent and traditional film makers: analyzing and orchestrating scripted material, developing a directorial concept, creating indelible characterizations, building a visual image, auditioning and casting the talent, blocking and directing the untrained amateur or highly skilled professional actor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CIM 794. Motion Picture Internship. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CIM 795. Special Topics in Motion Pictures. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 799. Advanced Projects and Directed Research. 1-6 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CIM 815. MFA Thesis. 1-6 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CIM 850. Production Workshop II - Individual Projects. 3 Credit Hours.

A concentration on four distinctive film directors and their work.

Utilization of techniques from film theory, film criticism, and film history to arrive at a definition of their unique cinematic styles.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

Civil and Architectural Engineering (CAE)

CAE 100. Introduction to Civil, Architectural, and Environmental Engineering. 3 Credit Hours.

This introductory course is designed to expose high school students to a variety of specific disciplines within the civil engineering arena to assist them in making informed decisions about possible college majors. The program is designed for the exemplary high school student interested in applied mathematics and science. All students enrolled in this course will gain experience in problem solving, engineering mechanics, computer simulation, and laboratory activity. The course content changes throughout the 3-week duration and includes topics on civil engineering, environmental engineering, and architectural engineering. The students will be provided with an understanding and some hands-on experience on topics relative to the disciplines of civil, architectural, and environmental engineering. Via an introduction to several case histories, the students will be able to understand the challenges associated with the design and construction and importance of the scientific methods in engineering. The laboratory and field trip experiences will deal with bridge building, material testing, water purification, and building systems.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

CAE 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools for problem solving. Computer techniques for data acquisition, analysis and presentation, software design, and computer aided drafting are covered. Development of design skills is achieved through several design and building competitions. Introduction to professional ethics and intellectual property rights, MATLAB, AutoCAD, and programming in C++ is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 112. Introduction to Engineering II. 2 Credit Hours.

Hands-on applications of various surveying instruments for leveling, angles and distance measurements, and other engineering applications. Hands on application of Geographic Information Systems, including ArcView and extensions.

Prerequisite: CAE 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 210. Mechanics of Solids I. 3 Credit Hours.

Vectors, force systems, equilibrium, analysis of frames, machines, trusses for internal forces, friction, centroids, moment of inertia, and shear and bending moment diagrams are discussed.

Prerequisites: PHY 205, MTH 151 or MTH 161 or MTH 171, and Non Engineering majors: PHY 101, PHY 103, PHY 160, PHY 201 and MTH 130, MTH 151, MTH 161, MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 211. Mechanics of Solids II. 3 Credit Hours.

Flexural, shear, principal, and torsional stresses are discussed as well as displacements and instability. An introduction to statically indeterminate analysis is also included.

Prerequisite: CAE 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 212. Structural Laboratory. 1 Credit Hour.

Laboratory techniques, tests for tension, compression, shear, bending, and torsion are discussed. Models, similitudes, buckling of columns, and review of current research are also included. Laboratory 3 hours.

Corequisite: CAE 211.

Prerequisite: IEN 311. Or Corequisites: IEN 311 or CAE 211. Or Requisite: Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 213. Behavior of Structural Systems I. 3 Credit Hours.

Design and testing of experimental models of qualitative and quantitative prediction of full scale structural behavior. Investigation of single and multi-story rectangular frames, curved structures and longspan buildings. Application of graphical and analytical techniques to determine basic system layout and preliminary dimensioning of key subsystems and members is also included.

Prerequisite: ARC 231.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 240. Environmental Pollution. 3 Credit Hours.

Exploration of contemporary environmental issues. Introduction to engineering approaches for protecting and cleaning up the environment, techniques for assessing the impact of human activity on the environment, strategies for pollution control and implementation of environmental mitigation measures.

Requisite: Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 310. Structural Analysis. 3 Credit Hours.

Analysis of statically determinate and indeterminate structures for internal forces, external reactions, displacements, including influence lines.

Prerequisite: CAE 211.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 313. Behavior of Structural Systems II. 3 Credit Hours.

Overall analysis of simple and multi-story frame structures. Consideration of flat plates, prestressed concrete flat slabs, slab and beam, joist and girder, waffle and space truss systems, columns, wall and rigid frame subsystems under vertical and horizontal loads. Application of structural model analysis to supplement or supplement mathematical analysis is included.

Prerequisite: CAE 213.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 320. Concrete Structures. 3 Credit Hours.

Course topics include design of concrete beams, columns, structural systems one-way slabs, and isolated footings by ultimate design methods.

Prerequisite: CAE 310. Or Corequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 321. Steel Structures. 3 Credit Hours.

Design of tension, compression, flexural members, and beam columns using load and resistance factor design are discussed. Introduction to design and detailing of welded and bolted connections is also included.

Prerequisite: CAE 310. Or Corequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 330. Fluid Mechanics. 3 Credit Hours.

Properties of fluids, gas systems, pressure distribution in static fluids, and hydrostatic forces on plane and curved surfaces are discussed. Kinematics and dynamics of fluid motion, dimensional analysis and similitude, flow in closed conduits, pumps, design of water distribution systems, and an introduction to flow in open channels is also included.

Prerequisite: CAE 210 and PHY 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 340. Introduction to Environmental Engineering. 3 Credit Hours.

Environmental mass and energy balances, introduction to environmental chemistry, air pollution, water pollution, sustainable solid waste management, risk assessment, and global atmospheric change are discussed.

Prerequisite: MTH 162, and CHM 111 or CHM 151.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 345. Environmental Laboratory And Analysis. 3 Credit Hours.

Laboratory-based course focusing on the analysis of environmental samples including water, wastewater, air, and solids. Basic analytical techniques and quality control are also included as well as an introduction to advanced analytical measurements.

Prerequisite: CHM 112 and CAE 340.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 350. Transportation Engineering I. 3 Credit Hours.

Transportation systems and organizations. Characteristics of driver, vehicles and roads. Basic probability and statistics. Traffic studies and data collection. Signal timing design, basic capacity and analysis. Basic geometric design and route surveying. Highway safety. Sustainable transportation systems.

Prerequisite: MTH 211. Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 370. Geotechnical Engineering I. 3 Credit Hours.

Soil composition and classification, excavation, grading, fill compaction, stress distribution in soils, one-dimensional flow of water through soil, laboratory, and field permeability, effective stress concept, calculation of consolidation, field settlement, bearing capacity, and design and analysis of shallow foundations are discussed.

Prerequisite: CAE 211. Corequisite: CAE 371.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 371. Geotechnical Laboratory. 1 Credit Hour.

Evaluation of physical and mechanical properties of soils, and preparation of reports. Three hours.

Prerequisite: ENG 107 and IEN 311. Corequisite: CAE 370.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 380. Electrical and Illumination Systems for Buildings. 3 Credit Hours.

Typical electrical systems for buildings including electrical circuits, protective devices and code requirements. Illumination and lighting design.

Prerequisite: PHY 207.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 381. Building Mechanical Systems I: Hvac Fundamentals. 3 Credit Hours.

Moist air properties and psychrometric chart. Indoor air quality and thermal comfort. Air conditioning systems and processes. Heat transfer in buildings. Solar radiation. Space load analysis and calculation.

Prerequisite: MAE 303 and CAE 330.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 395. Undergraduate Research. 1-3 Credit Hours.

Designed for the undergraduate student who wishes to engage in research. Not for graduate credit or for baccalaureate graduation credit. Subject and credit to be arranged with the instructor.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

CAE 399. Internship. 1 Credit Hour.

Practical application of classroom theory through employment with firms offering positions consistent with the student's field of study. Courses may be repeated.

Components: IND.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 400. Preparation for FE Exam. 1 Credit Hour.

Review of material in preparation for the Fundamentals of Engineering (FE) examination. For credit only.

Requisite: Senior Status.

Components: LEC.

Grading: CNC.

Typically Offered: Offered by Announcement Only.

CAE 402. Professional Engineering Practice. 3 Credit Hours.

Principles of engineering economics and economic evaluation of engineering projects. A discussion of professional practice issues including the philosophy and methodology of engineering, professional licensure and ethics. Discussion of the business aspects of engineering including business organization, management, contracts and legal issues. Engineering leadership in the formulation of public policy.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CAE 403. Senior Design Project I - Civil & Architectural. 1 Credit Hour.

Two-semester comprehensive design project based on the knowledge and skills acquired in earlier coursework and incorporating engineering standards and realistic constraints. The faculty coordinator and several practicing engineers/architects provide consultation, guidance, and recommendations on aspects such as problem definition, evaluation of design approaches, design development, and the preparation of construction documents.

Requisite: Senior Status and Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 404. Senior Design Project II - Civil & Architectural. 2 Credit Hours.

Second semester of a two-semester comprehensive design project based on the knowledge and skills acquired in earlier coursework and incorporating engineering standards and realistic constraints. The faculty coordinator and several practicing engineers/architects provide consultation, guidance and recommendations on aspects such as problem definition, evaluation of design approaches, design development and the preparation of construction documents. Prerequisite: CAE 403.

Prerequisite: CAE 403.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 421. Timber Structural Systems. 3 Credit Hours.

Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included. Prerequisite: CAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 430. Water-Resources Engineering I. 3 Credit Hours.

Basic principles of open channel flow. Computation of water surface profiles. Design of hydraulic structures, design of lined and unlined open channels, and design of sanitary sewer systems. Introduction to hydrology and analysis of hydrologic data. Rainfall characteristics and peak runoff models.

Prerequisite: CAE 330.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 440. Water Quality Control Systems. 3 Credit Hours.

Principles of domestic wastewater treatment, design of biological and chemical waste treatment processes, design and sizing of small scale treatment units, and design of water treatment processes are discussed. An introduction to industrial waste treatment.

Prerequisite: CAE 330 and CAE 340.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 450. Transportation Engineering II. 3 Credit Hours.

Transportation system planning and design. Advanced geometric design for highway and railway/transit. Human, vehicle, and environmental factors affecting the design, operation, and safety of transportation systems. Planning and design of both landside/airside aspects of airport facilities. Water port and multi-modal facilities design.

Prerequisite: CAE 350.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 460. Construction Management. 3 Credit Hours.

An introduction to the management of construction projects including legal considerations as well as the techniques of management science applied to construction. The course includes engineering methods of cost and time estimating, and exercises in applications of engineering economics, network planning techniques, including CPM and PERT are introduced. The management principles of time and cost control are also explored. Computer application of project management tools are included.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 470. Foundations and Earth Retaining Systems. 3 Credit Hours.

Natural soil deposits and subsoil exploration. Geotechnical analysis and design of shallow and deep foundations. Theories of lateral earth pressure. Design and analysis of earth-filled retaining systems.

Prerequisite: CAE 330, CAE 370, and CAE 371.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 480. Plumbing and Life Safety For Buildings. 3 Credit Hours.

Design of Building environmental systems including domestic cold and hot water systems, sanitary storm and special waste systems, fuel gas systems, building life safety systems and architectural acoustics.

Prerequisite: CAE 330.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 481. Building Mechanical Systems II: HVAC Systems. 3 Credit Hours.

Applies engineering principles to the design of heating, ventilating, and air conditioning (HVAC) systems for buildings. Covers air distribution systems, air handling units, coils and heat exchangers, water distribution systems, and primary systems.

Prerequisite: CAE 381.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 510. Structural Mechanics. 3 Credit Hours.

Analysis of stress and deformation of solids. Application to systems in the elastic and inelastic range. Topics include beams of special geometry and support, stress concentrations, stresses in elastic foundations, torsion, energy methods, failure theories, and brittle fracture.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 511. Advanced Structural Analysis. 3 Credit Hours.

General methods of indeterminate analysis. Elements of energy method in indeterminate analysis of axial, flexural torsional, and composite members. Basic flexural and stiffness methods and matrix development are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 520. Advanced Design of Concrete Structures. 3 Credit Hours.

Design of reinforced concrete flat plates, flat slabs, two-way slabs, long columns, and slab-column connections are discussed. Deflections, crack widths, and background of current ACI Building Code are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 521. Advanced Design of Steel Structures. 3 Credit Hours.

Steel framing systems, design of members and connections of braced and rigid frames, design for torsion, and design of steel-concrete composite members are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 522. Design of Prestressed Concrete Structures. 3 Credit Hours.

Materials and systems for prestressing, design of prestressed concrete members for flexure and shear, camber, deflection, and crack control are discussed. Design of continuous beams, compression members, two-way concrete floor systems, and the loss of prestress are also included. Prerequisite: CAE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 523. Design of Masonry Structures. 3 Credit Hours.

Masonry construction. Design of flexural and compression members, bearing walls, shear walls, diaphragms, and connections of masonry structures. Arches, vaults, and buttresses are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 525. Timber Structural Systems. 3 Credit Hours.

Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 530. Water Resources Engineering II. 3 Credit Hours.

Runoff models, routing models, water-quality models, and evapotranspiration models. Design of storm water management systems. Principles of groundwater flow. Design of wells and wellfields for public water supply. Legal regulatory, and economic components of water-resources management systems. Comprehensive design project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 531. Surface-Water Hydrology. 3 Credit Hours.

Rainwater characteristics, abstraction processes, surface-runoff, routing, and water-quality models. Design of stormwater-management systems, evapotranspiration, and regional water-management is also included as well as case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 532. Ground-Water Hydrology. 3 Credit Hours.

Governing equations of ground-water flow. Numerical modeling of ground-water flow. Analytic and semi-analytic solutions to the flow equations. Principle of superposition and method of images. Saltwater intrusion. Ground-water flow in the unsaturated zone. Engineered systems. Introduction to contaminant fate and transport in ground water.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 533. Water-Quality Control in Natural Systems. 3 Credit Hours.

Water quality regulations, fate and transport processes, water-quality control in rivers, lakes, wetlands, oceans, and ground water.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 540. Environmental Chemistry. 3 Credit Hours.

Kinetics, equilibrium, acid-base, oxidation-reduction, and reaction chemistry applied to water and wastewater engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 541. Engineering Systems For Disease Control And Bioremediation. 3 Credit Hours.

Classification of microorganisms. Microbial agents of infectious diseases and modes of disease transmission. Control of pathogens through water and waste treatment, food protection, and insect control. Microbial ecology and bioremediation systems. Laboratory exercises in microbiology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 542. Solid and Hazardous Waste Engineering. 3 Credit Hours.

Solid-waste characteristics, recycling, incineration, hazardous waste characteristics, prevention, and physical and chemical treatment are covered. Design projects are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 543. Air Pollution Control Engineering. 3 Credit Hours.

Fundamentals of air pollution and air quality; properties and control of particulates, volatile organic compounds, carbon monoxide, sulfur oxides, and nitrogen oxides; motor vehicle emissions; health and aesthetic effects (acid rain, visibility), laws and regulations, meteorology and pollutant transport in the atmosphere; indoor air pollution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 553. Transportation Systems Planning and Demand Modeling. 3 Credit Hours.

Transportation demand analysis and forecasting. Sampling techniques, collection and analysis of survey data. Disaggregate and aggregate models. Trip generation, distribution, modal split and assignment. Transportation network equilibrium. Transportation system management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 560. Sustainable Construction. 3 Credit Hours.

Drivers and foundations of sustainable construction. Principles of sustainable construction: integrated planning and design, life-cycle view of projects, resource selection and optimization, protection of the natural environment, toxics and pollutants elimination, durability and quality. Green building assessment initiatives, green building policies, and code impacts. Evaluation of the environmental impacts of construction operations. Innovative design and construction practices. Economic viability. Subtropical and coastal issue and opportunities. Case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 561. Computer Aided Architectural Engineering Design. 3 Credit Hours.

The course prepares students to utilize Building Information Modeling (BIM) and Building Performance Analysis (BPA) in a coordinated, integrated and consistent approach in the Architecture, Engineering and Construction (AEC) Industry. The basics of high-quality 5 dimensional BIM modeling are covering including 3D modeling of buildings and building components, imbedded cost-estimating and the phasing the construction process. Basics of REVIT Structure and MEP are also covered. BPAC components covered include climate analysis, daylighting, wind and airflow analysis, solar radiation analysis and whole building energy analysis. Upon completion student will receive a PBA certification from Autodesk

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 570. Advanced Foundation Engineering. 3 Credit Hours.

Rock and soil formation. Subsurface exploration. Advanced design and analysis of shallow and deep foundations. Design and analysis of cofferdams.

Prerequisite: CAE 470. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 580. Hospital and Health Care Facility Design. 3 Credit Hours.

Planning, design, and construction of modern hospital and health care facilities. Design criteria for functional services, and required structural and patient safety. Design standards. Discussion of construction related topics and problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 581. Energy-Efficient Building Design. 3 Credit Hours.

Concepts and methods of energy-efficient building design and sustainable performance. Topics cover building envelope, mechanical, power and lighting, and service water heating systems. Computer-based energy simulation methods and building energy standards are emphasized.

Prerequisite: CAE 481.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 582. Energy-Efficient Building Design. 3 Credit Hours.

Course cancelled 3/25/2002. See CAE 581.

Components: LEC.

Grading: GRD.

CAE 590. Special Topics. 1-3 Credit Hours.

Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 591. Special Topics. 1-3 Credit Hours.

Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 594. Special Topics. 1-3 Credit Hours.

Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 595. Special Problems. 1-4 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 599. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: IND.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

CAE 610. Structural Mechanics. 3 Credit Hours.

Analysis of stress and deformation of solids. Application to systems in the elastic and inelastic range. Topics include beams of special geometry and support, stress concentrations, stresses in elastic foundations, torsion, energy methods, failure theories, and brittle fracture.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 611. Advanced Structural Analysis. 3 Credit Hours.

General methods of indeterminate analysis. Elements of energy method in indeterminate analysis of axial, flexural torsional, and composite members. Basic flexural and stiffness methods and matrix development are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 620. Advanced Design of Concrete Structures. 3 Credit Hours.

Design of reinforced concrete flat plates, flat slabs, two-way slabs, long columns, and slab-column connections are discussed. Deflections, crack widths, and background of current ACI Building Code are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 621. Advanced Design of Steel Structures. 3 Credit Hours.

Steel framing systems, design of members and connections of braced and rigid frames, design for torsion, and design of steel-concrete composite members are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 622. Design of Prestressed Concrete Structures. 3 Credit Hours.

Materials and systems for prestressing, design of prestressed concrete members for flexure and shear, camber, deflection, and crack control are discussed. Design of continuous beams, compression members, two-way concrete floor systems, and the loss of prestress are also included.

Prerequisite: CAE 320.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 623. Design of Masonry Structures. 3 Credit Hours.

Masonry construction. Design of flexural and compression members, bearing walls, shear walls, diaphragms, and connections of masonry structures. Arches, vaults, and buttresses are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 625. Timber Structural Systems. 3 Credit Hours.

Engineering properties of timber, design of tension, compression, and flexural members are covered. The design and detail of connections and hardware, and the design of timber systems and heavy timber construction is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 630. Water Resources Engineering II. 3 Credit Hours.

Runoff models, routing models, water-quality models, and evapotranspiration models. Design of storm water management systems. Principles of groundwater flow. Design of wells and wellfields for public water supply. Legal regulatory, and economic components of water-resources management systems. Comprehensive design project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 631. Surface-Water Hydrology. 3 Credit Hours.

Rainwater characteristics, abstraction processes, surface-runoff, routing, and water-quality models. Design of stormwater-management systems, evapotranspiration, and regional water-management is also included as well as case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 632. Ground-Water Hydrology. 3 Credit Hours.

Governing equations of ground-water flow. Numerical modeling of ground-water flow. Analytic and semi-analytic solutions to the flow equations. Principle of superposition and method of images. Saltwater intrusion. Ground-water flow in the unsaturated zone. Engineered systems. Introduction to contaminant fate and transport in ground water.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 633. Water-Quality Control in Natural Systems. 3 Credit Hours.

Water quality regulations, fate and transport processes, water-quality control in rivers, lakes, wetlands, oceans, and ground water.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 640. Environmental Chemistry. 3 Credit Hours.

Kinetics, equilibrium, acid-base, oxidation-reduction, and reaction chemistry applied to water and wastewater engineering.

Prerequisite: CAE 603.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 641. Engineering Systems For Disease Control And Bioremediation. 3 Credit Hours.

Classification of microorganisms. Microbial agents of infectious diseases and modes of disease transmission. Control of pathogens through water and waste treatment, food protection, and insect control. Microbial ecology and bioremediation systems. Laboratory exercises in microbiology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 642. Solid and Hazardous Waste Engineering. 3 Credit Hours.

Solid-waste characteristics, recycling, incineration, hazardous waste characteristics, prevention, and physical and chemical treatment are covered. Design projects are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 643. Air Pollution Control Engineering. 3 Credit Hours.

Fundamentals of air pollution and air quality; properties and control of particulates, volatile organic compounds, carbon monoxide, sulfur oxides, and nitrogen oxides; motor vehicle emissions; health and aesthetic effects (acid rain, visibility), laws and regulations, meteorology and pollutant transport in the atmosphere; indoor air pollution.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 653. Transportation Systems Planning and Demand Modeling. 3 Credit Hours.

Transportation demand analysis and forecasting. Sampling techniques, collection and analysis of survey data. Disaggregate and aggregate models. Trip generation, distribution, modal split and assignment. Transportation network equilibrium. Transportation system management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 660. Sustainable Construction. 3 Credit Hours.

Drivers and foundations of sustainable construction. Principles of sustainable construction: integrated planning and design, life-cycle view of projects, resource selection and optimization, protection of the natural environment, toxics and pollutants elimination, durability and quality. Green building assessment initiatives, green building policies, and code impacts. Evaluation of the environmental impacts of construction operations. Innovative design and construction practices. Economic viability. Subtropical and coastal issue and opportunities. Case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 661. Computer Aided Architectural Engineering Design. 3 Credit Hours.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CAE 670. Advanced Foundation Engineering. 3 Credit Hours.

Rock and soil formation. Subsurface exploration. Advanced design and analysis of shallow and deep foundations. Design and analysis of cofferdams.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 680. Hospital and Health Care Facility Design. 3 Credit Hours.

Planning, design, and construction of modern hospital and health care facilities. Design criteria for functional services, and required structural and patient safety. Design standards. Discussion of construction related topics and problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 681. Energy-Efficient Building Design. 3 Credit Hours.

Concepts and methods of energy-efficient and environmentally-friendly building design. Topics include energy and sustainable design strategies, climate, passive and active solar design, passive cooling systems, day lighting, and computer simulation of energy flows in buildings. A quantitative understanding of energy fundamentals, examples from practice, and design exercises using computer simulation programs are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CAE 682. Energy-Efficient Building Design. 3 Credit Hours.

Course cancelled 3/25/2002. See CAE 581.

Components: LEC.

Grading: GRD.

CAE 690. Special Topics. 1-3 Credit Hours.

Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 691. Special Topics. 1-3 Credit Hours.

Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Special Topics."

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 694. Special Topics. 1-3 Credit Hours.

Sub-titles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Special Topics."

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 695. Special Problems. 1-4 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 699. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 702. Finite Element Methods. 3 Credit Hours.

Variational principles and their application to finite element methods. Applications to: plane stress and plane strain, three-dimensional stress analysis, bending of plates, and axi-symmetric shells. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 703. Master's Design Project I. 3 Credit Hours.

Comprehensive design project in civil, architectural, or environmental engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CAE 704. Master's Design Project II. 3 Credit Hours.

Continuation of CAE 703.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 705. Master's Project. 3 Credit Hours.

Project in civil, architectural, and environmental engineering. Course is required for the non-thesis master's student.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CAE 711. Theory of Elasticity. 3 Credit Hours.

Analysis of stress, strain, and displacement in elastic solids. Basic equations of elasticity. Two-dimensional solutions of beams and other problems in rectangular and polar coordinates. Torsion of bars. Energy methods. Selected topics. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 712. Structural Reliability. 3 Credit Hours.

Development of structural safety concepts, design code applications, load process analysis, and interaction of load and resistance variability. Consideration is given to structural system serviceability and safety.

Prerequisite: IEN 311 or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 714. Structural Dynamics. 3 Credit Hours.

Dynamic responses of structural elements in both the elastic and inelastic ranges. Lagrange's equations, energy models, numerical and analytical methods, vibrations of continuous systems (beams and plates) are discussed. Assigned readings.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 716. Fracture Mechanics. 3 Credit Hours.

Theory of fracture mechanics for linear elastic and nonlinear material behavior, energy release rate, stress intensity factor, and J-integral with practical application to brittle fracture and fatigue. Case studies involving civil infrastructure such as bridges, buildings, pipelines and ships. Metallurgical aspects of fatigue and fracture.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 730. Environmental Hydrology. 3 Credit Hours.

Principles of ecohydrology, agricultural hydrology, impacts of climate change, fundamentals of remote sensing and geographic information systems for hydrologic applications, statistical applications in hydrology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 731. Wastewater Treatment and System Design. 3 Credit Hours.

Characterization of domestic wastewater and flows. Sources of wastewater and health considerations. Unit processes for treatment of wastewater including screening, sedimentation, filtration, flocculation floatation, activated sludge, disinfection, sludge digestion, and sludge disposal.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 732. Water Treatment and System Design. 3 Credit Hours.

Drinking water treatment standards, philosophy of setting standards, public health aspects of organic and inorganic contaminants, basis for design of treatment facilities, design of unit processes for aeration, sedimentation, coagulation, filtration, softening, disinfection, and oxidation are covered. Theory of membrane processes, ion exchange, and water treatment plant residuals are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 735. Water and Wastewater Engineering: Treatment and Reuse. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 743. Risk Analysis. 3 Credit Hours.

Probabilistic risk assessment, Poisson processes, Bayesian methods, fault trees, contaminant transport models, and dose-response relationships for assessment of natural and technological risks.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 780. Indoor Environmental Modeling. 3 Credit Hours.

Prediction of indoor environment using computational fluid dynamics techniques. Advanced topics in thermal comfort and indoor air quality. Basic concepts of turbulence modeling and numerical methods for natural, forced, and mixed convection and jet flows indoors. Simulation of air velocity, temperature, and contaminant concentrations in buildings. Comparison of the simulated results with measured data.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 790. Special Problems. 1-3 Credit Hours.

Research and/or design projects. Individual investigation of current problems. Offered by special arrangement only.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 795. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 796. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 797. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CAE 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her Master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 820. Research in Residence. 1-6 Credit Hours.

Used to establish research in residence for the thesis for the Master's degree after the student has enrolled for the permissible cumulative total in CAE 710 (usually six credits). Credit not granted. May be regarded as full-time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full-time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of CAE 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in CAE 740 may be taken in a regular semester, nor more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

CAE 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Classics (CLA)

CLA 220. Greek and Roman Mythology. 3 Credit Hours.

The major political, cultural, and social themes that appear in Greek and Roman mythology, examining literary and material evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 221. Sports & Society In The Ancient World. 3 Credit Hours.

The role of sports in ancient Greek and Roman culture. Topics covered include: Mycenaean bull-Jumping; athletic events in Homer; the Olympic games; chariot racing and gladiatorial combat at Rome; and the connection between public athletics and religion. Students learn to interpret literary and iconographic evidence, and study architectural remains such as the stadium at Olympia, the Circus Maximus, and the Colosseum.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 222. Sexuality and Gender in the Ancient World. 3 Credit Hours.

Basic questions of sexuality and gender in ancient Greece and Rome: What does it mean to be male or female? What can we discover about ourselves from the way(s) we have sex? How are all these things related to life, love, power?

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 224. The Heroic Journey. 3 Credit Hours.

The figure of the Hero On a Journey has long captivated the minds of story-tellers and audiences. This motif, known as "The Monomyth," speaks the profoundest hopes and fears of humankind. This course will examine the Monomyth as it occurs particularly in the classical tradition from Gilgamesh to Tolkien.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CLA 225. Magic And The Occult In Antiquity. 3 Credit Hours.

A broad sweep of evidence for magic and the occult in the ancient Mediterranean world. The focus is Graeco-Roman Egypt, renowned in antiquity for occult arts such as divination, daemonology, astrology, and alchemy. The primary sources analyzed are diverse, and include magical formulae, manuals, recipes, curses, philosophical writings, and literary accounts, in particular those by Lucian and Apuleius, purporting to provide true tales of magic.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 231. Sciences in Ancient Greece and Rome. 3 Credit Hours.

The beginnings of scientific investigation in ancient Greece and its development and codification under the Roman Empire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 232. Topics in Ancient Law, Scandalous Trails from the Ancient Legal World. 3 Credit Hours.

This course examines selected trials from ancient Greece and Rome both as a way to understand these legal systems in themselves and as a way to explore the cultures, values, and biases that shaped them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 233. Ancient Medicine. 3 Credit Hours.

Provides a historical survey of evidence, practices, and ideas from the world of ancient medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 241. Greek Civilization. 3 Credit Hours.

This course introduces key concepts, events, and personalities of Greek culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 242. Roman Civilization. 3 Credit Hours.

Introduces key concepts, events, and personalities of ancient Roman culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 243. The Art of Government in Greece and Rome. 3 Credit Hours.

Introduces key concepts and models of Greek and Roman Statecraft, including the polis democracy, the Republic and the Empire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 246. Ancient Rhetorical Theory. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 271. Ancient Philosophy. 3 Credit Hours.

What is knowledge, and how can it be known? Why be moral? What is justice? What is the good life? If we really have free will, can there be such a thing as destiny? In what does friendship consist? What exactly is love? What is the meaning of death? These and other questions were addressed powerfully by the ancient Greeks and Romans. This course will explore such crucial philosophical themes, along with the actual method(s) of inquiry that the ancients devised for examining them. Major figures such as Plato and Aristotle will be featured, along with fragments of the Presocratics and selections from other ancient philosophers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 300. The Good Life. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 301. Ancient Greece. 3 Credit Hours.

Greek civilization from the Late Bronze Age to the end of Greek independence at the battle of Chaeronea in 338 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CLA 302. The Hellenistic Age. 3 Credit Hours.

Conquests of Alexander the Great and the spread of Greek culture in the Near East under Alexander's successors until the death of Cleopatra in 31 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CLA 303. The Roman Republic. 3 Credit Hours.

Roman civilization from the establishment of the Republic until the Battle of Actium in 31 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CLA 304. The Roman Empire. 3 Credit Hours.

Roman civilization from the reign of Augustus in 37 B.C.E. to the Fall of Rome in 476 C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CLA 305. What is a Classic?. 3 Credit Hours.

An explanation of what it means to designate a work of art as 'a classic', in our own culture as well as in other times and places. In order to arrive at a more sophisticated understanding of the category, readings will be chosen from a variety of texts, selected from the world's treasury of acknowledged 'classics,' beginning from the canon of ancient Greek and Roman literature that for many centuries has been the touchstone of Western civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 310. Survey of Ancient Greek Literature and Culture. 3 Credit Hours.

Classical Greek culture, paying special attention to Greek literature from Homer to Aristotle. It is intended to lay a foundation for understanding how Hellenic thought and art influenced the development of all subsequent Western culture. All texts will be read in English translation.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 311. Survey of Classical Latin Literature and Culture. 3 Credit Hours.

A broad introduction (in English translation) to the literature of the Roman Republic and Empire. The Greek heritage behind Latin literature will be highlighted. Readings will be chosen from authors such as Catullus, Cicero, Vergil, Horace, Ovid, Petronius, Juvenal, Tacitus, and Suetonius, and from genres such as epic and lyric poetry, oratory, history and satire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 315. The Classical Epic Tradition. 3 Credit Hours.

The course treats the rise and development of the Western epic tradition from Homer, Lucretius, and Virgil in the classical world, through Dante in the Middle Ages, Milton in the Renaissance, and Wordsworth and Eliot in modernity.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 322. Monsters and Fantastical Creatures in Western Antiquity and Other Cultures. 3 Credit Hours.

An explanation of the notion of the "monster" and the "fantastic creature" in a range of literary and visual representations from classical antiquity (the Greek and Roman World) and other cultures from various time periods. Starting with Hesiod's "Catalogue of Monsters" we examine the following questions: Whose mental projection is embodied in a given monster? Are there different categories of monsters? What does the monster represent? What fears does the monster crystallize?

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 323. The Ancient World on Screen. 3 Credit Hours.

How do we represent the ancient Greeks and Romans in modern media? What happens to the books the ancients wrote when these are turned into modern films, TV shows or video games?

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 324. Classical Myth & Contemporary Art.. 3 Credit Hours.

The use, adaptation, transformation, and re-figuring of Classical myth in contemporary art. The artwork will range from photographs to installations and videos. We will use theories drawn from both art criticism and literary criticism. Female artists and post-feminist theory will figure prominently as a way to bring a broader perspective to a scrutiny of the marked gender imbalance in Classical myth.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 325. The Vampire in Folklore, Fiction, and Film. 3 Credit Hours.

By pondering the role of vampires and other such monsters, in folklore, fiction, and film, this course attempts to ponder such fundamental questions as "What does it mean to be human?" and "What are the implications of death?" The tradition will be traced from its earliest antecedents in the ancient world to its latest manifestations in current fiction and screen media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 340. Greek Tragedy. 3 Credit Hours.

Readings in English of the tragedies of Aeschylus, Sophocles, and Euripides.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 341. Comedy in Ancient Athens and Rome. 3 Credit Hours.

The comic plays of the ancient Greeks and Romans in English translation. The focus is close reading and analysis of plays by Aristophanes, Menander, Plautus, and Terence, with a view to their socio-political, cultural, and historical milieu. The final weeks are devoted to reception of these works by Shakespeare and Molière.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 360. Women In Greek And Roman Antiquity. 3 Credit Hours.

The lives of women in ancient Greece and Rome. The historical panorama extends from the Mycenaean period ca. 1200 BC to the end of the Roman Empire in the West, 476 AD. The role and influence of Women as mothers and wives in control of the household will be examined In detail. Other themes such as love, death, marriage, divorce, legal and social status, foreign women, spinsters, wise women such as Diotima and Aspasia, Women in the arts and women of power, these will be considered through a close study of historical and literary texts as well as material culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CLA 370. Self and Other in the Ancient World. 3 Credit Hours.

The course examines Greek and Roman depictions of outsiders in a wide range of ancient texts and material sources.

Prerequisite: ENG 105 and ENG 106 or ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 372. Greek Religion. 3 Credit Hours.

Examines the religious thought and practice of the ancient Greek-speaking world from the Bronze Age to the first century CE. Major topics include ritual, sacrifice, prayer, chthonic and sky deities, oracles, and mystery-cults. Students will learn to interpret primary source material, such as the epic poems of the archaic period, the so-called Homeric Hymns, and objects of material culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 373. Religions of Rome. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 401. Special Topics in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Required readings will be in English. Analogous to REL 404-409 courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 402. Special Topics in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Required readings will be in English. Analogous to REL 404-409 courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 403. Special Topics in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Required readings will be in English. Analogous to REL 404-409 courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 404. Special Projects in Classics. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 405. Special Projects in Classics. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 406. Special Projects in Classics. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 422. Aristophanes. 3 Credit Hours.

Readings from Aristophanes' plays in the original Ancient Greek.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 491. Directed Reading In Classics. 1-3 Credit Hours.

Content to be determined by faculty member and registering student(s).

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 492. Directed Reading in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Analogous to REL 401-403 courses and to (existing)CLA 491.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 493. Directed Reading in Classics. 3 Credit Hours.

This course will address a specific author, topic or text (appearing as a subtitle). Analogous to REL 401-403 courses and to (existing) CLA 491.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 495. Senior Thesis I. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 496. Senior Thesis II. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 505. Seminar in Ancient Studies. 3 Credit Hours.

Topics in Greek and Roman studies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

CLA 605. Graduate Seminar in Ancient Studies. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CLA 691. Direct Readings in Classical Studies for Graduate Students. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Clinical and Translational Investigation (CTI)

CTI 601. Introduction To Clinical And Translational Research. 2 Credit Hours.

This introductory core course will be taught by the PI and Co-PI, as well as various guest lecturers. It will include special topics in translational science including: ethics in translational science, communication of science, introduction to bioinformatics, research with underserved/ under-represented populations, regulatory considerations, grant writing, and other pertinent subjects. Students will be required to attend each weekly seminar and read the corresponding journal excerpts. Students are required to attend the weekly discussion sessions led by the PI and Co-PI in order to solidify concepts and translational themes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CTI 602. Writing for Translational and Clinical Science. 2 Credit Hours.

This introductory core course will be taught by the Masters of Science in Clinical and Translational Investigation (MSCTI) Program Directors, as well as various guest lecturers. The focus of the course will be on developing grant and manuscript writing skills in the area of clinical and translational science across the translational science spectrum.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CTI 603. Research Ethics. 3 Credit Hours.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

CTI 810. Master's Thesis. 1-6 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

CTI 820. Research in Residence. 1 Credit Hour.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Communication (COM)

COM 101. Mass Media Communication in Society. 3 Credit Hours.

A survey of the history, development, structure, and effects of mass communication media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 110. Communication Theory. 3 Credit Hours.

Survey of basic communication theories and models. Study of processes, functions, levels, and general principles of human communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 250. Freedom of Expression and Communication Ethics. 3 Credit Hours.

An examination of the concept of freedom of expression, its philosophical roots, its application of contemporary issues in communication, and of the basics of moral philosophy (ethics) and moral reasoning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 395. Honors Seminar in Communication. 3 Credit Hours.

An examination of central issues and topics in the field of Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COM 401. Honors Communication Colloquium. 3 Credit Hours.

An examination of central issues and topics in the field of Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COM 406. Special Topics In Communication. 3 Credit Hours.

COURSE SUBJECT MATTER VARIES ACCORDING TO ANNOUNCED SPECIAL TOPIC. SEE CLASS SCHEDULE FOR DETAILS.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COM 499. Senior Honors Project/Thesis. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 601. Theories of Communication. 3 Credit Hours.

Comparison of theories dealing with the processes and effects of communication is discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 602. Methods of Communication Research. 3 Credit Hours.

A comprehensive survey of communication research methods. Qualitative and quantitative approaches will be explained and practiced.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 603. Qualitative Research Methodologies. 3 Credit Hours.

Research methods and theories for participant-observation, phenomenology, symbolic interactionism, ethnomethodology, content analysis, and historical-critical interpretation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COM 604. Advanced Communication Research Methods and Statistics. 3 Credit Hours.

Provides an advanced examination of the problems and methods found in quantitative communication research.

Prerequisites: COM 601, COM 602.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COM 605. Theories and Methods for Mass Communication Research. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COM 609. Special Topics in Communication. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COM 610. Doctoral Colloquium. 0 Credit Hours.

This course will introduce students to the nature and scope of doctoral study.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 615. Social Effects of Mass Communication. 3 Credit Hours.

Roles, functions, and consequences of mass communication in American society.

Prerequisite: COM 601.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

COM 672. Seminar in Persuasive Communication. 3 Credit Hours.

This course is designed to provide students with a basic understanding of the role of communication in the persuasion process. This will be achieved by exploring historical and contemporary theories of persuasion as well as examining research that has focused on persuasion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COM 695. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 698. Independent Research. 3 Credit Hours.

An in-depth, hands-on course in which students conduct a research project using the specified research method. May include experimental design, advanced qualitative methods, content analysis, or survey methods. Repeatable up to 6 credits.

Prerequisites: COM 602, COM 603.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

COM 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in COM 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COM 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

COM 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Communication Studies (COS)

COS 112. Interpersonal Communication. 3 Credit Hours.

Overview of current theories of interpersonal communication. Consideration is given to impression formation, relationship between self-concept and others, function of language in social interaction, and development and maintenance of relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 210. Writing for Communication Studies. 3 Credit Hours.

Principles of writing, reviewing literature, and synthesizing research for communication studies and the social sciences.

Prerequisite: COM 110.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 211. Public Speaking. 3 Credit Hours.

Introduction to effective audience communication including theory and extensive practice in oral presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 212. Interview Skills. 3 Credit Hours.

Study of interview skills, listening techniques, voice and diction.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 304. Intercollegiate Debate Theory and Practice. 1 Credit Hour.

A course designed to teach students how to compete successfully in intercollegiate debate, and to reinforce training through practice and competition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COS 311. Advanced Oral Advocacy. 3 Credit Hours.

Advanced presentational speaking to persuade including theory and extensive practice.

Prerequisite: COS 211. Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 314. The Power of Dialogue. 3 Credit Hours.

Students learn how to engage in and lead constructive dialogue about sensitive, emotional, and controversial issues in the public and private spheres.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 316. Small Group Communication. 3 Credit Hours.

Techniques of discussion applied to goal-oriented, small group situations. Consideration is given to research methods, leadership, and conflict resolution. Theory is applied to active classroom participation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 318. Nonverbal Communication. 3 Credit Hours.

Theory and application of selected areas of research in nonverbal communication is addressed. Discussion of environment, space, body movement, posture, eye contact, facial expression, vocal cues, and physical appearance is included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 324. Health Communication. 3 Credit Hours.

This course is designed to provide a broad introduction to human communication in a health-care context. Emphasis will be on issues of social support, patient-health professional/caregiver interaction, organizational culture, planning health promotion campaigns, and cultural conceptions of health and illness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

COS 325. Communication In Health Organization. 3 Credit Hours.

This course looks at the dyadic, small group, and institutional communication patterns that can affect health outcomes within and between health organizations including hospitals and other allied health services.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 328. Sports As Communication. 3 Credit Hours.

This is a course which introduces students to the study of spectator and participation sports as communication and to communication within sports.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 330. Conflict Management. 3 Credit Hours.

This course provides an understanding of conflict dynamics and strategies for constructive conflict management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 333. Business Communication. 3 Credit Hours.

Study and practice in the major forms of spoken and written communication in the context of businesses and other professional organizational settings.

Requisite: Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 336. Political Communication. 3 Credit Hours.

A review of the history, strategies, theories and trends in political campaign communication in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 343. Introduction to Intercultural Communication. 3 Credit Hours.

Introduction to communication among people from diverse cultures. Application of communication theory to intercultural sensitivity and cultural diversity is emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 351. Qualitative Research Methods. 3 Credit Hours.

Course is designed to introduce students to a sample of qualitative research methods used in communication.

Prerequisites: COM 110, COS 210.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 352. Critical Research In Communication. 3 Credit Hours.

This is a course in rhetorical criticism. Students will gain an understanding of rhetorical theory as it is applied to the analysis and evaluation of significant public communication events.

Prerequisites: COM 110, COS 210.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 353. Quantitative Communication Research Methods and Analyses. 3 Credit Hours.

Introduction to communication research methods. Application of quantitative measurement techniques and statistical analyses will be discussed as well as the use of microcomputer statistical programs.

Prerequisites: COM 110, COS 210.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

COS 354. Organizing for Action. 3 Credit Hours.

This is a course that will introduce the student to Action Research, with application to communication questions in a variety of settings.

Prerequisites: COM 110, COS 210.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 377. Argumentation And Critical Thinking. 3 Credit Hours.

Argumentation theory and practice are discussed. Rhetorical and philosophical foundations of argumentation and their application in various settings including academic debate are also covered

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 391. Undergraduate Special Topics in Communication Studies. 3 Credit Hours.

Course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 405. Practicum in Communication Studies. 1-3 Credit Hours.

Structured participation in programmatic research and applied practice in the community.

Requisite: Junior Status.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 418. Organizational Communication. 3 Credit Hours.

Introduction to organizational communication theory. Consideration of structure, function, and effects of communication in organizations are analyzed. Emphasis is placed on principles needed for decision making and effective management of organizational communication processes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 426. Patient-Provider Communication. 3 Credit Hours.

This class focuses on the interpersonal environment of patient-provider interaction. The primary purpose of this course is to describe best practices for coming to shared meaning and decision-making between medical professionals and patients in healthcare settings.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 427. Health Behavior And Risk. 3 Credit Hours.

This course introduces students to different theories and models of health communication that are frequently used to develop persuasive health messages. It draws on health communication messaging theory, as well as literature in public health, psychology, and medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 472. Persuasion. 3 Credit Hours.

A review of theory, research, and practice of the intentional use of symbols to influence attitudes, beliefs, and actions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 473. Words that Shaped the World. 3 Credit Hours.

A study of great speakers and speeches in important international settings.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 474. Presidential Debates. 3 Credit Hours.

History, impacts, content and strategies of televised presidential campaign debates.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 477. Capstone In Engaged Communication Studies. 3 Credit Hours.

Capstone course designed for communication studies majors. Provides students opportunities to apply knowledge of communication theory and associated research skills through their personal engagement in community or organizational service and action research.

Prerequisites: COM 110, COS 210, COS 352, COS 354. Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 479. Capstone for Communication Studies. 3 Credit Hours.

Capstone course designed for communication studies majors. Provides students with the opportunity to apply knowledge of communication theory and research skills through development of capstone project.

Prerequisites: COM 110, COS 210, COS 351, COS 353. Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

COS 498. Communication Studies Internship. 1-3 Credit Hours.

Prescribed study and supervised work with practitioners in organizations. Requisite: Junior Status.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 499. Projects and Directed Research. 1-3 Credit Hours.

Individual study. No more than three credits may be counted toward a Communication major or minor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 545. Intercultural Communication: International Perspectives. 3 Credit Hours.

Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Effects of language on the structure of thought. Ethics and process of the diffusion of cultural innovations are analyzed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 546. Intercultural Communication: Domestic Perspectives. 3 Credit Hours.

Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Diffusion of cultural innovations, prejudice, discrimination, and equality are discussed. Emphasis is placed on intercultural interactions within the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 560. The Executive Communicator. 3 Credit Hours.

Audience analysis, speech writing, delivery in professional presentations, theory, and history of great speeches are covered. Detailed critiques of student speaking styles and performances are also included.

Prerequisite: COS 211. Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 591. Advanced Special Topics in Communication Studies. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 599. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. Course may be repeated to a maximum of six credits. Permission of Department Chair required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

COS 616. Small Group Processes. 3 Credit Hours.

Techniques of discussion applied to goal-oriented, small group situations. Consideration is given to research methods, leadership, and conflict resolution. Theory is applied to active classroom participation.

Components: LEC.

Grading: GRD.

COS 620. Gender Issues in Leadership. 3 Credit Hours.

This course utilizes case studies of innovative executives to analyze different leadership and communication styles between men and women.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 630. Conflict Management. 3 Credit Hours.

This course provides an understanding of conflict dynamics and strategies for constructive conflict management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 645. Intercultural Communication: International Perspectives. 3 Credit Hours.

Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Effects of language on the structure of thought. Ethics and process of the diffusion of cultural innovations are analyzed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 646. Intercultural Communication: Domestic Perspectives. 3 Credit Hours.

Effects of cultural attitudes, beliefs, and attributions on meaning assignment. Diffusion of cultural innovations, prejudice, discrimination, and equality are discussed. Emphasis is placed on intercultural interactions within the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 647. Culture and Organizations. 3 Credit Hours.

This course explores the effects of cultural diversity on communication in organizations. Diffusion of innovations, prejudice, discrimination, and equality are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 651. Survey Of Health Communication. 3 Credit Hours.

This course is intended to provide a graduate-level introduction to the study of health communication. Accordingly, it covers a wide range of topic areas informed by an equally diverse range of theories, research paradigms, and applied foci.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 652. Culture And Health. 3 Credit Hours.

This class is designed to give participants an overview of the problems, issues, and processes involved with communicating with people of different cultural and subcultural backgrounds about issues of health and illness.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 653. Organizations, Communication Health. 3 Credit Hours.

This class focuses on the organizational, interpersonal and intercultural dimensions of communication in health care settings. It draws on material from the communication discipline as well as work from medical sociology, anthropology, medicine, humanities and discourse studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 654. Risk Communication. 3 Credit Hours.

This course will offer a foundational understanding of the psychological and sociological bases of risk perceptions that are necessary for effective risk communication.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 655. Health Communication Interventions. 3 Credit Hours.

This course will focus on the planning, development, and assessment of health communication intervention messages and materials.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 660. The Executive Communicator. 3 Credit Hours.

Audience analysis, speech writing, delivery in professional presentations, theory, and history of great speeches are covered. Detailed critiques of student s peaking styles and performances are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 674. Seminar in Interpersonal Communication. 3 Credit Hours.

This course focuses on theoretical approaches to interpersonal communication. Emphasis is placed on current research including fundamentals of relationships, developmental issues, interaction management, and interpersonal competence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 680. Organizational Training and Development. 3 Credit Hours.

This course is designed to provide an examination of internal organizational communication in order to understand appropriate strategies for training and development of supervisors and employees.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 682. Seminar in Organizational Communication. 3 Credit Hours.

This course explores theoretical perspectives and the impact of communication in organizations. Critical analysis includes management styles, decision-making, group interaction, conflict resolution, and diffusion of innovations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 690. Communication Studies Practicum. 1-3 Credit Hours.

Prescribed graduate study and supervised work with practitioners in organizations.

Prerequisites: COM 601, COM 602, COM 603.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

COS 691. Advanced Special Topics in Communication Studies. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

COS 699. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. Course may be repeated to a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Computer Science (CSC)

CSC 115. Social and Ethical Issues in Computing. 3 Credit Hours.

History, social context and methods and tools of analysis. Professional and ethical responsibilities. Intellectual property. Privacy and civil liberties.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 118. Information Technology and Society. 3 Credit Hours.

A variety of topics on information technology and society through various course activities including research papers, experiments, and by reading articles. The topics covered include but are not limited to: history of computing, hardware mechanisms, algorithms design, software development principles, software tools, security, and artificial intelligence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

CSC 119. Computers and Society. 3 Credit Hours.

Basic concepts of computer systems. Installing, configuring, and managing computer software. Internet information retrieval. Application software. HTML, programming for the www in JavaScript. E-commerce, cryptography, computer security. Social, legal, ethical issues and the future.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 120. Computer Programming I. 4 Credit Hours.

History of computing. Fundamental programming constructs. Algorithms and problem solving. Object-oriented programming. Recursion.

Prerequisite: MTH 108. Or Corequisites: MTH 140 or Higher or MAS 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 210. Computing for Scientists. 3 Credit Hours.

Computing applications in science. Tools and algorithms for applications. Implementation of algorithms. Storage, retrieval analysis and visualization of data in science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 220. Computer Programming II. 4 Credit Hours.

Common APIs including list, priority queue, set, and map, and their efficient implementations in an object-oriented language using fundamental data structures. Sorting and other applications of recursion. Combining asymptotic analysis and experiments to extrapolate running times. Using APIs in a software project.

Prerequisites: CSC 120 or CIS 324 or ECE 218, MTH 108 or MTH 140 or MTH 141 or MTH 161 or MTH 162 or MTH 171 or MTH 172 or MAS 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 314. Computer Organization and Architecture. 3 Credit Hours.

Digital logic and digital systems. Machine level representation of data. Assembly level machine organization. Memory system organization and architecture. Interfacing and communication. Functional organization. Multiprocessing and alternative architectures.

Prerequisite: CSC 120 or CIS 324 or ECE 218. Corequisite: MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 317. Data Structures And Algorithm Analysis. 3 Credit Hours.

Basic algorithmic analysis. Algorithmic strategies. Fundamental computing algorithms. Distributed algorithms. Cryptographic algorithms. Geometric algorithms.

Prerequisite: CSC 220 or ECE 318, and MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 322. System Programming. 3 Credit Hours.

C programming: Program structure, core language elements, pointers.

System tools for C programming. Programming for UNIX: The system call interface, interfaces to the internet. Scripting.

Prerequisite: CSC 220 or ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 329. Introduction to Game Programming. 3 Credit Hours.

Fundamental programming issues in game design: Software design; Version control; Basic graphics; GUI programming. Large-scale game project: Team development of a functional game; Graphics and GUI component; Networking component; Core game engine.

Prerequisite: CSC 220 or ECE 318.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 330. Android Programming. 3 Credit Hours.

The android/Eclipse programming environment. The Android execution model. User interfaces. Media. Data storage areas. Sensors and actuators. The Android market.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 401. Computer Science Practicum I. 1 Credit Hour.

Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 402. Computer Science Practicum II. 1 Credit Hour.

Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 403. Computer Science Practicum III. 1-3 Credit Hours.

Implementation of techniques, algorithms, and data structures being taught in a co-requisite computer science course.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 405. Computer Science Seminars. 1 Credit Hour.

A range of topics in Computer Science, as embodied in the seminars hosted by the Department.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 410. Computer Science Project Planning. 1-3 Credit Hours.

Planning for the implementation of a Computer Science project, including: Problem analysis, System architecture design, Algorithm and data structure selection, User interface design, Verification and validation plan, and Prototyping.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 411. Computer Science Project Implementation. 1-3 Credit Hours.

Implementation of a Computer Science project, including: Hardware preparation, Component implementation, System integration, Verification and validation, and Documentation.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 412. Computer Science Internship. 1-3 Credit Hours.

A commercial computing environment. Normally 50 internship hours are required per credit earned (the host company must supply documentary evidence of hours worked).

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 419. Programming Languages. 3 Credit Hours.

Overview of programming languages. Fundamental issues in language design. Virtual machines. Introduction to language translation. Models of execution control. Declaration, modularity, and storage management. Programming language semantics. Programming paradigms.

Prerequisite: CSC 317 or CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 421. Principles Of Computer Operating Systems. 3 Credit Hours.

Process management. Scheduling and dispatch. Interprocess communication. Memory management. File systems. Device management. Security and protection. System programming for UNIX.

Prerequisite: CSC 314 and CSC 322.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 423. Database Systems. 3 Credit Hours.

Information models and systems. Database systems. Data modeling. Relational databases. Relational database design. Database query languages, Data mining concepts, Web database programming.

Prerequisite: CSC 317 or CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 424. Computer Networks. 3 Credit Hours.

Introduction to computer networks and network applications. The protocol stack. Routing, switching and bridging technologies. Models of network computing. Internet standards and protocols.

Prerequisite: CSC 314 and CSC 322.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 427. Theory Of Computing. 3 Credit Hours.

Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

Prerequisite: CSC 220 or ECE 318, and MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

CSC 431. Introduction To Software Engineering. 3 Credit Hours.

Software processes, requirements and specifications, design, validation, evolution. Project management, tools and environments. Foundations of human-computer interaction. Risks and liabilities of computer-based systems. Intellectual property.

Prerequisite: CSC 317 or CSC 322 or CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 481. Undergraduate Teaching Assistant Training in Computer Science. 1-3 Credit Hours.

Training and teaching assistant for a specific course, in computer laboratories . May be taken multiple times, assisting maximally twice for a given course.

Components: PRA.

Grading: CNC.

Typically Offered: Fall & Spring.

CSC 498. Senior Topics in Computer Science. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 506. Logic. 3 Credit Hours.

Propositional and first order logic: completeness. Computational logic: Robinson's resolution. Formalized theories: arithmetic, Godel's incompleteness theorem , Tarski's theorem on undefinability of truth. Prerequisite: MTH 230 or PHI 210 or PHI 510.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 507. Data Security and Cryptography. 3 Credit Hours.

Access, information flow, and inference controls. Network security and management. Encryption algorithms. Cryptographic techniques. Prerequisite: CSC 517 or CSC 527.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 518. Interpreters and Compiler Theory. 3 Credit Hours.

Translation of higher-level languages into machine language. Grammars, parsing, scanners, precedence relations. Run-time storage and symbol table organization . Semantic routines. Chaining and hashing. Code generation and optimization. Macro implementation. Prerequisite: CSC 519.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 528. Introduction to Parallel Computing. 3 Credit Hours.

Parallel computing systems shared-memory parallel programming, with open MP, distributed-memory parallel programming, software with open MPI software package. Applications: vector and matrix operations, sorting, image processing. Prerequisite: CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 529. Introduction to Computer Graphics. 3 Credit Hours.

Graphic systems. Graphic communication. Geometric modeling (2D and 3D representations). Rendering. Advanced techniques. Display and input devices. Software packages. Prerequisite: CSC 220 or ECE 318, and MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 540. Algorithm Design and Analysis. 3 Credit Hours.

Design techniques include divide-and-conquer, greedy method, dynamic programming, backtracking. Time and space complexity. Sorting, searching, combinatorial and graph algorithms.

Prerequisite: CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 545. Introduction to Artificial Intelligence. 3 Credit Hours.

Search and constraint satisfaction. Knowledge representation and reasoning. Natural language processing. Machine learning and neural networks. Game theory. AI programming.

Prerequisite: CSC 220 and MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 547. Computational Geometry. 3 Credit Hours.

Algorithms for solving geometric problems arising from application domains including graphics, robotics, and GIS.

Prerequisite: CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 548. Bioinformatics Algorithms. 3 Credit Hours.

The complexity of bioinformatics computations. Introduction to perl and bioperl. Pattern matching and sequence homology. Genome assembly. Transcription factor Binding Site recognition and motif finding. Gene prediction. Phylogeny..Micro-array analysis. RNA folding. Gene design and synthesis.

Prerequisites: CSC 120 or CSC 210, BIL 150 or BIL 104 or BIL 352 or BIL 552 or CSC 552.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 552. Bioinformatics Tools. 3 Credit Hours.

Databases and tools of bioinformatics, as relevant to research in genomics and molecular biology. Bioinformatics applications. Information retrieval, analytical tools, BLAST searches, promoter analysis, and protein structure- function analysis, and various applications.

Prerequisite: BIL 250 or BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 555. Multimedia Systems. 3 Credit Hours.

Specification and requirements of a multimedia hardware system. Multimedia data technologies. Graphics file formats. Compression and decompression. Multimedia application development.

Prerequisite: CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 595. Topics in Computer Science. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 596. Topics in Computer Science. 1-3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 597. Topics in Computer Science. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 598. Topics in Computer Science. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 599. Topics in Computer Science. 1-3 Credit Hours.****Components:** THI.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 607. Logic. 3 Credit Hours.**

Propositional and first order logic: completeness. Computational logic: Robinson's resolution. Formalized theories: arithmetic, Godel's incompleteness theorem, Tarski's theorem on undefinability of truth.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 609. Data Security and Cryptography. 3 Credit Hours.**

Access, information flow, and inference controls. Network security and management. Encryption algorithms. Cryptographic techniques.

Prerequisite: CSC 317 or CSC 427.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 618. Interpreters and Compiler Theory. 3 Credit Hours.**

Translation of higher-level languages into machine language. Grammars, parsing, scanners, precedence relations. Run-time storage and symbol table organization. Semantic routines. Chaining and hashing. Code generation and optimization. Macro implementation.

Prerequisite: CSC419.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 623. Theory of Relational Databases. 3 Credit Hours.**

Relational operators. Functional dependencies. Covers for functional dependencies. Multivalued dependencies. Joint dependencies. Normal Forms, Representation theory. Query systems. Acyclic database schemes.

Prerequisite: CSC 423.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 629. Introduction to Computer Graphics. 3 Credit Hours.**

Graphic systems. Graphic communication. Geometric modeling (2D and 3D representations). Rendering. Advanced techniques. Display and input devices. Software packages.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 632. Introduction to Parallel Computing. 3 Credit Hours.**

Parallel computing systems shared-memory parallel programming, with open MP, distributed-memory parallel programming, software with open MPI software package. Applications: vector and matrix operations, sorting, image processing.

Prerequisite: CSC 317.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 640. Algorithm Design and Analysis. 3 Credit Hours.**

Design techniques include divide-and-conquer, greedy method, dynamic programming, backtracking. Time and space complexity. Sorting, searching, combinatorial and graph algorithms.

Prerequisite: CSC 317.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 645. Introduction to Artificial Intelligence. 3 Credit Hours.**

Search and constraint satisfaction. Knowledge representation and reasoning. Natural language processing. Machine learning and neural networks. Game theory. AI programming.

Prerequisite: CSC 545.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 647. Computational Geometry. 3 Credit Hours.**

Algorithms for solving geometric problems arising from application domains including graphics, robotics, and GIS.

Prerequisite: CSC 517.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 649. Bioinformatics Algorithms. 3 Credit Hours.**

The complexity of bioinformatics computations. Introduction to perl and bioperl. Pattern matching and sequence homology. Genome assembly. Transcription factor Binding Site recognition and motif finding. Gene prediction. Phylogeny..Micro-array analysis. RNA folding. Gene design and synthesis.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**CSC 651. Autonomous Robotic Systems. 3 Credit Hours.**

Introduction: autonomous systems, autonomous robots, RoboCup, typical components of an autonomous robot. Modeling: perception, noise, modeling, recursive state estimation, Bayes' filter, particle filter, self-localization. Control and motion: PIO-control, calibration of parameters, controlling a wheeled robot, controlling joints, walking motion. Learning (optional, if time permits): overview, different types of learning, reinforcement learning.

Prerequisite: CSC 317 and MTH 210.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

CSC 656. Multimedia Systems. 3 Credit Hours.

Specification and requirements of a multimedia hardware system. Multimedia data technologies. Graphics file formats. Compression and decompression. Multimedia application development.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 670. Directed Reading. 2-4 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

CSC 685. Topics in Computer Science. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 686. Topics in Computer Science. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 687. Topics in Computer Science. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 688. Topics in Computer Science. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 689. Topics in Computer Science. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 690. Seminar for Beginning Graduate Students. 1-3 Credit Hours.

Flexible topics of interest to beginning graduate students.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 692. Seminar. 1-2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 707. Logic Programming. 3 Credit Hours.

Programming in Prolog, Fix-point semantics, Declarative semantics, Completeness of SLD-resolution, Negation, Implementation of logic programming languages. Deductive databases.

Prerequisite: MTH 506 and CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 711. Theory of Computation. 3 Credit Hours.

Recursive functions, Markov algorithms, Turing machines. Unsolvability.

Prerequisite: CSC 317 or CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 712. Complexity Theory. 3 Credit Hours.

Models of computations, Blum's axioms, intractability, NP-completeness.

Prerequisite: CSC 527.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 724. Mobile Wireless Systems. 3 Credit Hours.

Cellular Systems, multiple access techniques, wireless networking, mobile IP, power management, user location information management, TDMA, CDMA, and GSM systems, data broadcasting.

Prerequisite: CSC 524.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 732. Parallel Algorithms. 3 Credit Hours.

Parallel computation models; sorting networks; parallel algorithms for sorting, searching, graph problems, prefix computation, pattern matching, and fast Fourier transforms; theory of P-completeness, the class NC.

Prerequisite: CSC 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

CSC 746. Neural Computing. 3 Credit Hours.

Fundamentals of artificial neural networks. Perceptrons. Back propagation, algorithm. Pattern recognition. Counter propagation networks. Data compression. Hopfield networks. Optimization.

Bidirectional associative memories. Adaptive resonance theory.

Prerequisite: CSC 517.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 749. Automated Reasoning. 3 Credit Hours.

Propositional and 1st order logic. Reasoning and resolution. More complex inference rules. Using contemporary ATP systems. Prolog as an ATP system and as a programming language. Applications of ATP in research and industry.

Prerequisite: CSC 317 or CSC 645.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 751. Semantic Web. 3 Credit Hours.

Prerequisite: CSC 317 and MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 756. Advanced Multimedia Systems. 3 Credit Hours.

Digital-system fundamentals. Digital audio, analog and digital video.

Graphics. Data compression algorithms. CD-ROM technology.

Implementation of multimedia software development tools.

Architecture and issues for distributed multimedia systems. Multimedia communications systems.

Prerequisite: CSC 656.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

CSC 785. Advanced Topics in Computer Science. 1-3 Credit Hours.

Advanced Topics in Computer Science

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 786. Advanced Topics in Computer Science. 1-3 Credit Hours.**

Advanced Topics in Computer Science

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 787. Advanced Topics in Computer Science. 1-3 Credit Hours.**

Advanced Topics in Computer Science

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 788. Advanced Topics in Computer Science. 1-3 Credit Hours.**

Advanced Topics in Computer Science

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 789. Advanced Topics in Computer Science. 1-3 Credit Hours.**

Advanced Topics in Computer Science

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**CSC 793. RESEARCH PROJECT. 1-6 Credit Hours.**

Supervised research project preceding dissertation research for the Ph.D.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**CSC 794. Research Project. 1-6 Credit Hours.**

Supervised research project preceding dissertation research for the Ph.D.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**CSC 810. Master's Thesis. 1-6 Credit Hours.**

The student working on his/her master's thesis enrolls for the number of credit s as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall & Spring.**CSC 825. Continuous Registration--Master's Study. 1 Credit Hour.**

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.**CSC 830. Pre-Candidacy DOCTORAL DISSERTATION. 1-12 Credit Hours.**

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall, Spring, & Summer.**CSC 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.**

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of CSC 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.**Grading:** SUS.**Typically Offered:** Spring.**CSC 850. Research In Residence. 1 Credit Hour.**

Used to establish research in residence for Ph.D. students after the student has enrolled for permissible cumulative total in appropriate doctoral research. Regarded as full-time residence.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall, Spring, & Summer.

Dance (DAN)

DAN 102. Stretching and Body Work. 1 Credit Hour.

Stretching techniques and examination of various body therapy concepts.

Components: LAB.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**DAN 111. Modern Dance, Level One. 2 Credit Hours.**

Introduction to the discipline of modern dance designed to develop understanding and skill in the basic vocabulary. Open to all students..

Components: LAB.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**DAN 121. Ballet, Level One. 2 Credit Hours.**

Introduction to the discipline of classical ballet designed to develop understanding and skill in the basic vocabulary. Open to all students.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**DAN 130. Orientation To Dance. 2 Credit Hours.**

Introduction to dance as an art form for those interested in career opportunities in dance education. Required for prospective dance minors. Open to all students.

Components: LAB.**Grading:** GRD.**Typically Offered:** Fall & Spring.**DAN 140. Theatre Dance Forms. 2 Credit Hours.**

Introduction to movement skills and stylistic elements of theatrical forms of dance. Open to all students.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.

DAN 190. Improvisation. 2 Credit Hours.

Experience in selective and basic processes of movement involvement both individual and group. Open to all students.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

DAN 211. Modern Dance, Level Two. 3 Credit Hours.

Continuing exploration of modern dance basic techniques and theoretical concepts. Open to all students.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 221. Ballet, Level Two. 3 Credit Hours.

Study of ballet designed to extend technical skill and prepare student for intermediate level work. Open to students with formal ballet training or permission

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 240. Cultural Dance Forms. 2 Credit Hours.

Introduction to movement skills and stylistic elements of dance forms from various cultures. Open to all students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 250. World History Of The Dance. 3 Credit Hours.

Introductory exploration of dance history in relation to life, thought, and culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 280. Dance Composition Level 2. 3 Credit Hours.

Introduction to choreography through creative problem solving by exploring And experimenting with the basic elements of dance; space, time, energy, And motion. Emphasis is on compositional studies versus the creation of fully Developed dances.

Prerequisite: DAN 211.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

DAN 285. Creative Dance For Children. 2 Credit Hours.

Introduction to theories and methods of teaching dance to children of elementary school age. Open to all students

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

DAN 286. Teaching Dance To Children. 2 Credit Hours.

Theory and practice of teaching dance to preschool and school age children. Open to all students

Prerequisite: DAN 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

DAN 290. Introduction To Dance-Movement Therapy. 2 Credit Hours.

Introduction to dance-movement therapy theory and practice.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

DAN 291. Dance Movement Therapy. 3 Credit Hours.

This course will provide a continued investigation into the theoretical and Experiential techniques and practices of dance therapy as well as career Options for students majoring in education and the healing professions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

DAN 311. Modern Dance, Level Three. 3 Credit Hours.

Intermediate study of modern dance techniques and theoretical concepts. Open to dance minors and by permission!

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 321. Ballet Level Three. 3 Credit Hours.

Study of classical ballet at intermediate/advanced level. Open to students with formal ballet training!

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 380. Dance Composition Level 3. 3 Credit Hours.

Continuation of creative problem solving by exploring,Experimenting, and combining the basic elements of Dance: space, time, energy and motion. Emphasis is on Expansion of ideas for stage productions depending on The quality of the work.

Prerequisite: DAN 280 or DAN 311.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

DAN 385. Methods Of Teaching Dance (K-12). 3 Credit Hours.

Content for teaching dance in a variety of settings including public school grades K-12. Required for dance minor..

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

DAN 411. Modern Dance; Level Four. 3 Credit Hours.

Advanced study of modern dance technique and theatrical concepts.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 421. Ballet, Level Four. 3 Credit Hours.

Study of Classical ballet at an advanced level. Permission of Instructor

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 450. History Of Modern Dance. 3 Credit Hours.

Study of development, philosophies, and theories of American and European modern dance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

DAN 550. Women In Theatrical Dance. 3 Credit Hours.

Women in Dance; the most prominent dancers and choreographers from the 19th and 20th centuries who helped shape western theatrical dance art.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

DAN 585. Methods of Teaching Dance K-12 (Advanced). 3 Credit Hours.

An advanced study of the Dance curriculum content in a variety of settings including public schools, grades K-12.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 593. Special Projects Dance. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Dance

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

DAN 650. Women In Theatrical Dance. 3 Credit Hours.

Women in Dance; the most prominent dancers and choreographers from the 19th and 20th centuries who helped shape western theatrical dance art.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

DAN 693. Special Projects Dance. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Dance

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Economics (ECO)

ECO 211. Economic Principles and Problems. 3 Credit Hours.

Fundamental course devoted to development and application of basic analytical tools and principles required for an understanding of major economic problems and policy alternatives available for their solution. Particular emphasis on microeconomic analysis. Topics include the study of markets under varying conditions of competition, including market deficiencies such as pollution, prices, and resource allocation distribution of income, including poverty problems, the economics of the firm and the government, and international economic relations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 212. Economic Principles and Problems. 3 Credit Hours.

Continuation of ECO 211. Course emphasis is placed on macroeconomic analysis. Areas covered include national income and employment analysis, money and banking, economic growth, and comparison of different economic systems, including the problems of developing the less developed world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 300. Microeconomic Theory And Applications. 3 Credit Hours.

Prerequisites: ECO 211, ECO 212, MAS 110, or MTH 130 or MTH 141 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 301. Macro Economic Theory. 3 Credit Hours.

Intermediate level analysis of the measurement, determination, and control of aggregate economic activity.

Prerequisites: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 302. Micro Economic Theory. 3 Credit Hours.

Intermediate level analysis of the role of price in resource allocation in markets of varying degrees of competition, as well as in the determination of wages, rent, interest, profits, and public policy.

Prerequisites: ECO 211, ECO 212, MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 303. Macro Economic Theory. 3 Credit Hours.

Prerequisites: ECO 211, ECO 212, MTH 130 or MAS 110 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

ECO 307. Public Finance and Fiscal Policy. 3 Credit Hours.

The role of local, state, and federal government in attaining an efficient allocation of resources and an equitable distribution of income. Emphasis on criteria for the selection and evaluation of public expenditure and tax programs including the problems of coordinating federal, state, and local finance. Special attention is given to current policy issues.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 311. Labor Economics (I). 3 Credit Hours.

Course surveys the structure and functioning of labor markets. Topics include determinants of labor supply and labor demand, economics of wage differentials, economic impact of labor unions, discrimination in labor markets, and the labor market effects of various government policies such as payroll and income taxes, educational subsidies, and minimum wage laws. The central goal of the course is to provide the student with a framework for analyzing diverse issues related to the labor sector of the economy.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 345. Environmental Economics. 3 Credit Hours.

This course determines the appropriate way to regulate economic activity so as to achieve an optimal balance between competing environmental and economic goals. Economic reasoning is used to evaluate causes and consequences of environmental problems. The course rigorously evaluates various types of environmental regulation, including "cap-and-trade," command and control mandates, and pollution taxes. Other specific topics include public goods, externalities, cost benefit analysis, non-market valuation, and international trade and development and the environment.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 351. Economics of Developing Countries. 3 Credit Hours.

Factors underlying economic development, measures of and goals for development, principles applicable to problems of development, the role of markets and planning in development, social, cultural, and political factors affecting economic development, and comparative rates of progress in different countries.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 371. Latin America And The Global Economy. 3 Credit Hours.

An analysis of the historical growth of major Latin American countries, with emphasis on the post World War II period. Topics include industrialization, foreign investment, international trade and regional integration, agrarian reform, inflation, and development strategies and planning within the context of Latin America.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 379. ECONOMICS OF POVERTY. 3 Credit Hours.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

ECO 386. Health Economics. 3 Credit Hours.

The course applies the tools of microeconomic analysis to the health care sector. It examines how models of demand and supply apply to the health care sector in general, and in particular to the health insurance, the hospital, the physicians, and the pharmaceutical sectors. By examining the actors and issues in this market, students are able to discuss policy issues from an economic perspective.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 403. Contemporary Issues in Monetary Economics. 3 Credit Hours.

Analysis of the role of money in economic affairs. Topics include the determinants of the money supply and interest rates, money and prices, money and stability, and growth. Emphasis is placed on current problems and policies.

Requisite: Must be in School of Business or Economics major or minor in the School of Arts & Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 420. Economic Growth. 3 Credit Hours.

Course covers selected topics in economic growth. Topics include stylized facts associated with economic growth, the theoretical study of economic growth, and empirical tests of those theories. Course work is supplemented by case studies of individual countries, particularly developing countries.

Requisite: Must be in School of Business or Economics major or minor in the School of Arts & Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 430. Applied Econometrics. 3 Credit Hours.

This course introduces basic econometric techniques for analyzing economic data. The goal is to make students sophisticated consumers and skilled producers of empirical analysis, which will be attained by extensive work on a variety of real-world data like students' test scores, CEO wages, mortgage applications, cigarette demand, stock market capitalization, inflation, GDP and interest rates. Learning how to use econometric analysis software is an integral part of the course.

Prerequisite: ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 441. International Trade Theory. 3 Credit Hours.

Study of the principles of comparative advantage and the gains from international trade. Analysis of tariffs, quotas, and protectionism is included.

Requisite: Must be in School of Business or Economics major or minor in the School of Arts & Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 442. International Monetary Economics. 3 Credit Hours.

Analysis of models of the exchange rate, the balance of payments, and monetary policy in an open economy.

Requisite: Must be in School of Business or Economics major or minor in the School of Arts & Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 444. Game Theory in Economic Applications.. 3 Credit Hours.

This course is an introduction to the techniques and questions of modern microeconomics. The course will expose you to the techniques of game theory, the workhorse of modern microeconomics, and will apply those techniques to the analysis of a variety of economics situations and institutions.

Prerequisite: ECO 302. Or Corequisite: ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECO 460. Industrial Organization. 3 Credit Hours.

This course shows how microeconomic theory can be used to understand the diverse practices encountered in real-world markets between the extreme cases of perfect competition and monopoly. Topics to be covered include strategic pricing behavior, collusion, advertising and information, vertical integration, vertical restraints, regulation and a review of empirical literature.

Requisite: Must be in School of Business or Economics major or minor in the School of Arts & Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 499. Special Topics. 1-3 Credit Hours.

Topics in area of specialization. Approval of department required at time of registration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 510. Mathematical Economics And Applications. 3 Credit Hours.

The course will focus on specific applications of microeconomic theory, which may vary each semester. Topics may include choice under uncertainty, game-theoretic models of insurance markets, principal-agents problems, and basic auction theory. The discussion of each application will be preceded by a discussion of the mathematical tools required. The mathematics topics covered may include basic theory of sets and functions, concave / convex functions and their role in optimization, expectations, conditional probability, Bayes rule, and order statistics.

Prerequisites: ECO 302, MAS 202 or MTH 224.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 511. Labor Economics (II). 3 Credit Hours.

A theoretical and empirical analysis of how labor markets operate. A survey of the literature, problems, and methodology of modern labor economics. Human capital analysis, the wage structure, job search and job-matching models, time-allocation models, the economic impact of labor unions, labor market discrimination, the determinants of labor demand and supply, and the factors affecting government policy relating to the labor sector is also included.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 512. Mathematical Economics (II). 3 Credit Hours.

Economics 512 will be sequential to the introductory Mathematical Economics I (ECO 510). Topics include integral calculus, differential equations, difference equations, Kuhn-Tucker conditions, solutions to general equilibrium systems, optimization under uncertainty, and an introduction to dynamic optimization. Applications of mathematical techniques to economic analysis will be stressed.

Prerequisite: ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 520. Econometrics. 3 Credit Hours.

Statistical methods of estimating and testing mathematical model of economic relationships.

Prerequisite: ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 521. Graduate Macroeconomic Theory. 3 Credit Hours.

The primary objective of this course is to introduce the student to the mathematical presentation of the major Classical, Neo-classical, Keynesian, and Neo-Keynesian macroeconomic models.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 532. History of Economic Thought. 3 Credit Hours.

Historical development of economic doctrines and theory. Topics and individuals discussed include mercantilism, physiocracy, Adam Smith, Thomas Malthus, David Ricardo, J. S. Mill, Karl Marx, marginal analysis, Alfred Marshall, and J. M. Keynes. Special emphasis is placed on the effect of historical insights upon the contemporary core of economic theory.

Prerequisites: ECO 300 or ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 533. Advanced Microeconomic Theory. 3 Credit Hours.

An introduction to the mathematical approach to microeconomic theory. Topics include consumer/household behavior, the theory of the firm, resource allocation, welfare economics, and uncertainty theory.

Prerequisite: ECO 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 555. Economics Honors Research Project. 3.00 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Economics.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

ECO 600. Econometrics. 3 Credit Hours.

Statistical methods for estimating and testing mathematical models of economic relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 601. Graduate Macroeconomic Theory. 3 Credit Hours.

The primary objective of this course is to introduce the student to the mathematical presentation of the major Classical, Neo-classical, Keynesian, and Neo-Keynesian macroeconomic models.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 602. Advanced Microeconomic Theory. 3 Credit Hours.

An introduction to the mathematical approach to microeconomic theory. Topics include consumer/household behavior, the theory of the firm, resource allocation, welfare economics, and uncertainty theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 603. Monetary Theory and Policy. 3 Credit Hours.

Current monetary theory and its use and application in fiscal and monetary policymaking. Topics include the rational expectations hypothesis, time inconsistency, and the role of the government budget constraint.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 604. Topics in Applied Macroeconomics. 3 Credit Hours.

Course acquaints students with current substantive issues in macroeconomics. Topics include consumption determination, savings behavior, bequest behavior, fiscal policy effects on interest rates, consumption, real exchange rates, trade balances, and inflation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 610. Mathematical Economics And Applications. 3 Credit Hours.

The course will focus on specific applications of microeconomic theory, which may vary each semester. Topics may include choice under uncertainty, game-theoretic models of insurance markets, principal-agents problems, and basic auction theory. The discussion of each application will be preceded by a discussion of the mathematical tools required. The mathematics topics covered may include basic theory of sets and functions, concave / convex functions and their role in optimization, expectations, conditional probability, Bayes rule, and order statistics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 611. Labor Economics (III). 3 Credit Hours.

The formulation and testing of models of labor markets. The application of the tools of microeconomics and econometrics to the analysis of labor markets. Leading contributions in the areas of dynamic analysis of labor markets, human capital investment, the determinants of the wage structure, time allocation and search models, dual and internal labor market models, and analysis of government policy are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 612. Economic Strategies for Firms and the Industry. 3 Credit Hours.

This course shows how modern economic techniques can be used to identify optimal managerial decisions and industrial developments. Diverse real-world applications are examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 620. Advanced Econometrics. 3 Credit Hours.

Advanced econometric methods including advanced techniques in multiple regression, Bayesian methods, maximum likelihood estimators, distributed lag models, spectral analysis, and Monte Carlo studies are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 621. Advanced Macro Analysis. 3 Credit Hours.

Theory of the determination of national income, employment, and price levels. Course emphasizes mathematical solutions of Classical, Keynesian, and other economic models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 625. Applied Econometrics. 3 Credit Hours.

Practical applications of econometrics are surveyed. Computer packages are used to examine economic data. Topics include the series analysis, limited dependent variable modes, pooling cross section and time series data, model selection, and rational expectations models.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 633. Advanced Micro Analysis. 3 Credit Hours.

Theory of the behavior of firms and households and the determination of prices and resource allocation in a decentralized economy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECO 634. Advanced Micro Analysis II. 3 Credit Hours.

Continuation of ECO 633. Advanced analysis of theory of the household and firm emphasizing recent approaches. Analysis of decisions over time, duality relationships, advanced demand theory, risk and uncertainty, behavioral theories of the firm, and technological change are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 645. Regulations Economics. 3 Credit Hours.

This course examines public policies for dealing with problems arising in markets in which competitive forces are weak. The focus is on monopolies, oligopolies, cartels, and other environments where market mechanisms are unlikely to produce outcomes that benefit consumers more than the alternatives involving costly government intervention.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 675. Latin America And The Global Economy. 3 Credit Hours.

Analysis of the economic, political, and social forces at work in the changing economies in Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECO 680. Essentials of Economics. 2 Credit Hours.

This course provides an introduction to the core concepts of economics. Topics include allocation of scarce resources by the laws of supply and demand, use of the market place as the principle organizing and distribution tool of the economy, externalities, and market failure.

Pollution of the environment is treated as a needed correction to be done by public regulation through taxation and legislation. The principal forms of firm organization and dissolution are also discussed. Applications of the laws of supply and demand are made to forecasting demand and analyzing cost structure. The entry and exit of firms and the valuation of the firm is also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 685. Managerial Decisions in a Global Economy. 2 Credit Hours.

Modern techniques of economic analysis and decision science are applied to the management of the firm in a global environment. Business planning and the determinants of supply and demand are an integral part of the course. The principal forms of business organization and dissolution are reviewed. The major issues confronted by the firm: Principal-agent problem (or how to motivate managers to act in the best interest of the owners, the shareholders), moral hazard, discounting of free cash flow and terminal value, economies of scale and scope, and strategic management decision making are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECO 690. Essentials of Economic Theory. 3 Credit Hours.

An economic study of the environment in which the decision making process takes place in management and the functional areas. Structured especially for students without an undergraduate background in economics. Credit not applicable toward 36-credit professional MBA component.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 691. Managerial Economics. 3 Credit Hours.

Application of economic analysis to the formulation and solving of management problems and the determination of business policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 695. Global Economics. 2 Credit Hours.

This is a course in global economics with focus on economic policies and country risk. We study the aggregate behavior of macroeconomics variables that are relevant for business decisions. We take into account the interaction of the national economy with the rest of the world. In other words, we do global economics and study the roles of monetary and fiscal policies in an open economy, foreign direct investment, and the exchange rate.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ECO 698. Selected Topics. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECO 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of ECO 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Ecosystem Science and Policy (ECS)

ECS 100. Science, Society And Policy. 3 Credit Hours.

A view of science and discovery through a societal lens. Science has been impacting society since Galileo Galilei proposed his theory that the Earth moved around the Sun. Science continues to have a profound effect on our lives and the planet. It is important to understand what science is, how it works and how it informs existing and future public policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 111. Introduction to the Earth's Ecosystem. 3 Credit Hours.

Earth's ecosystems and the interactions of humans with them. Concepts in ecology, environmental science and policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 112. Field Problems in Ecosystem Science and Policy. 2 Credit Hours.

Problem solving in ecology and environmental management. Class projects and case studies providing experience in identifying problems, quantifying scientific issues and considering management options and outcomes. Extensive field experience.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 113. Introduction to Environmental Policy. 3 Credit Hours.

Theories and case studies from various fields, including anthropology, economics, ethics, geography, political science and psychology, will be used to explore the multiple perspectives that influence group and individual perceptions of environmental issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 195. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 196. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 197. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 198. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 199. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 201. Seminar Series in Contemporary Environmental Issues I. 1 Credit Hour.

Current environmental topics involving interaction of science and policy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 202. Seminar Series in Contemporary Environmental Issues II. 1 Credit Hour.

Current environmental topics involving interaction of science and policy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 204. Environmental Statistics. 3 Credit Hours.

An overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 232. Ecological Principles and Environmental Applications. 3 Credit Hours.

Overview of the science of ecology and its basic principles. Covers aspects of organismal ecology (including population genetics, structure, growth and regulation; adaptations and responses to the physical environment and biological communities); community ecology; and ecosystems (including energy flow, biogeochemical cycles, and biomes). Students will learn to apply ecological principles to understand and solve environmental problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 272. Special Topics in Ecosystem Science and Policy. 1-3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 295. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 296. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 297. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 298. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 299. Studies in Ecosystem Science and Policy. 1-5 Credit Hours.

For courses taken at other institutions that have no equivalents here.

Components: LEC.

Grading: GRD.

ECS 301. Tools for Environmental Decision-Making: The Quantitative Perspective. 3 Credit Hours.

Quantitative decision-making techniques and methodologies.

Prerequisite: ECS 111 and ECS 112. Requisite: Plan of ECS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 302. Perspectives on Environmental Decision Making. 3 Credit Hours.

Techniques for assessing human impacts on the environment. Covers approaches from law, ethics, anthropology and includes cases involving local, regional and global environmental management issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 309. Microbes and the Environment. 3 Credit Hours.

This course is designed to provide students in geology, biology and environmental science a fundamental understanding of the role microbes play in shaping the Earth and its environments as well as the basic principles and approaches to studying these interactions in both modern and ancient settings. The metabolic diversity displayed by microbial communities makes them an integral component of global elemental cycles. In this regard, microorganisms have shaped our planet over the past 4 billion years and continue to do so in a very prominent way. The goal of this course is to learn about microbial diversity and metabolism, and the ability of microbes to shape and influence the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 310. Sustainable Living. 3 Credit Hours.

Sustainable Living explores ways of living that can be sustained for thousands of years, without further damage to earth, ocean and atmosphere. Topics covered include renewable energy, agricultural practices, water issues, green building, low carbon transportation and healthy living/eating. Students advocate for sustainable practices of their choice in writing and in oral/visual presentations. Frequent field trips.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 332. Ecology and Land Use in the Galapagos. 3 Credit Hours.

Fundamental principles of ecology manifested on Isla Isabela will be employed to evaluate land usages including subsistence and production agriculture, animal husbandry, fuel wood and timber, and conservation with ecotourism. Habitats, flora, and fauna from the vicinity of Puerto Villamil to the rim of Volcán Sierra Negra; analysis of agricultural practices and problems of the mist zone on this volcano's southeastern flank.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 335. Biodiversity in Peru. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECS 337. Latin America And The Environment. 3 Credit Hours.

Theoretical dimensions of current environmental challenges in Latin America and examines their ecological, social, economic, and political dimensions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 371. Readings in Ecosystem Science and Policy. 1-2 Credit Hours.

Supervised readings on special topics. Offered by special arrangement with a faculty member. May be repeated for credit.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 372. Special Topics in Ecosystem Science and Policy. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 373. Topics in Ecosystem Science. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 374. Topics in Environmental Policy. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 375. Topics in Environment and the Humanities. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 376. Topics in Environmental Communication. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 377. Topics in Environmental Economics and Development. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 380. Field Studies in Ecosystem Science and Policy. 1-4 Credit Hours.

Field course to various U.S. and international regions, focusing on current and historic interactions of humans with the local environment. Includes water, land, and mineral resources as well as impacts on local ecosystems. Emphasis on current management efforts and potential impacts of climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 385. Civic Engagement In Galapagos. 3 Credit Hours.

This course is part of the UGalapagos semester held in the Galapagos and is open only to students who have been accepted by the Department of Biology. This field course offers you a rare chance to examine human interactions in a highly politicized landscape of conservation. You will learn historical development and contemporary issues of Latin America from an interdisciplinary perspective, through the cultural, political and social lens of the Galapagos

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 391. STUDIES IN ECOSYSTEM SCIENCE AND POLICY. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 392. STUDIES IN ECOSYSTEM SCIENCE AND POLICY. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 393. STUDIES IN ECOSYSTEM SCIENCE AND POLICY. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 394. STUDIES IN ECOSYSTEM SCIENCE AND POLICY. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 395. STUDIES IN ECOSYSTEM SCIENCE AND POLICY. 1-4 Credit Hours.

(Not offered: transfer credit only) Courses taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

ECS 401. Internship. 3 Credit Hours.

Students selecting the internship will be required to spend a minimum of 120 contact hours working in an outside firm or agency whose mission is to address environmental issues where science and policy intersect.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 402. Thesis. 3 Credit Hours.

Individual, original research of independent study supervised by a UM faculty member and concluded by formal thesis preparation, public oral defense and submission of the thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 403. Interdisciplinary Approaches. 3 Credit Hours.

Students with diverse disciplinary backgrounds will design an interdisciplinary study focused on an environmental problem with a major science component and significant societal implications. Students will apply quantitative methods, formulate usable policy, and communicate their results.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 405. Applied Research In Ecosystem Science And Policy. 1-3 Credit Hours.

Faculty-mentored applied research in environmental topics. Projects in natural ecosystems, sustainable design and business, and communication of environmental issues.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 432. Ecology in the Galapagos. 3 Credit Hours.

Organisms in relation to their environment, with a focus on interactive hands-on learning experiences that connect empirical nature with abstract thinking. Lectures, discussion and field work will help students begin to understand ecosystem ecology, plant dispersal and colonization, organisms' responses to spatial and temporal variability in their environments, plant/animal interactions. Origins and effects of invasive species and actions of bio-control agents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 433. Conservation in Practice. 3 Credit Hours.

Intersection between economic development, science and conservation in one of the world's most pristine and fragile ecosystems. Exploration of how tourism offers an alternative to unsustainable fisheries that once drove the local economy, yet has created a new set of pressures on the people and the environment. Mitigation efforts, science, and international conservation mesh with an understanding of local politics, customs, and cultures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 485. Political Ecology Of Galapagos. 3 Credit Hours.

This course is part of the UGalapagos semester held in the Galapagos and is open only to students who have been accepted by the Department of Biology. Throughout the term, you will engage in civic activities identified in consultation with the people, government and public health facilities of the small, rural village of Villamil, the sole habitation on Isla Isabella. A major aim is to nurture the mutual respect and understanding across the cultural divide that is necessary to make a difference in the civic life of a community.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 501. Interdisciplinary Environmental Theory. 3 Credit Hours.

Theoretical approaches in environmental and social science fields, including conservation biology, ecology, geography, economics, sociology, anthropology, philosophy, and interdisciplinary approaches. Themes include human ecology, historical ecology, landscape ecology, environmental law and ethics, perception of risk and uncertainty, vulnerability and adaptation, and environmental valuation.

Requisite: Plan of Ecosystem Science and Policy.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

ECS 503. Interdisciplinary Environmental Methods. 3 Credit Hours.

Environmental methods related to core programmatic themes of Urban Ecology, Global Public Health, Climate and Society, Environment and the Media, Integrated Marine and Terrestrial Management, and Regulatory Regimes. The course focuses on the application of Interdisciplinary approaches and methods for addressing complex environmental problems. Students will learn to design and employ interdisciplinary approaches, using qualitative and quantitative methods and analysis, through lectures, reading assignments, discussion sessions, and assignments.

Requisite: Plan of Ecosystem Science and Policy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 507. Interdisciplinary Environmental Decision Analysis. 3 Credit Hours.

Approaches to studying and interpreting human behavior related to a range of decision making at the level of individual, group, and firm. Multidisciplinary theories and methods informing work in the decision sciences will be covered from fields of psychology, business, economics, political science, and anthropology.

Requisite: Plan of Ecosystem Science and Policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 572. Special Topics in ECS. 3.00 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 580. Field Studies. 1-4 Credit Hours.

This course will provide participants with the opportunity for intensive field research geared toward an interdisciplinary understanding of environmental issues and conservation concerns.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECS 601. Interdisciplinary Environmental Theory. 3 Credit Hours.

Theoretical approaches in environmental and social science fields, including conservation biology, ecology, geography, economics, sociology, anthropology, philosophy, and interdisciplinary approaches. Themes include human ecology, historical ecology, landscape ecology, environmental law and ethics, perception of risk and uncertainty, vulnerability and adaptation, and environmental valuation.

Requisite: Plan of Ecosystem Science and Policy.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

ECS 603. Interdisciplinary Environmental Methods. 3 Credit Hours.

Environmental methods related to core programmatic themes of Urban Ecology, Global Public Health, Climate and Society, Environment and the Media, Integrated Marine and Terrestrial Management, and Regulatory Regimes. The course focuses on the application of Interdisciplinary approaches and methods for addressing complex environmental problems. Students will learn to design and employ interdisciplinary approaches, using qualitative and quantitative methods and analysis, through lectures, reading assignments, discussion sessions, and assignments.

Requisite: Plan of Ecosystem Science and Policy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 605. Interdisciplinary Environmental Law & Policy. 3 Credit Hours.

Analysis of science-based environmental decision-making and policy implementation at the federal and state levels in the United States, with comparative international perspectives, and an introduction to international institutions that fashion and carry out environmental policy. Case studies will cover authorization, appropriations and oversight functions of Congress and state legislatures; the role of the executive, federal and state, in initiating and implementing statutes by regulation and other means; and the role of negotiation, litigation, mediation and consensus-building in resolving disputes and advancing or thwarting environmental policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 607. Interdisciplinary Environmental Decision Analysis. 3 Credit Hours.

Approaches to studying and interpreting human behavior related to a range of decision making at the level of individual, group, and firm. Multidisciplinary theories and methods informing work in the decision sciences will be covered from fields of psychology, business, economics, political science, and anthropology.

Requisite: Plan of Ecosystem Science and Policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECS 608. Interdisciplinary ECS Seminar.. 2 Credit Hours.

Seminar centering on research and case studies illustrating cutting edge human- environment research, and including both qualitative and quantitative methods. Intensive reading and writing related to relevant topics in the field.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

ECS 672. Special Topics in ECS. 3.00 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 680. Field Studies. 1-4 Credit Hours.

This course will provide participants with the opportunity for intensive field research geared toward an interdisciplinary understanding of environmental issues and conservation concerns.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ECS 725. Problems in Environmental Science and Policy. 1-6 Credit Hours.

Content and prerequisites announced when offered. Course may be repeated for credit if content varies.

Requisite: Plan of Ecosystem Science and Policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 790. Directed Readings. 1-3 Credit Hours.

Individually supervised readings on special topics. Offered by arrangement with the instructor. May be retaken for credit.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECS 820. Master's Research. 9.00 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ECS 830. Pre-Candidacy Research. 1-9 Credit Hours.

Research for ECS Ph.D. students who have not attained candidacy.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECS 840. Doctoral Dissertation. 1-6 Credit Hours.

Required for all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 13 credits total. No more than 12 hours of ECS 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECS 850. Research In Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Education and Psychology Study (EPS)

EPS 201. Psychosocial Change and Well-being. 3 Credit Hours.

Introduction to personal and interpersonal approaches to well-being.

Includes theoretical, historical, philosophical, and psychological bases of well-being. Emphasis will be placed on real-life applications of theory and practice to the promotion of psychosocial change and well-being.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 270. Lifespan Human Development. 3 Credit Hours.

Processes and theories of human development from birth to old age are explored. Areas to be covered include: physical development, cognitive development, social and personality development, moral development, and language development. Emphasis is placed on development as a life-long process and its importance in understanding human behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 280. Introduction to Family Studies: Dating, Coupling, Parenting. 3 Credit Hours.

Theory and practice of romantic relationships and parent-child relationships, including discussion and skills building. Research based information on how to maximize the quality of these interpersonal relationships will be examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 291. Community and Character Development. 3 Credit Hours.

The course covers moral and psychological dimensions pertaining to character development as it occurs in communities. Topics include contemporary theory and research regarding perspectives on virtue and morality, states of character, ethical decision making, and character development. The reciprocal relationships between character and community will be a central theme in exploring ethical issues that arise in working with individuals, institutions, and communities. Theory and research will be linked to relevant applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 306. Insanity and Humanity: Mental Illness, Society, Stigma and Services. 3 Credit Hours.

The genesis for this course was the generally poor, inaccurate and stigmatized understanding of mental illness in society based on portrayals in popular media including Hollywood produced films. However, over the past several years the depth and accuracy of awareness and knowledge has changed, as the depiction of mental illness and treatment services in films has improved and the availability of narrative accounts has increased. This course is designed to allow Human and Social Development majors, with a particular interest in wellness and human services, to explore varying portrayals of mental illnesses in popular media. The course will foster critical analysis of narrative and film depictions of illness, as well as connect these depictions to a broader narrative on stigma, social determinants of illness and wellness, prevention and intervention.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 311. Group Processes and Development. 3 Credit Hours.

Research findings concerning the nature of small groups and patterns of behavior associated with them are explored. Students experience an ongoing group process to which theories and concepts can be applied. Emphasis is placed on learning to be a participant observer of group behavior and processes, learning about one's own behavior in groups, and developing skills to be a more effective member and leader in task groups.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 321. Understanding Human Service Organizations. 3 Credit Hours.

Prerequisite: EPS 201. Or Corequisite: EPS 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 340. Psychology and Sociology of Sexual Identity. 3 Credit Hours.

History, psychology, and sociology of gay, lesbian, and transgendered populations.

Prerequisite: PSY 110 or SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 351. Introduction to Statistics and Research Design. 3 Credit Hours.

The course will cover basic statistics relevant to the social sciences (e.g., central tendency, variation, t-tests, correlations), with emphasis on real world applications employing commonly used research designs. Students will acquire the tools necessary to interpret elementary statistical analyses and a foundation in the basic analytic methods used in conducting quantitative research in the behavioral sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 360. Educational Psychology. 3 Credit Hours.

A review of basic educational psychology principles including cognitive and language development, personal, social and moral development, learning theories, and motivation. A review of basic concepts that contribute to effective learning and other aspects of education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 361. Community Psychology & Development. 3 Credit Hours.

Community psychology is about the prevention of psychosocial problems and the promotion of mental health and well being through the creation of equitable and just social settings, neighborhoods, communities, and societies. Course topics include: stress & social support; oppression and human diversity; primary prevention, social intervention and health promotion; self-help; mediating structures; community mental health; alternative settings; community development and social change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 371. Applied Social Research Methods. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 420. Introduction to Counseling and Psychotherapy. 3 Credit Hours.

This course is a survey of the theories and practical applications of counseling and psychotherapy. Students will acquire an understanding of a variety of theories of psychotherapy, the basic requirements and skills for effective, ethical counseling, and an appreciation for the role of values and human differences in counseling and psychotherapy. This course does not prepare students for practice in mental health professions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 440. Listening and Helping Skills.. 3 Credit Hours.

Listening and Helping Skills is an introductory course to the foundational skills used in helping relationships. Through lectures, discussions and role- plays, students will learn the rationale behind basic helping skills and their application to diverse settings and contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 452. Community Program Development And Evaluation. 3 Credit Hours.

This course addresses the theoretical and practical principles of designing, planning, implementing, and evaluating programs in community-bases settings. The students will learn about prevention, effective program development, program approaches, program components, program evaluation, and cultural proficiency in program development and evaluation. Students will acquire and practice skills for becoming effective workers and leaders in community-based agencies. The course will consist of readings, presentations, and applied knowledge.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 462. Community Consultation and Leadership. 3 Credit Hours.

This course will cover strength based, preventive, empowering approaches to institutional and community change, and will address related skills, stages, processes and outcomes; Conflict resolution, facilitation, strategic planning, visioning, advocacy, change management, and community mobilization will be studied and practiced in class.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 504. Mentored Research Studies. 1-3 Credit Hours.

Under the guidance of EPS faculty and graduate students, undergraduate students, will have an opportunity to get involved in various components of research study; gain valuable knowledge and research experience; and expand their undergraduate academic experience.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 505. Lifespan Human Development. 3 Credit Hours.

Theories and research relating to the biophysical, cognitive, and psychosocial domains of human lifespan development.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 510. Professional, Legal and Ethical Issues in Counseling. 3 Credit Hours.

Professional, legal, ethical, and licensing issues in the counseling profession .

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 511. Lifestyle and Career Counseling. 3 Credit Hours.

An introductory course in career development and career counseling, focusing on theories of career development, counseling tools, strategies, and sociological, economic, and psychological influences on the American worker.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 512. Assessment Strategies for Counselors I. 3 Credit Hours.

This course places emphasis on diagnosis, appraisal, assessment, and testing for individual and interpersonal disorders. It addresses statistical procedures and psychometric principles necessary for responsible test use and exposes the student to a variety of test and non-test assessment techniques in marriage and family, and mental health counseling.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 513. Counseling Process and Practice. 3 Credit Hours.

The development of basic communication and clinical skills necessary for establishing the counseling relationship and conducting therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 514. Psychosocial Bases of Social and Cultural Diversity. 3 Credit Hours.

Interrelationship between psychology and sociology in understanding development of diversity in human social systems. Implications for counseling and therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 517. Working With Black Clients:Treatment And Assessment Considerations. 3 Credit Hours.

This course presents three core content areas with respect to the treatment and assessment of Black populations. The first content area addresses historical aspects of the development of Black psychology. Additionally, it will review ethnocentrism, the misuse of Western psychology to marginalize African Americans and reasons for scientific abuses against people of color, such as the Tuskegee Syphilis Study. Lastly the first content area will focus on topics such as the Black family, racism, cultural mistrust, stereotype threat, Black/White relations, and Black mental health. Concomitant aspects of Black culture including; racial identity development, spirituality, sexuality, common misconceptions about Black populations, and within group differences related to gender, class, age, and sexual orientation will be peripherally addressed. The second content area presents a culturally-informed perspective on the psychological assessment and treatment of African Americans. It will focus on topics such as ethnic/racial identity models, cultural variables that may affect DSM 5 diagnoses, epidemiological mental health data across ethno-racial groups, biased measures, culturally specific interventions, and important factors to consider during the delivery of treatment. The third module will focus largely on the infusion and integration of the first two modules in therapeutic practice with Black populations. Students will become familiar with the most updated standards of multicultural competencies published by the following associations; •

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 526. Counseling in Community Settings. 3 Credit Hours.

Exploration of a variety of perspectives on community services relevant to mental health counselors. Topics include: the variety of community settings; community, national, and international diversity in mental health services; diversity of clients (e.g., cultures, religions, GLBT, elderly, social classes, disabilities); mental health funding; the role of politics, policy, advocacy, and research; interviewing across cultures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 527. Community Youth Development. 3 Credit Hours.

This course in community youth development (CYD) will focus on the philosophical, sociological, and educational foundations of a youth development perspective that highlights youth as powerful catalysts for change and positive forces in shaping communities. We reflect on how youth development is inextricably linked with family and community development. After reviewing and critiquing traditional adolescent development theories, students will engage with theories and practices of CYD, youth empowerment, youth civic engagement, youth organizing, social justice youth development, youth activism, and critical youth engagement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 533. Organization and Administration of Higher Education I. 3 Credit Hours.

Theoretical approaches from organizational analysis. Applications to problems, processes, and patterns of higher education institutions. Consideration given to legal status, governance patterns, and external relations. Administrator, faculty, trustee, and student roles are also explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 539. Effective Teaching, Learning, Assessment & Curriculum in Higher Education. 3 Credit Hours.

Provides an overview of current theories, research, and best practices in effective teaching, learning, assessment, and curricular design.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

EPS 543. The Community College. 3 Credit Hours.

An overview of American community colleges including historical evolution, purposes and functions, characteristics of students and faculty, organization and administration, curricula, current issues, and trends.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 545. Administration of Student Affairs. 3 Credit Hours.

History and philosophy of student affairs will be addressed as well as principles and organization of student affairs administration, current problems, procedures, and recent developments.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 553. Introductory Statistics. 3 Credit Hours.

Basic Statistical procedures will be discussed including measures of central tendency, variability and relationship, sampling, and basic tests of statistical significance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

EPS 554. Essentials of Research in Social and Behavioral Sciences. 3 Credit Hours.

Study of the standards methods and techniques of research in the behavioral and social sciences. Brief orientation to quantitative and qualitative procedures used in the analysis and interpretation of research data are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 568. Computer Applications in Educational and Behavioral Science Research. 3 Credit Hours.

An introduction to the use of microcomputer statistical packages in social science research, with emphasis given to SPSS for Windows. Course content will cover a broad range of activities encountered in the data analytic process including planning and creating a database, data coding, file manipulation tasks, data screening, and statistical analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 570. Basic skills in Counseling and Interviewing. 3 Credit Hours.

Introductory course on essential skills used in counseling and interviewing. Through lectures, discussions, and small group exercises, students will explore their natural style of helping and learn effective listening and communication skills. This course is not intended to train students to become a professional counselor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 578. Human and Social Development Practicum. 3-6 Credit Hours.

The practicum serves an integrative function: it allows students to apply their academic training, to further develop their career goals, and to hone their skills while gaining experience in real-world settings. Practica are unpaid, supervised experiences. Students choose from a menu of settings that have been approved as HSD practicum sites and spend a minimum of 120 hours (3 credits) or 250 hours (6 credits) at their chosen setting over the course of the semester. Must be taken concurrently with EPS 481.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

EPS 579. Human and Social Development Practicum Seminar. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 587. Special Topics In Human And Social Development. 1-3 Credit Hours.

This course is designed for students wishing to focus on a specific area of study within the umbrella of Human and Social Development. Topics will be offered based on current trends in the field as well as student and faculty interest. Students will be given supervision and support in a structured seminar setting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 589. Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 591. Workshop in Education. 1-3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 592. Workshop in Education. 1-3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 593. Workshop in Education. 3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 595. Research Honors Project I. 2 Credit Hours.

This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 596. Research Honors Project II. 2 Credit Hours.

This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 598. Research Honors Project - Seminar. 1 Credit Hour.

This course is restricted to students in the SEHD who have been accepted into the Research Honors Program and are working with a Faculty mentor. Students are required to present at the undergraduate Research, Creativity, and Innovation Forum.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 599. Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 600. Field Exper Edu Res. 2-6 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 601. Field Studies in Education. 1-6 Credit Hours.

Individual study of a school or school system, identifying its strengths and weaknesses, and making positive recommendations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 605. Regression Methods. 3 Credit Hours.

The aim of this course is to provide a solid foundation in the basic concepts of multivariate statistics, and its application to practical research questions. This course extends the content of EPS 671 (ANOVA methods) and EPS 672 (regression methods) to cover methods used when there are multiple dependent variables to be modeled simultaneously. This course focuses on the traditional multivariate methods (as opposed to the contemporary models of structure equation modeling) that see wide use in the behavioral sciences. The general topics covered in the course include, but are not limited to: introductory matrix algebra, multivariate analysis of variance (MANOVA), factorial MANOVA, discriminant function analysis, and exploratory factor analysis. In all cases, this course is intended to provide a solid conceptual background of these topics, as well as a thorough description/practice of the application of these topics to real data scenarios.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 620. Workshop in Education. 3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 622. Community Well-being and Change: Theory and Practice. 3 Credit Hours.

This course is designed to promote an understanding of the factors associated with healthy communities. It provides a comprehensive overview of the relevant skills and theories including: ecological/systems theory/models; community theories (sense of community, social capital, environmental psychology); and critical social theory, social justice, and social determinants of well-being.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 623. Development & Change in Community Organizations: Theory & Practice. 3 Credit Hours.

This course focuses on the unique role of non-profit, community-based organizations in promoting human and community development. Students will engage in an analysis of the range of functions that organizations serve and the various organizational strategies used in community settings.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 624. Essentials of Research in Social and Behavioral Sciences. 3 Credit Hours.

Study of the standards methods and techniques of research in the behavioral and social sciences. Brief orientation to quantitative and qualitative procedures used in the analysis and interpretation of research data are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 625. Program Evaluation. 3 Credit Hours.

Terminology, models, standards, practices, and common problems associated with program evaluation in Educational and Social Service settings. Prerequisite: EPS 670 and 553 or equivalents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 627. Community Youth Development. 3 Credit Hours.

This course in community youth development (CYD) will focus on the philosophical, sociological, and educational foundations of a youth development perspective that highlights youth as powerful catalysts for change and positive forces in shaping communities. We reflect on how youth development is inextricably linked with family and community development. After reviewing and critiquing traditional adolescent development theories, students will engage with theories and practices of CYD, youth empowerment, youth civic engagement, youth organizing, social justice youth development, youth activism, and critical youth engagement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 628. Managing Community Organizations. 3 Credit Hours.

This course is designed to develop leadership skills for individuals engaged with community based organizations. Topics will include administrative, management, and fiscal issues. Grant writing, fund-raising, organizational communication, program planning, marketing, innovation, strategic planning, and accountability issues will be examined from a nonprofit organizational perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 629. Seminar in Community & Social Change. 3 Credit Hours.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 648. Multicultural Communities in a Globalized Society. 3 Credit Hours.

This course examines the relationship between multiculturalism and globalization and how these concepts impact education and the world at large. Topics include dimensions of human diversity, identities and acculturation; race and class; gender and power; children and youth; social inclusion and social justice; health disparities; poverty and work; racism and inequality.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 667. Professional, Legal and Ethical Issues in Counseling. 3 Credit Hours.

Professional, legal, ethical, and licensing issues in the counseling profession .

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 668. Psychosocial Bases of Social and Cultural Diversity. 3 Credit Hours.

Interrelationship between psychology and sociology in understanding development of diversity in human social systems. Implications for counseling and therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 669. Psychopathology for Counselors. 3 Credit Hours.

In depth introduction to abnormal human behavior patterns of concern to mental health professionals. Clinical conditions will be examined within the context of currently most viable theory and research relating to etiology, assessment, diagnosis and treatment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 670. Dynamics of Marriage and Family Systems. 3 Credit Hours.

Introduction to the history and development of marriage and family systems theory as a method for understanding individuals' behavior and functioning. Introduction to several modes of family therapy. Throughout the course, lectures will also be integrated with other topics including race, culture, gender, sexual orientation, ability.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 671. Family Therapy. 3 Credit Hours.

Concentrated study of several approaches to family therapy including systemic and psychosocial perspectives. Theory and techniques of family therapy are taught in lecture, videotape, and simulation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 672. Therapy for Couples. 3 Credit Hours.

Theory and technique linked to working with couples, in marriage and in other relationships.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 673. Counseling in Community Settings. 3 Credit Hours.

Exploration of a variety of perspectives on community services relevant to mental health counselors. Topics include: the variety of community settings; community, national, and international diversity in mental health services; diversity of clients (e.g., cultures, religions, GLBT, elderly, social classes, disabilities); mental health funding; the role of politics, policy, advocacy, and research; interviewing across cultures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 674. Lifestyle and Career Counseling. 3 Credit Hours.

An introductory course in career development and career counseling, focusing on theories of career development, counseling tools, strategies, and sociological, economic, and psychological influences on the American worker.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 675. Therapeutic Group Procedures. 3 Credit Hours.

This course examines both the theory and practice of group counseling. The course covers therapist issues, patient selection criteria, group structuring as well as basic therapeutic techniques. The course prepares students to design structured counseling groups, to prepare group counseling materials, and to lead counseling groups of various types.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 676. Counseling Process and Practice. 3 Credit Hours.

The development of basic communication and clinical skills necessary for establishing the counseling relationship and conducting therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 677. Assessment Strategies for Counselors I. 3 Credit Hours.

This course places emphasis on diagnosis, appraisal, assessment, and testing for individual and interpersonal disorders. It addresses statistical procedures and psychometric principles necessary for responsible test use and exposes the student to a variety of test and non-test assessment techniques in marriage and family, and mental health counseling.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 679. Lifespan Human Development. 3 Credit Hours.

Theories and research relating to the biophysical, cognitive, and psychosocial domains of human lifespan development.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 680. Theory and Practice with Children and Adolescents. 3 Credit Hours.

Course prepares students to provide preventive and therapeutic interventions with children and adolescents including theory, research, and practice.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 681. Counseling and Sexuality. 3 Credit Hours.

Emphasis is placed on self-awareness and acceptance of all dimensions of human sexuality. Readings and classroom activities focus on biological aspects of sexuality, an understanding of sexual dysfunctions, and their treatment.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 682. Practicum in Counseling I. 1-4 Credit Hours.

Supervised Practicum at the Institute for Individual and Family counseling and other appropriated clinical settings relating theoretical formulations to intervention strategies appropriate to specialization.

Corequisite: EPS 619.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 683. Practicum Laboratory I. 1-4 Credit Hours.

Individual, dyad, and small group supervision at approved Practicum sites.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 684. Research and Program Evaluation in Counseling. 3 Credit Hours.

Course focuses on the interpretation and application of research data as applied to clinical practice. Skills in using behavioral research-based literature to identify, evaluate and interpret appropriate interventions are also emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 685. Substance Abuse and Addictions: Theories and Counseling. 3 Credit Hours.

Theories and research on individual, systemic causes, and outcomes of substance abuse, and concomitant practices in counseling and therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 686. Working With Black Clients: Treatment And Assessment Considerations. 3 Credit Hours.

This course presents three core content areas with respect to the treatment and assessment of Black populations. The first content area addresses historical aspects of the development of Black psychology. Additionally, it will review ethnocentrism, the misuse of Western psychology to marginalize African Americans and reasons for scientific abuses against people of color, such as the Tuskegee Syphilis Study. Lastly the first content area will focus on topics such as the Black family, racism, cultural mistrust, stereotype threat, Black/White relations, and Black mental health. Concomitant aspects of Black culture including; racial identity development, spirituality, sexuality, common misconceptions about Black populations, and within group differences related to gender, class, age, and sexual orientation will be peripherally addressed. The second content area presents a culturally-informed perspective on the psychological assessment and treatment of African Americans. It will focus on topics such as ethnic/racial identity models, cultural variables that may affect DSM 5 diagnoses, epidemiological mental health data across ethno-racial groups, biased measures, culturally specific interventions, and important factors to consider during the delivery of treatment. The third module will focus largely on the infusion and integration of the first two modules in therapeutic practice with Black populations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 687. Latino Youth And Families. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Summer.**EPS 688. Spanish For Mental Health Professionals. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Summer.**EPS 689. Psychological Interventions with Hispanic/Latino Populations. 3 Credit Hours.**

Explores the diversity of experiences among Hispanics and their implications for therapy. Topics include: racial diversity among Hispanics, sociopolitical factors in mental health, the impact of immigration on mental health, special psychological treatments: trauma treatment, family interventions and bilingual counseling.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**EPS 698. Continuous Registration--Master's Study. 1 Credit Hour.**

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**EPS 699. Advanced Individual Study. 1-6 Credit Hours.**

Individual work on a special project under faculty guidance.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.**EPS 700. Introductory Statistics. 3 Credit Hours.**

Basic Statistical procedures will be discussed including measures of central tendency, variability and relationship, sampling, and basic tests of statistical significance.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Summer.**EPS 701. Introduction to Research Methods. 3 Credit Hours.**

The nature of disciplined inquiry in behavioral and social sciences. Includes philosophy of science, quantitative and qualitative research, basic concepts in sampling and measurement, and systematic searches of the research literature. Students required to complete literature search on a topic of their interest and submit a report of their findings.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**EPS 702. General Linear Models. 3 Credit Hours.**

Group comparative designs, univariate parametric and nonparametric methods and statistical inference will be discussed. Topics include probability, sampling, estimation, ANOVA, ANCOVA. Students will be required to use computer packages (SAS/SPSS).

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**EPS 703. Applied Multivariate Statistics. 3 Credit Hours.**

This course will provide: (1) a conceptually-oriented introduction to regression methods and (2) opportunities to learn related data-analytic techniques.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**EPS 704. Computer Applications in Educational and Behavioral Science Research. 3 Credit Hours.**

An introduction to the use of microcomputer statistical packages in social science research, with emphasis given to SPSS for Windows. Course content will cover a broad range of activities encountered in the data analytic process including planning and creating a database, data coding, file manipulation tasks, data screening, and statistical analysis.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**EPS 705. Measurement and Psychometric Theory. 3 Credit Hours.**

This course provides an introduction to the theory and application of measurement and psychometric models used in the behavioral sciences.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**EPS 706. CATEGORICAL DATA ANALYSIS. 3 Credit Hours.**

Categorical data is abundant in many different fields such as education, psychology, and marketing. The use of statistical methods for categorical data has increased dramatically in recent years. Categorical data can be numeric or character, but it is always a discrete number of levels. Virtually every research project categorizes some of its observations: male or female, marital status, political or religious affiliation, race of patient, and so on.

Prerequisite: EPS 553 and EPS 671.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**EPS 707. Item Response Theory. 3 Credit Hours.**

The purpose of the course is to provide training in the theory and application of item response theory (IRT) as it pertains to educational and psychological measurements. Focus will be given to discussing IRT as a measurement model used to measure the properties of items and individuals. Particular attention will be given to contrasting the properties of the IRT model to the classical test theory, and the application of IRT to actual data sets.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**EPS 708. An Introduction to Structural Equation Modeling for Multivariable Data. 3 Credit Hours.**

This course will provide (1) a conceptually-oriented introduction to Structural Equation Modeling for multivariate data and (2) opportunities to learn related data-analytic techniques.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.

EPS 709. Introduction to Multilevel Modeling. 3 Credit Hours.

This course will provide: (1) a conceptually-oriented introduction to multilevel modeling and (2) opportunities to learn related data-analytic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 710. Meta-analytic methods for research synthesis.. 3 Credit Hours.

Meta-analysis is the general practice of combining, comparing, and interpreting statistics across a set of studies that investigate the same (or similar) phenomena using a properly motivated theoretical framework. Meta-analysis has become a popular tool in a variety of research disciplines, including the social sciences, education, medicine, and business. This course provides a thorough introduction to the theoretical foundations of meta-analysis, discusses commonly used statistical techniques, and analyzes several examples of the existing meta-analysis. Emphasis is placed on application, so that students are trained to independently perform a meta-analysis, from start to finish, in whatever substantive area interests students the most.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 711. Advanced Topics In Research, Measurement, And Evaluation. 3 Credit Hours.

Review of emerging quantitative methodological advances relevant to educational research for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allow for experimental instructional formats. See Course Notes for specific topic.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 712. Field Experience in Educational Research. 2-6 Credit Hours.

A total of 125 hours of supervised practical experiences in educational research. Emphasis is placed on actual participation in a wide variety of on-going research projects through associations with an approved educational R & D center. Normally taken in two or three credit blocks.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 714. Qualitative Methods I. 3 Credit Hours.

An overview of the history, nature, characteristics, strategies, and ethics of qualitative research methods. Critical analysis and evaluation of various types of qualitative studies, including design, sampling, processes of data collection and analysis, and reporting results.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 715. Qualitative Methods II: Case Studies and Grounded Theory. 3 Credit Hours.

Types and designs of case studies, development of protocol, field work, data analysis, and report writing. Practical procedures and techniques for conducting grounded theory studies, including data coding and analysis, and reporting of results.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 716. Qualitative Methods II: Interviews and Content Analysis. 3 Credit Hours.

Sociological and oral history interview methods, including methodological issues, computer-based coding, decoding, and interpreting data. Visual and text based content analysis, scoring schemas, and inter-rated reliability are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 725. Seminar In Community Well-Being. 1-3 Credit Hours.

This course provides an overview of the field of community psychology. We will examine the conceptual and theoretical developments in community psychology since the 1965 Swampscott Conference (the 'birthplace' of community psychology) through reading primary sources – articles, monographs and book chapters – by those who have shaped the field. The readings will include some empirical research studies, but our key focus is the conceptual writings. The goal of this course is to understand and critique different theoretical perspectives in the field of community psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 731. FOUNDATIONS OF COMMUNITY PSYCHOLOGY. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 732. Community Based Participatory Action Research. 3 Credit Hours.

Prerequisite: EPS 670.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 737. Organization and Administration of Higher Education I. 3 Credit Hours.

Theoretical approaches from organizational analysis. Applications to problems, processes, and patterns of higher education institutions. Consideration given to legal status, governance patterns, and external relations. Administrator, faculty, trustee, and student roles are also explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 738. Effective Teaching, Learning, Assessment & Curriculum in Higher Education. 3 Credit Hours.

Provides an overview of current theories, research, and best practices in effective teaching, learning, assessment, and curricular design.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

EPS 739. The Community College. 3 Credit Hours.

An overview of American community colleges including historical evolution, purposes and functions, characteristics of students and faculty, organization and administration, curricula, current issues, and trends.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 740. Administration of Student Affairs. 3 Credit Hours.

History and philosophy of student affairs will be addressed as well as principles and organization of student affairs administration, current problems, procedures, and recent developments.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPS 741. Basic skills in Counseling and Interviewing. 3 Credit Hours.

Introductory course on essential skills used in counseling and interviewing. Through lectures, discussions, and small group exercises, students will explore their natural style of helping and learn effective listening and communication skills. This course is not intended to train students to become a professional counselor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 742. Higher Education in the United States: From Harvard to Present. 3 Credit Hours.

Broad view of issues and problems in higher education. Fundamental ideas and significant literature are analyzed from historical, philosophical, and societal perspectives.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 743. Psychological Bases of Education. 3 Credit Hours.

Review and extension of basic principles of psychology underlying educational practice. Basic concepts of educational psychology which contribute to effective education will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 744. Student Diversity in American Higher Education. 3 Credit Hours.

Emphasis on the diversity of today's undergraduate students. An examination of the sociological context and philosophical orientation of contemporary college students is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 745. Organization of Higher Education II: Governance, Leadership and Finance. 3 Credit Hours.

Provides an overview of selected topics in governance, administrative leadership and finance in higher education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 746. College Student Development: Theory, Research and Practice. 3 Credit Hours.

Emphasis on student growth and development during college and an analysis of the factors which affect development along cognitive and affective dimensions. An in-depth examination of college student development theories is included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 747. Critical Issues in Student Affairs. 3 Credit Hours.

Emphasis on the most pressing issues facing the profession of student affairs today including diversity, funding, staff retention and the law and student affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 748. Enrollment Management: Theory and Practice. 3 Credit Hours.

Comprehensive overview of principles and practices of a strategic process that begins with recruitment and continues through graduation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 749. Advanced Seminar in Enrollment Management. 3 Credit Hours.

In-depth exploration of topics in enrollment management, including market research, market testing, pricing strategies, strategic planning, and development of a future vision.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 750. Seminar in Higher Education/Enrollment Management: Contemporary Issues. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 751. Seminar in Higher Education Administration: Contemporary Issues. 3 Credit Hours.

A review of recent developments, research findings, changing issues, and problems in contemporary American higher education.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 752. Dissertation Seminar. 3 Credit Hours.

The development and analysis of dissertation proposals will be required. Detailed coverage of the research process, proposal elements, dissertation writing and all aspects of doctoral research will be emphasized. Extensive feedback on research ideas and writing is involved.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 753. Internship in College Teaching. 3 Credit Hours.

A program in observation and supervised teaching in the community junior or liberal arts college. The student spends 15-20 hours per week. Included is a seminar held with the college supervisor which meets several times during the semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 754. Practicum: Administration of Higher Education. 1-6 Credit Hours.

This course is designed to provide students with an opportunity to develop professional competencies while they apply theory to practice. Opportunities can be pursued in enrollment management or student affairs related offices either on campus or at other higher education institutions. Students will contract for the type of experience desired and a formal research paper and presentation will culminate this activity.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 764. Workshop in Education. 1-3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 765. Workshop in Education. 1-3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

EPS 766. Workshop in Education. 3 Credit Hours.

Study in special interest areas in education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 767. Counseling Psychology: Theory, Research and Practice I. 3 Credit Hours.

Orientation to counseling psychology as a discipline including theories, research methodology, contemporary research, lifestyle and career development theory, and professional issues. Required of all first year counseling psychology students. May be taken for 3 or 6 credits to a maximum of 12 credits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 768. Counseling Psychology: Theory, Research and Practice II. 3 Credit Hours.

Orientation to counseling psychology as a discipline including theories, research methodology, contemporary research, lifestyle and career development theory, and professional issues. Required of all first year counseling psychology students. May be taken for 3 or 6 credits to a maximum of 12 credits.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 770. Psychological Appraisal I. 3 Credit Hours.

Orientation to psychological appraisal with emphasis on development of skill in assessment of intellectual functioning.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

EPS 771. Psychological Appraisal II. 3 Credit Hours.

Orientation to psychological appraisal with emphasis on use of procedures which facilitate preparation for, and evaluation of, intervention efforts in the personality and social-behavioral areas.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 775. Doctoral Practicum I. 1-9 Credit Hours.

Supervised counseling experiences with clients at the Institute for Individual and Family Counseling. Individual and small group supervision by program faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 776. Doctoral Practicum II. 1-9 Credit Hours.

Supervised counseling and assessment experience in outside agencies, hospitals and community settings. Small group case conference conducted by program faculty.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 777. Advanced Practicum in Counseling Psychology. 1-9 Credit Hours.

Supervised experience appropriate to the work of the counseling psychologist.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 779. Internship in Counseling Psychology. 1-6 Credit Hours.

Supervised internship in Counseling Psychology in an approved facility.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 780. Cultural Diversity and Mental Health. 3 Credit Hours.

Advanced training in conceptualizing the individual within cultural and sociopolitical contexts with purpose of creating more reflective and intentional clinicians. Includes learning skills for improving the lives of clients in these areas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPS 781. The Social Bases Of Human Activity And Flourishing. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPS 782. Supervision in Counseling Psychology. 3 Credit Hours.

The course includes a didactic presentation of theories of supervision and consultation. Application of supervision theories with opportunities to practice beginning supervisor skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 785. Preparing Future Faculty Seminar. 1-3 Credit Hours.

The goal of this course is to introduce you to the larger role of university professor. The class is designed to give you some general sense of university structure and of the breadth of opportunities in higher education, to think through your own vision of "being a professor" particularly the part of that role that focuses on teaching, and to help you on the job search by preparing a professional portfolio that will help you get that first job and, hopefully, set you on a smooth career path. The PFF seminar will provide you with contextual and interdisciplinary knowledge of professoriate. Each seminar will be designed to aid you in your goal to become an outstanding faculty member. PFF will give you an overview of life on the academic job market and the pre-tenure years. It is your responsibility to tailor that information to fit your needs. It is expected that you take the information you learn in PFF and speak with mentors in your discipline to glean further insights into faculty life.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 789. Research Practicum. 1-6 Credit Hours.

Hands on experience in various aspects and processes in research.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

EPS 798. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 799. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her adviser. Credit is not awarded until the thesis has been accepted.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPS 820. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in EPS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 825. Continuous Registration Master's Study. 1 Credit Hour.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPS 830. Pre-Candidacy Dissertation Research. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of EPS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPS 835. Doctor of Education Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ed.D. The student enrolls for credit as determined by his/her advisor. Credit is not awarded until the doctoral project has been accepted. Total enrollment may not exceed 12 credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPS 840. Post-Candidacy Dissertation Research. 1-12 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPS 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and Ed.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate school.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Electrical & Computer Engineering (ECE)

ECE 100. Introduction to Electrical and Computer Engineering. 3 Credit Hours.

Introduction to Electrical and Computer Engineering (ECE) for high school students interested in science and technology. The course covers important thematic units of the discipline: electronics, digital design, computer programming and signal processing. Emphasis on hands-on experience in the use of laboratory instrumentation, circuit construction and computer simulation.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools and computer techniques for problem solving, data acquisition, analysis, presentation, software design, and computer aided drafting. Development of design skills through several design and building competitions is included as well as an introduction to professional ethics, intellectual property rights, the use of MATLAB, AutoCAD, and programming in C++.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 112. Introduction to Engineering II. 2.00 Credit Hours.

Course is designed to provide first-year undergraduate students with an introduction to some key electrical and computer engineering concepts and topics by discussing their roles in some of the commonly used electrical and computer engineering systems. Numerical examples, circuit simulations, and computer programming are introduced through the use of MATLAB, microcontroller programming languages, and PSpice. Hands-on experience are provided through a project where the students design, assemble, program, and test a microcontroller-based mobile robot with a variety of sensing devices. Should be taken as a freshman only; otherwise to be replaced by a technical elective.

Prerequisite: ECE 111. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 118. Introduction to Programming. 3 Credit Hours.

Introduction to computing, problem solving, program design, C++ language fundamentals, and software engineering principles. Software design projects are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 201. Electrical Circuit Theory. 3 Credit Hours.

Fundamentals of DC-AC circuit laws, including steady state and transient analysis. Lecture, 3 hours.

Prerequisite: PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 204. Electrical Circuits Laboratory. 1 Credit Hour.

Laboratory work employing the techniques of circuit theory to physical components, devices, and circuits. Use of electronic computing techniques to relate analytical and empirical investigations. Laboratory, 3 hours.

Prerequisite: ECE 201.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 205. Principles of Electrical Engineering--I. 3 Credit Hours.

Fundamentals of DC and AC Circuits and a survey of Electrical Machinery and Electronics. Not open to students with credits in ECE 201. Lecture, 3 hours.

Prerequisite: MTH 162 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 218. Data Structures. 3 Credit Hours.

Continuation of Programming with emphasis on C++ and the skills required of a capable programmer. Essential data structures and algorithms, and introducing algorithm analysis. Basic sorting, searching, and data management. Dynamic and static memory management. Object oriented programming.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 301. Electromagnetic Field Theory. 3 Credit Hours.

Vector analysis, static and time-varying fields, Maxwell's equations, propagation of electromagnetic waves, and transmission line theory and applications are discussed.

Prerequisite: PHY 207 and MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 304. Logic Design. 3.00 Credit Hours.

Boolean algebra and its applications in analysis and design of logic circuits. Introduction to SSI and MSI circuits as building blocks, memory elements, and analysis and synthesis of synchronous and asynchronous sequential systems are discussed.

Prerequisite: ECE 118 or CSC 120.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 305. Electronics I. 3 Credit Hours.

Semiconductor physics and devices. Diodes, bipolar-junction transistors (BJT). Introduction to field-effect transistors (FETs) and Operational Amplifiers. Emphasis on dc and ac analysis of electronic circuits. Use of CAD tools such as PSpice.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 306. Electronics II. 3 Credit Hours.

Continuation of ECE 305. Emphasis on integrated circuits. Field-effect transistors (FETs). Application of operational amplifiers and other integrated circuits. Frequency response of amplifiers. Use of CAD tools as PSpice.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 307. Circuits, Signals And Systems. 3.00 Credit Hours.

This course teaches the basics of continuous-time signals and systems with an emphasis on circuits as motivating examples. Topics include signals and linear time-invariant systems, convolution, stability, Laplace Transform, transfer function, poles and zeros, s-domain circuit analysis, feedback control, Fourier Series and Transform, Bode plots, analog filters.

Prerequisite: ECE 201, MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 308. Linear Control Systems. 3 Credit Hours.

Introduction to system theory, transfer function and state variable modeling of linear continuous time systems, root locus, Bode plot, Nyquist criterion, analysis and controller design using root locus and frequency domain techniques, proportional-integral-derivative controllers.

Prerequisite: ECE 307, ECE 311, MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 310. Introduction to Engineering Probability. 3 Credit Hours.

Axioms of probability, discrete and continuous random variables, probability density functions. Expectation, conditioning, independence, functions of random variables, characteristic functions, multiple random variables. Sums of random variables, limit theorems, probability bounds, convergence concepts. Introduction to statistical analysis, estimation, and hypothesis testing. Cross-listed with IEN 310.

Prerequisite: MTH 162 or equivalent. Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 311. Electronics Laboratory. 1 Credit Hour.

Laboratory course in conjunction with courses ECE 305 and 306.

Prerequisites: ECE 204, ECE 306. Or Corequisite: ECE 306.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 312. Processors: Hardware, Software, And Interfacing. 4 Credit Hours.

Architecture and operation of modern microprocessor based computer systems and microcontrollers. Assembly language and applications with hands on experience. Lecture, 3 hours; laboratory, 3 hours.

Prerequisite: ECE 304.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 315. Digital Design Laboratory. 1 Credit Hour.

Familiarization with properties and use of logic gates, flip-flops, digital standard components, and programmable logic devices. Design and implementation of combinational and synchronous digital systems and Computer Aided Engineering (CAE) tools for design and simulation of digital systems are also included.

Prerequisite: ECE 304.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 316. Structured Digital Design. 1 Credit Hour.

VHDL ((VHSIC (very high speed integrated circuits) hardware description language)) introduction and syntax. Functional and behavioral models of VHDL for design, testing, and simulation of digital circuits and programmable logic devices. Design and implementation of combinational and sequential digital systems using VHDL is also included.

Prerequisite: ECE 315. Or Corequisite: ECE 315.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 318. Algorithms. 3 Credit Hours.

Continuation of the programming sequence. Object oriented programming with C++, emphasizing the skills required of a professional programmer. Essential data structures and algorithms: trees, graphs, hash tables, parsing and text processing. Advanced sorting and data management algorithms. Advanced features of C++; effective programming with C.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 322. Systems Programming. 3 Credit Hours.

Practical hands-on experience with UNIX systems programming and administration. Programming using C and shell scripting languages. File systems features, multiprocessing, inter-process communication, and systems programming fundamentals are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 336. Discrete-Time Signals And Systems. 3 Credit Hours.

This course provides the basics connecting continuous-time (CT) and discrete-time (DT) signal processing, and an introduction to discrete-time signals and systems and applications. Topics include communication, sampling, discrete-time linear time-invariant (LTI) signals and systems, difference equations, z Transform, transform domain analysis of DT systems, DT Fourier transform (DTFT), digital filters, applications to audio, and image processing.

Prerequisite: ECE 307.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 368. Internet Computing I. 3 Credit Hours.

Principles and practices used in creating interactive Internet sites. Extensive object oriented programming in Java is taught. Use of eXtensible Markup Language (XML) to provide content description. Use of GUI components and graphics to create web based applications.

Prerequisite: ECE 218.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 395. Undergraduate Research in Electrical and Computer Engineering. 1-3 Credit Hours.

Research and/or design projects consisting of an individual investigation of real-world contemporary problems. Offered by special arrangement and under the supervision of a faculty member.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 399. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 404. Communication Systems. 3 Credit Hours.

Introduction to digital communication, including binary and M-ary baseband and bandpass modulation over additive white Gaussian noise channels. Optimal receivers, pulse shaping for bandlimited channels, synchronization, multiple access.

Prerequisite: ECE 336, ECE 310 or IEN 310.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 405. Solid-State Electronics. 3 Credit Hours.

Principles of semiconductor electronics, energy bands of semiconductors, Fermi level, carrier distribution, and transport mechanisms are discussed. Application of semiconductor theory to various junction and field effect devices are included.

Prerequisite: ECE 301, PHY 207.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 414. Computer Organization and Design. 3 Credit Hours.

Hardware structure, organization and design of computers. Design of computer arithmetic and control units, data, and instruction paths. Modern hardware description language (HDL) based design methodology. Register transfer level design of computers and digital systems. Algorithmic state machine (ASM) charts, instruction set architecture, control unit implementation, microprogramming, memory organization, pipelining, I/O system organization and high speed arithmetic units are discussed.

Prerequisite: ECE 312.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 415. Senior Project I. 1 Credit Hour.

Topics cover tasks in project planning including scheduling, documentation, communication (written and oral), financial constraints, and ethics. Students are required to present project proposals to serve as the basis for the follow-up course, ECE 416.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 416. Senior Project II. 2 Credit Hours.

The capstone design course for Electrical Engineering majors. An electrical system is designed, implemented, and documented.

Prerequisite: ECE 415.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 417. Embedded Microprocessor System Design. 3 Credit Hours.

Study of microcomputer system design, scientific methods for quantifying system performance, embedded controller applications using high level languages, and debugging strategies. Lecture, 1 hour; laboratory, 3 hours.

Prerequisite: ECE 218, ECE 315, ECE 414.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 418. Senior Project Planning. 1 Credit Hour.

The creative process of devising a product to meet customers needs including an overview of the design process, analysis of requirements, project planning, scheduling, evaluation, and documentation. Students are required to present project proposals to serve as the basis for the follow-up senior design project.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 419. Senior Project. 2 Credit Hours.

The purpose of this course is to integrate the student's knowledge in hardware, software, and project management. A major digital system is designed, implemented, debugged, and documented.

Prerequisite: ECE 418, ECE 417, ECE 454.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 436. Digital Signal Processing. 3 Credit Hours.

Topics include finite length transforms (e.g., discrete Fourier transform, discrete sine and cosine transforms) and their fast computation, finite impulse response (FIR) and infinite impulse response (IIR) digital filter design, digital filter structures, finite wordlength effects on filter performance, and multirate signal processing fundamentals.

Prerequisite: ECE 336.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 437. Real-Time Digital Signal Processing Laboratory. 1 Credit Hour.

Digital signal processing hardware for real-time operation, software development tools, instruction set, and DSP experiments with audio and speech application are discussed.

Prerequisite: ECE 436. Or Corequisite: ECE 436.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

ECE 454. Digital System Design and Testing. 2 Credit Hours.

Functional building blocks and concepts of control and timing in digital design. Descriptive techniques for digital systems and design for testability.

Prerequisite: ECE 316.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 455. Design-for-Testability Laboratory. 1 Credit Hour.

Project laboratory demonstrating the techniques necessary to design, implement, and debug and test a large system. The process is carried through from conceptual design, implementation, integration, simulation, and synthesis on a FPGA chip.

Prerequisite: ECE 454. Or Corequisite: ECE 454.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 499. Senior-Junior Cooperative Education. 1-3 Credit Hours.

Analysis and design experience obtained in industry or government. Approved project jointly supervised and assessed by department faculty and external partner. Note: A maximum of three credits could be used to satisfy degree requirement as Technical Elective. See Bulletin for more information.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ECE 500. Engineering Analytical Techniques. 3 Credit Hours.

Complex variables, analytic functions, power series, residue theorem, conformal mappings, series solution, Bessel functions, Legendre polynomials. singular value decomposition, vector, and matrix norms are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 502. Engineering Acoustics. 3 Credit Hours.

Introduction to basic principles of acoustics, methods of sound measurement, physiological, psychological acoustics, the acoustics of the major classes of musical instruments and speech, fundamentals of transducers, architectural acoustics, and the effects and control of noise are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 503. Laser Communications. 3 Credit Hours.

Prerequisites: PHY 206, PHY 207, ECE 301, or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 504. Fundamentals of Optical. 3 Credit Hours.

Prerequisites: ECE 301 or BME 545.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 505. Semiconductor Photonic Devices. 3 Credit Hours.

Principles of semiconductor electronics: energy bands of semiconductors; Fermi level; carrier distribution and transport mechanisms. Application of semiconductor theory to various junction and field effect devices. Prerequisite : ECE 305.

Prerequisite: ECE 305.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 506. Microfabrication. 3 Credit Hours.

Principles of operation, properties and applications of semiconductor devices, junction, metal-semiconductor, metal-oxide-semiconductor, optoelectronic, bulk-effect, and charge-coupled are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 511. Computability, Complexity, And Algorithms. 3 Credit Hours.

Advanced programming techniques: dynamic programming, fast data retrieval and sorting, enumerators, data structures, and data management. The limits of software engineering, computability and models of computation, complexity analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 512. Software Engineering and Architecture. 3 Credit Hours.

Examination of the building blocks of software systems. Requirements and specifications. Model driven Architecture. Architectural and Design Patterns. Design and analysis for functionality and quality. Computer Aided Software Engineering tools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 513. Software Design and Verification. 3 Credit Hours.

Design for testability. Software testing methods and tools. Formal review techniques. Functional and structured testing methods and test generation. Unit-level testing. Integration, acceptance, regression, performance and stress testing. Verification methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 514. Computer Architecture. 3 Credit Hours.

Computer data and instruction types, survey of existing architectures, and the interaction between hardware and software sub-systems are discussed. Advanced topics in computer architecture.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

ECE 519. Design of Computing Languages. 3 Credit Hours.

Major features of modern programming languages with emphasis on design and software efficiency. Interaction between language design and the design of its compiler are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 521. Computer Operating Systems. 3 Credit Hours.

The design and implementation of operating systems. Virtual memory and memory management, resource allocation, device drivers, process creation, control, communications and scheduling, file systems, data protection, security, parallel processing and time-sharing. The class includes a significant operating system implementation project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 532. VLSI Systems. 3 Credit Hours.

Fundamentals of MOS Technology in VLSI. System data, control flow, structures, design, layout, maskmaking, fabrication, packaging, and testing of VLSI chips are discussed. Highly concurrent Very Large Scale Integration computational systems are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 533. Random Signals and Noise. 3 Credit Hours.

Probability models, Bayes' theorem, Limit theorems of Laplace and Poisson, functions of random variables, Central limit theorem, conditional expectation and estimation, Stochastic processes, stationarity and ergodicity, cross-spectral analysis, filtering, and prediction are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 534. Communication Networks. 3 Credit Hours.

Principles of digital communications, Local Area Networks (LANs), Wide Area Networks(WANs), Open systems Intercommunication (OSI), Internet reference models, internet architecture and protocols, packet switching and routing, and network performance are discussed. PREREQUISITE:

ECE 310 OR IEN 310.

Prerequisites: ECE 310. or IEN 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 536. Adaptive Filters And Signal Processing. 3 Credit Hours.

Topics include linear models and estimation, orthogonality principle, Wiener filters, stochastic gradient methods, LMS and RLS algorithms, mean square error and tracking performance and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 537. Principles of Artificial Intelligence. 3 Credit Hours.

Search techniques, game trees, exhaustive vs. cutoff search, natural language processing, augmented transition networks, knowledge representation, cognitive aspects, semantic networks, problem-solving, expert systems, and AI machines are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 538. Introduction to Digital Image Processing. 3 Credit Hours.

Digital image representation. Image smoothing, sharpening, and transformations. Color image processing. Encoding of digital images. High level image segmentation and description techniques. Processing of image sequences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 539. Digital Communications. 3 Credit Hours.

Principles for the analysis and design of digital communications systems. Nyquist sampling, signal space representation, digital modulation techniques and optimal receiver design, ISI channels, error control coding, convolutional codes, Viterbi decoder, and wireless applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 540. Digital Speech and Audio Processing. 3 Credit Hours.

Introduction to human speech production, hearing, and perception. Digital speech and audio signal analysis in time and frequency, speech and audio coding, speech synthesis and recognition, language modeling, design of systems for human-machine interaction are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 543. BioNanotechnology. 3 Credit Hours.

Introduction on the fundamentals of nanotechnology with a focus on Biomedical Applications. A foundation of nanotechnology concepts will be established through lectures on nanometrology with quantum physics basics, nano manufacturing tools, physical, chemical properties of nanomaterials. Application of these principles in electronics, magnetics, mechanics and optics will be discussed. Use of these nanoengineering principles and concepts to focus on biomedical technology applications such as biosensors, biomaterials, biomimetics and therapeutics

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 546. Reliable Digital System Design. 3 Credit Hours.

Topics include descriptive technique for digital systems, synchronizer failure and metastability estimation, design for testability, and estimating digital system reliability. Computer-Aided Engineering (CAE) tools are also covered. Not open to students with credit in ECE 454. Offered only for Graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 548. Machine Learning. 3 Credit Hours.

Fundamentals of intelligent system design and strategies of learning capability simulation. Selected case studies of learning systems for engineering applications are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 553. Neural Networks. 3 Credit Hours.

Artificial neural network algorithms and structures, learning process, perceptron, least-mean-square algorithms, multilayer perceptron, error back-propagation, radial-basis function networks, the Hopfield network, and self-organizing systems are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 562. Wireless and Cellular Communication. 3 Credit Hours.

Wireless Channel Characterization: path loss, shadowing, fading, frequency-selective channels, Doppler spread, and delay spread. Diversity techniques: frequency, time and space diversity. Multiple Antenna Systems: space-time coding, beamforming and layered space-time system. Digital Modulation: adaptive modulations and Orthogonal Frequency Division Multiplexing (OFDM). Cellular Concept: frequency reuse, co-channel interference and handoff. Multiple Access Methods: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and random access. CDMA: spreading codes, RAKE receiver, multiuser detection and power control.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 563. Wireless Communication Lab. 1 Credit Hour.

Computer simulation of path loss, shadowing and fading in wireless channels, performance of various digital modulation methods in both Gaussian and wireless channels, diversity methods, equalization methods including zero-forcing, minimum mean-square error (MMSE) and decision-feedback equalization (DFE), co-channel interfacing in cellular systems, space-time coding. Orthogonal Frequency Division Multiplexing (OFDM) systems, spreading codes for Code Division Multiple Access (CDMA) systems, and matched-filter receiver and multiuser detector for CDMA systems. Measurement of wireless signals in various environments.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 564. Wireless Networks. 3 Credit Hours.

Introduction of wireless channels and network. Introduction of medium access control: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and Carrier Sense Multiple Access. Wireless data networks: IEEE 802.11 (WiFi), IEEE 802.16 (WiMax) and Bluetooth. Wireless network layer: mobile IP and mobile ad-hoc networks. Wireless transport layer: mobile TCP. Wireless Cellular systems: network structure and call processing of GSM and CDMA systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 567. Database Design and Management. 3 Credit Hours.

Database systems design, modeling, implementation, management methodologies, and techniques. Different database systems are addressed including relational, object-oriented, object-relational, and distributed database systems. Internet (WWW) technology, data warehousing, and online analytical processing applications of database management systems and hands-on experience with commercial database systems is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 570. Network Client-Server Programming. 3 Credit Hours.

Introduction to server-client systems and programming. Advanced server-client design and implementation based on distributed component object model in Windows and UNIX.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 572. Object-Oriented and Distributed Database Management Systems. 3 Credit Hours.

Object-Oriented modeling concepts in languages and database systems. Object-Oriented database systems. Semantic data models, nested-relational, object-relational databases. Distributed database system. Federated Databases. Application to engineering design problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 574. Agent Technology. 3 Credit Hours.

Agent definition and applications, agent modeling, theories, agent representation using KIF (Knowledge Interchange Format), agent behavior, ethical and emotional agents, agent communication languages (KQML (Knowledge Query and Manipulation Language)), agent development environments and tools, agent systems (cooperative agents, interface agents, information agents, learning agents, believable agents, agents for workgroups, mobile agents), and agent case studies are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 576. Internet and Intranet Security. 3 Credit Hours.

Security issues and applications for securing internet and intranet-based information exchange. Secure information models, security tools, security services, security protocols, electronic commerce, virtual private networks, firewalls, and security versus cost tradeoffs are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 577. Data Mining. 3 Credit Hours.

Introduction to the general principles of inferring useful knowledge from large data sets. Data mining algorithms, including inferring rules, linear regression, decision trees, association rules, and predictive models. Evaluation of data mining algorithms, including training, testing, prediction, comparison, cost, and cross-validation. Data mining applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 579. Mobile Computing. 3 Credit Hours.

Mobile computing and proxy architectures, mobile web protocols, mobile user interfaces, applications, systems-ware adaptations, mobile databases, transactions, data synchronization, privacy, authentication, and security are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 580. Electrical and Computer Engineering Internship. 1-3 Credit Hours.

Analysis, design, and research experience obtained at an operating and recognized industry. Approved project jointly supervised and assessed by departmental faculty and industrial partner.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 581. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ECE 582. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

ECE 583. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 584. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 590. Special Topics in Information Technology. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Information Technology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 591. Special Topics in Information Technology. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Information Technology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 594. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 595. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 596. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 597. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 598. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 599. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 600. Engineering Analytical Techniques. 3 Credit Hours.

Complex variables, analytic functions, power series, residue theorem, conformal mappings, series solution, Bessel functions, Legendre polynomials. singular value decomposition, vector, and matrix norms are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 602. Engineering Acoustics. 3 Credit Hours.

Introduction to basic principles of acoustics, methods of sound measurement, physiological, psychological acoustics, the acoustics of the major classes of musical instruments and speech, fundamentals of transducers, architectural acoustics, and the effects and control of noise are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 603. Laser Communications. 3 Credit Hours.

Prerequisites: PHY 206, PHY 207, ECE 301, or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 604. Fundamentals of Optical. 3 Credit Hours.

Prerequisites: ECE 301 or BME 545.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 605. Semiconductor Photonic Devices. 3 Credit Hours.

Principles of semiconductor electronics: energy bands of semiconductors; Fermi level; carrier distribution and transport mechanisms. Application of semiconductor theory to various junction and field effect devices. Prerequisite : ECE 305.

Prerequisite: ECE 305.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 606. Microfabrication. 3 Credit Hours.

Principles of operation, properties and applications of semiconductor devices, junction, metal-semiconductor, metal-oxide-semiconductor, optoelectronic, bulk-effect, and charge-coupled are covered

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 632. VLSI Systems. 3 Credit Hours.

Fundamentals of MOS Technology in VLSI. System data, control flow, structures, design, layout, maskmaking, fabrication, packaging, and testing of VLSI chips are discussed. Highly concurrent Very Large Scale Integration computational systems are also covered.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

ECE 633. Random Signals and Noise. 3 Credit Hours.

Probability models, Bayes' theorem, Limit theorems of Laplace and Poisson, functions of random variables, Central limit theorem, conditional expectation and estimation, Stochastic processes, stationarity and ergodicity, cross-spectral analysis, filtering, and prediction are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 636. Adaptive Filters And Signal Processing. 3 Credit Hours.

Topics include linear models and estimation, orthogonality principle, Wiener filters, stochastic gradient methods, LMS and RLS algorithms, mean square error and tracking performance and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 637. Principles of Artificial Intelligence. 3 Credit Hours.

Search techniques, game trees, exhaustive vs. cutoff search, natural language processing, augmented transition networks, knowledge representation, cognitive aspects, semantic networks, problem-solving, expert systems, and AI machines are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 638. Introduction to Digital Image Processing. 3 Credit Hours.

Digital image representation. Image smoothing, sharpening, and transformations. Color image processing. Encoding of digital images. High level image segmentation and description techniques. Processing of image sequences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 639. Digital Communications. 3 Credit Hours.

Principles for the analysis and design of digital communications systems. Nyquist sampling, signal space representation, digital modulation techniques and optimal receiver design, ISI channels, error control coding, convolutional codes, Viterbi decoder, and wireless applications.

Components: LEC.

Grading: GRD.

ECE 640. Digital Speech and Audio Processing. 3 Credit Hours.

Introduction to human speech production, hearing, and perception. Digital speech and audio signal analysis in time and frequency, speech and audio coding, speech synthesis and recognition, language modeling, design of systems for human-machine interaction are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 643. BioNanotechnology. 3 Credit Hours.

Introduction on the fundamentals of nanotechnology with a focus on Biomedical Applications. A foundation of nanotechnology concepts will be established through lectures on nanometrology with quantum physics basics, nano manufacturing tools, physical, chemical properties of nanomaterials. Application of these principles in electronics, magnetics, mechanics and optics will be discussed. Use of these nanoengineering principles and concepts to focus on biomedical technology applications such as biosensors, biomaterials, biomimetics and therapeutics

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 646. Reliable Digital System Design. 3 Credit Hours.

Topics include descriptive technique for digital systems, synchronizer failure and metastability estimation, design for testability, and estimating digital system reliability. Computer-Aided Engineering (CAE) tools are also covered. Not open to students with credit in ECE 454. Offered only for Graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 648. Machine Learning. 3 Credit Hours.

Fundamentals of intelligent system design and strategies of learning capability simulation. Selected case studies of learning systems for engineering applications are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 653. Neural Networks. 3 Credit Hours.

Artificial neural network algorithms and structures, learning process, perceptron, least-mean-square algorithms, multilayer perceptron, error back-propagation, radial-basis function networks, the Hopfield network, and self-organizing systems are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 662. Wireless and Cellular Communication. 3 Credit Hours.

Wireless Channel Characterization: path loss, shadowing, fading, frequency-selective channels, Doppler spread, and delay spread. Diversity techniques: frequency, time and space diversity. Multiple Antenna Systems: space-time coding, beamforming and layered space-time system. Digital Modulation: adaptive modulations and Orthogonal Frequency Division Multiplexing (OFDM). Cellular Concept: frequency reuse, co-channel interference and handoff. Multiple Access Methods: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and random access. CDMA: spreading codes, RAKE receiver, multiuser detection and power control.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ECE 664. Wireless Networks. 3 Credit Hours.

Introduction of wireless channels and network. Introduction of medium access control: Frequency Division Multiple Access (FDMA), Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA) and Carrier Sense Multiple Access. Wireless data networks IEEE 802.11 (WiFi), IEEE 802.16 (WiMax) and Bluetooth. Wireless network layer: mobile IP and mobile ad-hoc networks. Wireless transport layer: mobile TCP. Wireless Cellular systems: network structure and call processing of GSM and CDMA systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 672. Object-Oriented and Distributed Database Management Systems. 3 Credit Hours.

Object-Oriented modeling concepts in languages and database systems. Object-Oriented database systems. Semantic data models, nested-relational, object-relational databases. Distributed database system. Federated Databases. Application to engineering design problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 674. Agent Technology. 3 Credit Hours.

Agent definition and applications, agent modeling, theories, agent representation using KIF (Knowledge Interchange Format), agent behavior, ethical and emotional agents, agent communication languages (KQML (Knowledge Query and Manipulation Language)), agent development environments and tools, agent systems (cooperative agents, interface agents, information agents, learning agents, believable agents, agents for workgroups, mobile agents), and agent case studies are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 677. Data Mining. 3 Credit Hours.

Introduction to the general principles of inferring useful knowledge from large data sets. Data mining algorithms, including inferring rules, linear regression, decision trees, association rules, and predictive models. Evaluation of data mining algorithms, including training, testing, prediction, comparison, cost, and cross-validation. Data mining applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 680. Electrical and Computer Engineering Internship. 1-3 Credit Hours.

Analysis, design, and research experience obtained at an operating and recognized industry. Approved project jointly supervised and assessed by departmental faculty and industrial partner.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 681. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ECE 682. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

ECE 683. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 684. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 694. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 695. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 696. Special Topics in Computer Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Computer Engineering .

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 697. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering .

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 698. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering .

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 699. Special Topics in Electrical Engineering. 1-3 Credit Hours.

Lecture courses in selected areas of specialization within Electrical Engineering .

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 715. M. S. Design Project I. 3 Credit Hours.

Comprehensive M.S. design project in electrical or computer engineering. Open only to students in the BS/MS dual-degree program.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 716. M.S. Design Project II. 3 Credit Hours.

Continuation of ECE 715. Open only to students in the BS/MS dual-degree program .

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 738. Computer Vision. 3 Credit Hours.

Principles of computer vision. Segmentation, shape and texture analysis, 3D scene analysis, polyhedral scenes, time-varying image analysis, parallel processing algorithms, matching, and recognition are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 753. Pattern Recognition and Neural Networks. 3 Credit Hours.

Statistical pattern classification, feature extraction, cluster analysis, neural net models, Hopfield net, competitive learning, multi-layer perceptron, and the Boltzmann machine are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 756. Information Theory. 3 Credit Hours.

Measure of uncertainty and entropy, two dimensional sources, noisy channels, mutual and transinformation, equivocation, efficiency and channel capacity, minimum redundancy coding, error-detecting, error-correcting codes, continuous channel without memory. Gaussian additive noise, sampling theorem, and vector space are covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 781. Advanced Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

ECE 782. Advanced Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ECE 783. Advanced Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 784. Advanced Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

ECE 795. Advanced Topics in Computer Engineering. 1-3 Credit Hours.

Subject matter offerings in computer engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 796. Advanced Topics in Computer Engineering. 1-3 Credit Hours.

Subject matter offerings in computer engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 797. Advanced Topics in Electrical Engineering. 1-3 Credit Hours.

Subject matter offerings in electrical engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 798. Advanced Topics in Electrical Engineering. 1-3 Credit Hours.

Subject matter offerings in electrical engineering based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 799. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ECE 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ECE 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ECE 810 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ECE 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. No more than 12 hours of ECE 830 may be taken in a regular semester; no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECE 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. No more than 12 credits in ECE 840 may be taken in a regular semester; no more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

ECE 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

English (ENG)

ENG 100. Writer's Symposium. 3 Credit Hours.

Writer's Symposium is designed to give students exposure and practice in the crafts of poetry and fiction. Students will develop skills appropriate to each genre. The course will explore the rhythm, line, image, and metaphor of poetry as well as fiction-related issues such as narration, dialogue, setting and point of view.

Requisite: Plan of Summer Scholar Program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 103. Basic Academic Writing. 3 Credit Hours.

Intensive approach to the basics of academic writing with emphasis on building written fluency, using conventions of standard written English, and editing for precision and correctness. Intended for students who need extra preparation before entering ENG 105. Not for credit toward graduation.

Components: LEC.

Grading: CNC.

Typically Offered: Fall & Spring.

ENG 105. English Composition I. 3 Credit Hours.

Introduction to written academic argument and inquiry. Not for major or minor. Cannot be taken on credit-only option.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 106. English Composition II. 3 Credit Hours.

Advanced approaches to written academic argument, with emphasis on textual analysis and incorporation of secondary sources. Not for major or minor. Cannot be taken on credit-only option.

Prerequisite: ENG 105. Or Requisite: SAT score \geq 700 or ACT score \geq 32.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 107. English Composition II: Science and Technology. 3 Credit Hours.

Advanced approaches to written academic argument, with emphasis on textual analysis and incorporating source material using readings and approaches connected to science and technology. Alternative to ENG 106. Not for major or minor. Cannot be taken on credit-only option.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 201. World Literary Masterpieces I. 3 Credit Hours.

Comparative study of literary masterpieces from ancient times through the Renaissance. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 202. World Literary Masterpieces II. 3 Credit Hours.

Comparative study of literary masterpieces from the Renaissance to the present. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 205. Jewish Literature. 3 Credit Hours.

Selections from the Bible, the Talmud, the Kabbalah, medieval poetry and prose, Yiddish and Sephardic literature, and contemporary American and Israeli writers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 208. Advanced Academic Writing for Transfer Students. 3 Credit Hours.

Review of research techniques and revision strategies. Completes the university composition requirement for those students who transfer into UM with credit for one composition course from another institution. Open only to transfer students who have received transfer credit for either English 105 or English 106. Not open to students who have taken either English 105 and/or 106 at UM.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 209. Creative Writing. 3 Credit Hours.

Analysis and writing of Short stories and poems. Cannot be taken for credit only.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 210. Literary Themes and Topics. 3 Credit Hours.

Literary analysis and practice in critical writing through the study of selected works; themes and topics vary by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 211. English Literature I. 3 Credit Hours.

Selected readings from the middle ages to the late 18th century. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 212. English Literature II. 3 Credit Hours.

Selected readings from the late 18th century to the present. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 213. American Literature I. 3 Credit Hours.

Selected American authors prior to the Civil War. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 214. American Literature II. 3 Credit Hours.

Selected American authors from the Civil War to the present. Satisfies writing requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 215. English and American Literature by Women. 3 Credit Hours.

A survey of women writers from the Middle Ages to the present; explores the female literary tradition and women's relationship to culture and society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 219. Cw Beginning Mixed Genre Workshop. 3 Credit Hours.

Prerequisite: ENG 106 or equivalent, and ENG 209.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 220. Introduction to Poetry. 3 Credit Hours.

Introduction to the forms of poetry through the analysis of representative poems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 221. Introduction to Fiction. 3 Credit Hours.

Forms of prose fiction and the analysis of representative short stories and novels.

Prerequisite: ENG 106. Or Corequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 230. Advanced Business Communication. 3 Credit Hours.

Professional writing with critical attention to complex rhetorical situations. Practice in formal and informal written communication styles.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ENG 231. Advanced Writing for Arts and Humanities. 3 Credit Hours.

Advance instruction in writing for specialist and non-specialist audiences on topics in the Arts and Humanities disciplines, with an emphasis on essay and multimodal forms of communication.

Prerequisite: ENG 106 or ENG 107 or ENG 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 232. Advance Writing for People and Society. 3 Credit Hours.

Advance instruction in writing for specialist and non-specialist audiences on topics in the People and Society disciplines, with an emphasis on essay and multimodal forms of communication.

Prerequisite: ENG 106 or ENG 107 or ENG 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 233. Advanced Writing for STEM. 3 Credit Hours.

Advance instruction in writing for specialist and non-specialist audiences on topics in the STEM disciplines, with an emphasis on essay and multimodal forms of communication.

Prerequisite: ENG 106 or ENG 107 or ENG 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 245. The Circle of Knowledge: Science and the Humanities. 3 Credit Hours.

Major works in the debate over the arts and sciences from the classical Greeks and the humanistic Renaissance to the Scientific Revolution, the impact of Darwin, the cognitive revolution in science, and postmodern interdisciplinarity.

Components: LEC.

Grading: CNC.

Typically Offered: Fall.

ENG 250. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 251. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 252. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 253. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 254. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 255. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 257. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 258. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 259. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 260. African-American Literature. 3 Credit Hours.

Selected readings of the eighteenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 261. Literature of the Americas. 3 Credit Hours.

Selected readings from North, Central, and South American, and Caribbean literature from their origins to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 290. Beginning Fiction Workshop. 3 Credit Hours.

Frequent exercises in workshop environment, with readings in contemporary fiction. Attention to tense and points of view; reviews of grammar and punctuation. 30-40 pages of creative writing, including development and revision of one full-length short story (12-20 pages).

Requisite: Plan of Creative Writing.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 292. Beginning Poetry Workshop. 3 Credit Hours.

Emphasis of creation and critique of new student poetry in workshop setting; continued reading in genre. Variety of styles and techniques presented, including line, image and metaphor. 12-15 new poems, plus revisions, required.

Requisite: Plan of Creative Writing.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 301. The Study of Language. 3 Credit Hours.

Language itself as an object of study; broad linguistic issues of language types, processes of language change, and language variation. Emphasis on language in "real world" applications such as law, folk culture, poetry, education, and computers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 306. Advanced Composition. 3 Credit Hours.

Composition and analysis of English prose. Topics vary. May be repeated if topics are different.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 310. Literature and Culture in Classical Greece and Rome, I. 3 Credit Hours.

Major pre-classical and classical Greek writers, including Homer, Sappho, Pindar, Aeschylus, Herodotus, and Sophocles, treated by close analysis, and attention to connecting themes; Greek art and archeology in reference to specific texts.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 311. Literature and Culture in Classical Greece and Rome, II. 3 Credit Hours.

Thucydides on the Peloponnesian War; the drama of Euripides and Aristophanes; the dialogues of Plato on Socrates' trial and death; Aristotle's Poetics. Early Roman tradition; Rome and its relation to Greek culture; Livy on Roman history; Cicero, Virgil's Aeneid, Marcus Aurelius.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 312. The European Middle Ages. 3 Credit Hours.

British and continental literature and thought from the 5th through the 15th centuries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 313. The European Renaissance. 3 Credit Hours.

Major writers of the European Renaissance, such as Petrarch, Machiavelli, Castiglione, Erasmus, More, Rabelais, Montaigne, Marguerite de Navarre.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 314. The European Enlightenment. 3 Credit Hours.

Major writers of the European Enlightenment, such as Locke, Montesquieu, Vico, Hume, Voltaire, Rousseau, Diderot, Lessing, Smith, and Kant.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 315. The Classical Epic Tradition. 3 Credit Hours.

The rise and development of the Western epic tradition from Homer, Lucretius, and Virgil in the classical world, through Dante in the Middle Ages, Milton in the Renaissance, and Wordsworth and Eliot in modernity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 316. Early Celtic Literature. 3 Credit Hours.

Study in translation of literary, hagiographic, and historiographic sources, principally from Irish, Welsh, and Latin, dating from 800 to 1800, with an introduction to source languages and to Celtic cultures beginning in the prehistoric era.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 319. Shakespeare. 3 Credit Hours.

Representative comedies, histories, tragedies and romances. Not for students who have taken ENG 430 or 431; may not be taken concurrently with ENG 430 or 431.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 321. Major American Novelists. 3 Credit Hours.

Works by selected American novelists.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 323. Major British Novelists. 3 Credit Hours.

Works by selected British novelists.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 325. Major European Novelists. 3 Credit Hours.

Works by selected European novelists.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 331. Legal Writing. 3 Credit Hours.

A study of the composition of legal arguments in court opinions, legal briefs, oral arguments before the Supreme Court, and social-legal documents. Emphasis on analysis of issues, structure and style of legal writing, and the function of logic in persuasion.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 332. Writing For and About Community Service. 3 Credit Hours.

Writing on social issues from sociological and literary sources, supplemented with community service activities (minimum 12 hours per semester).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 333. Writing the Research Paper. 3 Credit Hours.

Advanced techniques in conducting research and writing the research paper. Use of traditional library resources, on-line searches, the Internet, and other research methods. Strategies for effective presentation of research findings. Students not in the Bachelor of General Studies program need permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 334. Legal Rhetoric. 3 Credit Hours.

Legal texts and the rhetoric of legal discourse.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 340. Forms of the Novel. 3 Credit Hours.

Techniques and esthetics of the novel form; emphasis on major tendencies in the evolution of long prose fiction rather than on chronological development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 341. Modern British and American Poetry. 3 Credit Hours.

Representative poets and critics of poetry since 1900; attention to the basic principles of poetics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 342. Lyric Voices and Traditions. 3 Credit Hours.

Major figures and trends in the history of lyric poetry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 350. Studies in English. 3 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 351. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 352. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 353. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 354. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 355. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 356. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 357. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 358. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 359. Studies in English. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

ENG 360. Comparative Literature of the Black World. 3 Credit Hours.

Oral and written Black literature in Africa, the United States, the Caribbean, and South America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 361. Caribbean Literature. 3 Credit Hours.

Introduction to twentieth-century literature with special emphasis on the regional preoccupation with a distinctly Caribbean aesthetic.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 363. Jewish American Literature. 3 Credit Hours.

Twentieth-century Jewish writers in the United States such as Singer, Bellow, Roth, Ozick, and Malamud.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 364. Sephardic Literature. 3 Credit Hours.

Judeo-Spanish culture and literature from medieval times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 365. Literature of the Holocaust. 3 Credit Hours.

Literature relating to the Nazi genocide and its aftermath.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 366. Asian American Literature. 3 Credit Hours.

Literature by Asian immigrants and exiles in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 368. Representations Of Arabs And Jews In Israeli And Palestinian Literature And Film. 3 Credit Hours.

Literary narratives and films, by both Arabs and Jews, discussing the relationship between the portrayal of Arabs and Jews within Israeli and Palestinian society. The core question we will address concerns the writer's emphatic response to the identity and history of the other. Other issues to be examined include the influence of the literary imagination on empathy and the role of dissent and protest in society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 372. Women Writing: Theory and Practice. 3 Credit Hours.

Women writers, emphasizing the role of gender in literary creation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 373. Literary Representations of Women. 3 Credit Hours.

The portrayal of women in literature from ancient times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 374. Women Writers. 3 Credit Hours.

A study of women's writings and feminist criticism from 1930 to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 375. Modern Drama. 3 Credit Hours.

The major dramatists of the modern world: Ibsen, Chekhov, Strindberg, Shaw, Pirandello, and O'Neill.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 376. Contemporary Drama. 3 Credit Hours.

The dramatists of our time: Albee, Miller, Williams, Becket, Sartre, Genet, Pinter, Osborne, Stoppard, Durenmatt, and others.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 379. Modern Literature. 3 Credit Hours.

Western literature of the modern era. emphasizing roots, traditions, practices.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 380. Contemporary Literature. 3 Credit Hours.

Fiction, drama, and poetry from World War II to the present.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 383. The Literature of Science Fiction. 3 Credit Hours.

A general survey of the literature of science fiction, with emphasis on writings of the twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 384. The Bible as Literature. 3 Credit Hours.

Selected readings from the Bible.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 385. Myth and Literature. 3 Credit Hours.

A study of myth and ritual and their relation to literary works, from the early epic to contemporary literature.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 386. King Arthur in Literature. 3 Credit Hours.

King Arthur in literature from the fifteenth to the twentieth century in England and America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 387. Literature and Imperialism. 3 Credit Hours.

Relationships between empire and literary expression. Works by authors such as Shakespeare, Behn, Defoe, Bronte, Conrad, Kipling, Melville, Yeats, Twain, and Forster.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 388. Literature and Popular Culture. 3 Credit Hours.

Literary forms of popular expression, considered in relation to politics, ideology, gender, or race; comparison to other forms of popular culture in print, music, or the visual media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 389. The Sixties: Literature, History, And Culture Of The 1960S. 3 Credit Hours.

"1960s culture in the United States through literature, film, and oral accounts of experience of the period."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 390. Intermediate Fiction Workshop. 3 Credit Hours.

Review of craft issues presented in 290, with emphasis on development of structure and contemporary use of point of view.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 391. Cw Intermediate Mixed-Genre Workshop. 3 Credit Hours.

Prerequisite: ENG 219.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 392. Intermediate Poetry Workshop. 3 Credit Hours.

Review of craft issues presented in 292, integrating formal strategies with research topics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 395. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 396. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 397. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in Class Schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 398. Directed Readings/Directed Research. 3 Credit Hours.

By arrangement with instructor. Content varies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 401. Senior Seminar in Literature. 3 Credit Hours.

An intensive study of a literary topic or figure.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

ENG 402. Independent Study. 1 Credit Hour.

An intensive study of a literary topic or figure.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 404. Creative Writing (Prose Fiction). 3 Credit Hours.

Work toward professional standards primarily in prose fiction. Student fiction is considered in workshop sessions with comment by members of the class and instructors.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 406. Creative Writing (Poetry). 3 Credit Hours.

Work toward professional standards in poetry. Student poetry is considered in workshop sessions with comment by members of the class and by instructor.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 408. Writing Autobiography. 3 Credit Hours.

Literary style and method using student autobiography as a resource.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 410. Old English Language and Literature. 3 Credit Hours.

The grammar, syntax, and phonology of Old English language; readings in Old English poetry and prose.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 411. Old English Literature. 3 Credit Hours.

Translation and Close analysis of Beowulf or other major poetic texts of Old English literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 420. Chaucer. 3 Credit Hours.

Chaucer's major works.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 430. Shakespeare: The Early Plays. 3 Credit Hours.

Shakespeare's plays from the period 1583-1600. May not be taken concurrently with ENG 319.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 431. Shakespeare: The Later Plays. 3 Credit Hours.

A study of the second half of Shakespeare's canon, read in chronological sequence. The plays will be selected from those composed in the period 1600-1611. May not be taken concurrently with ENG 319.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 432. English Renaissance Poetry and Prose. 3 Credit Hours.

A study of such figures as Wyatt, Sidney, Spenser, Nashe, Marlowe, Shakespeare, Jonson, Donne, Bacon, Milton.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 433. English Renaissance Drama. 3 Credit Hours.

English drama during the sixteenth and seventeenth centuries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 434. Seventeenth-Century Poetry and Prose. 3 Credit Hours.

Seventeenth-century writers and forms, including work by major and minor writers such as James I, Jonson, Donne, Bacon, Lovelace, Carew, Herrick, Andrewes, Herbert, Milton, Marvell, Clarendon, Dryden, Rochester, Behn, and Bunyan.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 435. Milton. 3 Credit Hours.

Selected readings in the poetry and prose of John Milton.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 440. Restoration and Eighteenth-Century Literature. 3 Credit Hours.

English poetry and prose, exclusive of the novel, from Dryden to Burns.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 441. 18th-Century British Novel. 3 Credit Hours.

The British novel through the late eighteenth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 442. Politics and Literature. 3 Credit Hours.

Relations between political theories and forms of literary expression.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 450. The Early Romantic Period. 3 Credit Hours.

The rise of Romanticism in England and the first generation of writers, Blake, Wordsworth, Coleridge, and their contemporaries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 451. The Late Romantic Period. 3 Credit Hours.

The second generation of English Romantic writers: Byron, Shelley, Keats, and their contemporaries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 455. Victorian Poetry and Prose. 3 Credit Hours.

Selected English poetry and prose of the period, exclusive of the novel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 456. Nineteenth-Century English Novel. 3 Credit Hours.

Studies in the development of the English novel from Scott to Conrad.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 460. Modern British Literature. 3 Credit Hours.

Studies in Edwardian and Modern literature. Modernist theory and techniques will be illustrated by reference to the work of selected major figures since 1900.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 461. Contemporary British Literature. 3 Credit Hours.

British literature from World War II to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 465. Irish Literature. 3 Credit Hours.

Twentieth-century Irish writers such as Yeats, Synge, Joyce, Stephens, O'Casey, Beckett, and Lavin. Consideration of Irish history, mythology, politics, and culture.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 466. Joyce. 3 Credit Hours.

The major works of James Joyce.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 470. Contemporary British and American Poetry. 3 Credit Hours.

The poetry of the contemporary period, 1945 to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 472. Literature and Psychoanalytic Theory. 3 Credit Hours.

A study of the ways in which Literature, Literary Criticism, and Psychoanalytic Theory interact.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 473. Twentieth-Century Literary Theory. 3 Credit Hours.

An introduction to the major theories of the past century (e.g., psychoanalytic, formalist, materialist, feminist, new historicist).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 480. Early American Literature. 3 Credit Hours.

American writing before 1800. Topics such as colonialism, ethnicity, nationalism, and the ideology of individualism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 482. American Literature: 1800-1865. 3 Credit Hours.

Topics such as individualism, slavery, class and gender relations. Works by Emerson, Poe, Hawthorne, Melville, Douglass, Stowe, and others.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 483. American Literature: 1865-1915. 3 Credit Hours.

The works of such writers as Twain, Howells, James, Dickinson, Robinson, Crane, Norris, London, and Dreiser.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 484. American Literature: 1915 to 1945. 3 Credit Hours.

The works of such writers as Pound, Eliot, H.D., Stein, Frost, Stevens, e.e. cummings, Ransom, Tate, Fitzgerald, Hemingway, Djuna Barnes, Faulkner, O'Neill.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 485. American Literature: 1945 to the Present. 3 Credit Hours.

An intensive inquiry into the works of such writers as Albee, Bellow, Ferlinghetti, Ginsberg, Kerouac, Mailer, Miller, O'Connor, Plath, Welty.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 486. Early African-American Literature. 3 Credit Hours.

African-American literature from the beginnings to the Harlem Renaissance of the nineteen twenties.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 487. Modern African-American Literature. 3 Credit Hours.

African-American literature from the Harlem Renaissance to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 488. Race, Ethnicity, and Literature. 3 Credit Hours.

Topic varies by semester. The Construction of racial and ethnic difference in literature, focusing on the politics of group affiliation and identity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 490. Studies in Women and Literature. 3 Credit Hours.

Content varies by semester. Topics such as women in classical antiquity, women in the middle ages, women in the Renaissance, women in the Restoration and eighteenth century, women in the Romantic and Victorian period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 491. Russian and Soviet Classics in English. 3 Credit Hours.

Survey of Russian literature in translation from the late 19th century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 492. Postcolonial Literature and Theory. 3 Credit Hours.

The legacy of colonialism as expressed in the works of Gordimer, Rushdie, Achebe, Walcott, Césaire, Naipaul, Mukherjee, Crow Dog, Menchu, and others. Readings will address theoretical issues such as national formation, cultural hybridity, globalization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 493. History of Literary Criticism. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 494. Feminist Literary Theory. 3 Credit Hours.

Examination of women's contributions to literary theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 495. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated parenthetically following the title in the class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 496. Independent Study. 1-3 Credit Hours.

By arrangement with instructor. Content varies by semester. May be used for single semester thesis.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 497. Senior Thesis I. 3 Credit Hours.

Partial requirement for Departmental Honors in English Literature or Creative Writing. Research and preparation for writing senior thesis or creative project. To complete thesis, student must register for ENG 498 in following semester. Student will participate in a series of 3-4 pre-arranged workshops over the course of the two semesters.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 498. Senior Thesis II. 3 Credit Hours.

Partial requirement for Departmental Honors in English Literature or Creative Writing. Writing of either a documented essay on a literary subject or project in prose fiction or poetry, to be written under the direction of a member of the faculty. Student will participate in a series of 3-4 pre-arranged workshops over the course of the two semesters.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 499. Senior Creative Writing Project. 3 Credit Hours.

Partial requirement for Departmental Honors in Creative Writing. Project, in prose fiction or poetry, to be written under the direction of a member of the creative writing faculty.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 504. Form in Poetry. 3 Credit Hours.

Poetic works as literary objects, with attention to poetic trends and the creative process.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 505. Form in Fiction. 3 Credit Hours.

Fictional works as literary objects with attention to individual styles, Fictional Trends and the creative process.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 595. Special Topics. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 601. Creative Writing: Fiction III. 3-6 Credit Hours.

Advanced M.F.A. workshop in the techniques of writing fiction.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 602. Creative Writing: Poetry II. 3-6 Credit Hours.

Advanced M.F.A. workshop in the techniques of writing poetry.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 604. Form in Poetry. 3 Credit Hours.

Poetic works as literary objects, with attention to poetic trends and the creative process.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 605. Form in Fiction. 3 Credit Hours.

Fictional works as literary objects with attention to individual styles, Fictional Trends and the creative process.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 607. Stu In Renaiss Drama. 3 Credit Hours.

Components: LEC.

Grading: GRD.

ENG 610. Studies in Old English Language and Literature. 3 Credit Hours.

Content varies by semester.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 614. Stu Neocl Poet Prose. 3 Credit Hours.

Components: LEC.

Grading: GRD.

ENG 615. Studies in Chaucer. 3 Credit Hours.

Studies in Chaucer.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 616. Studies in Middle English Language and Literature. 3 Credit Hours.

Studies in Middle English Language & Literature.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 620. Studies in Shakespeare. 3 Credit Hours.

Studies in Shakespeare.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 621. Studies in Elizabethan and Jacobean Drama. 3 Credit Hours.

Studies in Elizabethan and Jacobean Drama.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 622. Studies in 16th Century Literature. 3 Credit Hours.

A survey of predominantly non-dramatic Renaissance literature, with an emphasis on the Sixteenth Century.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 623. Studies in Spenser. 3 Credit Hours.

Studies in Spenser.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 624. Studies in 17th Century Literature. 3 Credit Hours.

Studies in 17th Century Literature.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 625. Studies in Milton. 3 Credit Hours.

Studies in Milton.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 630. Restoration and 18th-Century Drama. 3 Credit Hours.

Studies in Restoration and 18th Century Drama.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 631. Studies in Restoration and 18th Century Literature. 3 Credit Hours.

Special topics in British Literature from 1660-1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 633. The Eighteenth-Century British Novel. 3 Credit Hours.

Survey of the British novel from Defoe to Austen.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 640. Studies in Romanticism. 3 Credit Hours.

A study of writers and genres between the late eighteenth and the mid-nineteenth century, through an investigation of questions of canonicity, epistemological orientation, colonialism, and the revolutionary context.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 645. Studies in Victorian Poetry and Prose. 3 Credit Hours.

Victorian poetry and prose exclusive of the novel. Poems by Tennyson, Browning, Arnold, Rossetti, and others. Prose works by writers such as Carlyle, Newman, Mill, Ruskin, and Pater.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 646. Nineteenth-Century British Novel. 3 Credit Hours.

Survey of the British novel from Austen to Conrad.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 648. Studies in the Novel. 3 Credit Hours.

Topics in eighteenth-, nineteenth-, and twentieth-century fiction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 650. Studies in Modern British Literature. 3 Credit Hours.

Intensive coverage of a limited topic in twentieth-century British or Irish literature.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 651. Studies in Joyce. 3 Credit Hours.

Close readings of *Dubliners*, *A Portrait of the Artist as a Young Man*, *Ulysses*, and *Finnegans Wake*; extensive review of Joyce criticism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 652. Studies in Irish Literature. 3 Credit Hours.

Intensive coverage of a selected topic in Irish Literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 654. Contemporary British Literature. 3 Credit Hours.

Studies in British prose, poetry, and drama since 1939.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 655. Contemporary American Poetry and Poetics. 3 Credit Hours.

Poetry and poetics from 1945 to present, focusing on Black Mountain Poetics, the New York School, the Black Arts Movement, Language Poetry and more recent writers and movements.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 658. Studies in Transatlantic Literature. 3 Credit Hours.

Literature on transatlantic themes and/or by transatlantic writers. Border crossing; ships; sailors; and other travelers; movement of people, things, and ideas in the Atlantic world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 660. Studies in American Literature: Beginnings to 1800. 3 Credit Hours.

Studies in American Literature: Beginnings to 1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 661. Studies in American Literature: 1800-1865. 3 Credit Hours.

Studies in American Literature: 1800-1865.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 662. Studies in American Literature: 1865-1914. 3 Credit Hours.

Studies in American Literature: 1865-1914.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 663. Studies in American Literature: 1914 to 1950. 3 Credit Hours.

Studies in American Literature: 1914-1950.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 664. Studies in American Literature: 1950 to the present. 3 Credit Hours.

Studies in American Literature: 1950 to the present.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 665. Studies in African-American Literature. 3 Credit Hours.

Studies in African-American Literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 666. Caribbean Literature. 3 Credit Hours.

Caribbean literature and cultural theory; Caribbean aesthetic.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 667. Caribbean Popular Culture. 3 Credit Hours.

Special topics on the relations among politics, popular culture, and literature in the Caribbean region.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 668. Studies in Race and Diasporic Literatures. 3 Credit Hours.

Analysis of race, ethnicity, immigration, and transnationalism in literature and cultural theory.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 669. Studies in Women's Literature. 3 Credit Hours.

Topic varies by semester. Analysis of gender issues and literary production by women.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 670. The Classical Tradition and English Literature. 3 Credit Hours.

A study of classical authors such as Homer, Aeschylus, Sophocles, Euripides, Virgil, Ovid, Horace, and Catullus, who have been seminal for English writers from the Middle Ages to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 672. Comparative Studies in Renaissance and Baroque Literature. 3 Credit Hours.

Topic varies by semester: e.g., The Renaissance Lyric, The Renaissance Epic, The Rise of Humanism, Baroque Drama.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 673. Eighteenth-Century European Literature. 3 Credit Hours.

Major literary and aesthetic works of the European Enlightenment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 674. The Romantic Movement in Europe. 3 Credit Hours.

A study of the forces and influences of the Romantic Movement in Europe as these intersect English Romanticism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 675. European Novel. 3 Credit Hours.

Major authors and trends in the development of the European novel as a unified literary tradition.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 677. Studies in Modern Literature. 3 Credit Hours.

Studies in Modern Literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 678. Studies in Contemporary Literature. 3 Credit Hours.

Studies in Contemporary Literature.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 680. History of Literary Criticism. 3 Credit Hours.

A survey of literary criticism and theory from the ancient Greeks to the early twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 681. Introduction to Literary Theory. 3 Credit Hours.

Twentieth-century literary theory beginning with the New Criticism and including topics such as semiotics, hermeneutics, deconstruction, feminism, and neopragmatism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 682. Contemporary Criticism and Theory. 3 Credit Hours.

Topics in recent criticism and theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 683. Literature and Psychoanalysis. 3 Credit Hours.

The interrelations between literary theory, textual analysis, and psychoanalytic theory.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 684. Theory of Narrative. 3 Credit Hours.

Analysis of narrative theories, ancient to contemporary.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 685. Feminist Theory. 3 Credit Hours.

Feminist writing and criticism from the nineteenth century to the present. Supplementary readings in anthropological, psychoanalytic, and socio-political criticism, as well as in theories of poetic tradition and the poetic process.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 686. Theories of Gender and Sexuality. 3 Credit Hours.

Queer theory and its relationship with gender studies, critical race studies, and emerging directions in the field.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 687. Studies in Literature and Culture since 1950. 3 Credit Hours.

Studies in Literature and Culture since 1950.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 688. Studies in Latino/a Literatures and Cultures. 3 Credit Hours.

Comparative and interdisciplinary approaches to art, film, music and literature. Topics may include: borderlands, postcolonial and "Americas" methodologies; ethnicity, race and mestizaje; immigration and the "Latinization" of the U.S.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 689. Comparative Americas Studies. 3 Credit Hours.

Comparative, interdisciplinary and transnational approaches to literature and cultures of the Americas.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 691. Graduate Practicum I: Teaching College Writing. 0 Credit Hours.

Methods and problems in teaching English composition and college writing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ENG 692. Graduate Practicum II: Teaching College Literature. 0 Credit Hours.

Methods and problems in teaching introductory literature courses.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

ENG 693. Teaching College Composition. 3 Credit Hours.

Rhetorical and literary theory related to composition instruction. Designed primarily for Teaching Assistants in the English Department, but open to all students planning to teach writing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ENG 695. Special Topics. 3 Credit Hours.

Varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ENG 696. Directed Readings. 1-3 Credit Hours.

Varies by semester.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 697. Readings for the Qualifying Examination. 1-3 Credit Hours.

Varies by semester.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ENG 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ENG 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

ENG 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ENG 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of ENG 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

ENG 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Epidemiology and Public Health (EPH)

EPH 513. International Health Systems. 3 Credit Hours.

Students will study international health from a broad prospective of global health issues and international health systems. This course will include a critical analysis of health systems in both developing and developed countries through comparison with the World Health Organization's model and the health system in the United States. A variety of health factors will be examined including the role of public health and public health funding.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 572. Public Health Law. 3 Credit Hours.

This course is designed for non-law students studying in epidemiology and public health. The course will begin with a general overview of the fundamental principles and processes of the US legal system, focusing on public health law and ethics. Topics will include privacy, communications, screening and vaccinations, economic regulations and public health reform.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 600. Introduction to Public Health. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 601. Medical Biostatistics I. 3 Credit Hours.

Introduction to probability and statistics including descriptive statistics, tests of hypothesis, regression analysis, contingency tables, nonparametric tests, and life tables. Students gain hands-on experience in the analysis of medical data using several computer systems and at least one of the different statistical packages such as: BMDP, SAS, PSTAT, SYSTAT, and Minitab.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 602. Biostatistics II. 3 Credit Hours.

Continuation and elaboration of EPH 501. Topics include design of factorial experiments, analysis of variance and variance components, multiple linear regression, and life tables.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 603. Applied Data Management and Analysis. 3 Credit Hours.

The course is designed to introduce students to applied quantitative methods through both lecture-based and experimental strategies. Emphasis will be placed on data collection, data management, and conceptual use of various analytic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPH 604. Clinical Trials. 3 Credit Hours.

Planning, design, analysis, and data management for clinical therapeutic and prophylactic trials. Illustrations are provided through case examples.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPH 609. Tobacco Control and Health: Consumption, Health Effects and Policy. 3 Credit Hours.

This course will provide students with an overview of the research in the field of tobacco control, enable students to have an understanding of the patterns, determinants, and consequences of tobacco use, as well as understand how public health policies have worked to reduce tobacco related morbidity and mortality.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 610. Public Health Surveillance Systems. 3 Credit Hours.

The goal of this course is to make students aware of all aspects that must be considered when designing or working with a Public Health Surveillance System (PHSS). The lectures will concentrate on the different types of PHSS, data base structures, practical design elements, data gathering strategies, quality control and evaluation considerations and the role of PHSS within the public health community. Additionally, students will be given the opportunity to utilize their analytical skills and demonstrate their mastery of statistical software packages by performing three preliminary analysis of a real PHSS data set.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 612. Global Health. 3 Credit Hours.

This seminar examines current global public health issues, governance and decision-making challenges for the 21st Century across developing, transitioning, and developed countries. Topics of discussion include new actors for world health in the era of globalization; linking human development, poverty and health inequities; social, cultural and ethical considerations for health planning; role of industry, trade and public health; evidence based research for improved global health initiatives; foreign policy and health security challenges associated with emergence and re-emergence of infectious diseases and public and private partnerships in global health. Open only to EPH majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 614. Global Outbreak. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 615. Energy Balance I: Foundations of Nutrition and Physical Activity. 3 Credit Hours.

This course will examine the foundations of Nutrition and Physical Activity Epidemiology, including; population patterns and trends, epidemiological theories, assessment and research methods, biopsychosocial and ecological determinants, major epidemiological studies, and interventions to promote healthy eating and physical activity. The course pre-requisite is successful completion of EPH 521 Fundamentals of Epidemiology or an equivalent course determined by the instructor.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

EPH 616. Energy Balance II: Energy Balance and Health. 3 Credit Hours.

This course will build upon the Energy Balance I course content (EPH 612), focusing on health outcomes associated with positive and negative energy balance, including obesity, chronic diseases, and other related topics, such as energy balance across the lifespan (children, younger adults, and older adults). As in Energy Balance I, major epidemiological studies and theories will be examined throughout the course. The course pre-requisites include successful completion of EPH 521 Fundamentals of Epidemiology (or an equivalent course) and successful completion of EPH 612 Energy Balance I.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

EPH 617. Introduction to Disease Prevention and Health Promotion. 3 Credit Hours.

This course will introduce students to the science of prevention and health promotion. More specifically, through didactic presentations, group discussions, article readings and critiques, and a term project, this course will focus on providing students with an overview of: the top preventable causes of disease in the U.S., the etiology of disease (with a focus on the top preventable causes of disease in the U.S.) across the lifespan, the role of prevention theories in the development of preventive interventions, and the role of methodology in prevention science. The course will also provide an overview of efficacious/effective preventive interventions, including (but not limited to): family community, and school level interventions. Examples from the fields of obesity, drug use, smoking, and HIV will be used to illustrate the course learning objectives detailed below.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 620. Health Education and Behavior. 3 Credit Hours.

Educational processes with special emphasis on the social and cultural determinants of health behavior, health education as a process of social change, and community based health education organizations. Open only to EPH majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 621. Fundamentals of Epidemiology. 3 Credit Hours.

Principles and methods of epidemiology. Descriptive epidemiology, environmental and other risk factors, detection of outbreaks, basic demography, and etiologic studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 622. Obesity And Public Health. 3 Credit Hours.

Nearly two thirds of the United States is now considered overweight or obese and the associated medical costs are placing an unsustainable burden on our health care system. However, the issue of overweight/obesity extends beyond behavioral choices and medical costs. This course will take a deeper look at the complex interactions between our environment, behaviors, and policies, and how they jointly contribute to the obesity epidemic. This course will provide an interdisciplinary perspective of the biological, psychosocial, ecological, and economic determinants that contribute to obesity and the resulting pathways to chronic disease and disability. Finally, current evidence-based public health programs currently will be discussed to stimulate critical thinking necessary to implement effective obesity prevention and control programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 623. Determinants of Health and Health Disparities Across the Life Course. 3 Credit Hours.

This course builds on the concepts and methods examined in EPH 614, delving further into risk and protective processes related to health outcomes across the life course, from the prenatal period to older adulthood. Class readings and discussions will examine examples of common risk pathways contributing to various diseases, including pathways hypothesized to be related to health inequities and disparities, such as: economic and educational disadvantage, stress, sedentary behavior and poor behavioral regulation, social isolation. Common protective pathways that promote health are also reviewed, such as: positive parenting and family relations, and social support.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 624. Advanced Applied Epidemiology. 3 Credit Hours.

Principles and methods of analytical studies including case-control, cohort, and clinical trials. Emphasis is placed on quantitation of influences of change, bias, and confounding in design, conduct, analyses, and interpretation of epidemiologic studies. Evaluation of cause-effect relationships is included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 625. Ethical Issues in Epidemiology. 3 Credit Hours.

The course identifies and analyzes ethical issues in epidemiologic practice and research. Issues include data acquisition and management, confidentiality, valid consent, advocacy, public policy, subgroup stigma, research sponsorship, conflicts of interest, communication of risk, and international and intercultural difference.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 631. Public Health Administration. 3 Credit Hours.

An overview of the historical background, philosophy, and purpose of public health. Relationship between government, law, and public health. Organization, management, and intergovernmental relationships of public health agencies in the United States at the federal, state, and local level. Basic principles of management, decision making, and prioritizing in public health are discussed. Overview of programs and services provided by public health organizations with emphasis on current public health issues and problems are also included. Open only to EPH majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 632. Us Health Systems. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 639. Ecology and Control of Vector-Borne Diseases. 3 Credit Hours.

The course will provide students with an overview of the epidemiology of major vector-borne diseases in the U.S. (e.g., Lyme Disease, West Nile Virus) and globally (e.g., malaria, dengue, filariasis, leishmaniasis, and other arboviruses), field and lab-based methodologies for vector studies to incriminate vector species and assess transmission dynamics, vector and disease surveillance, and "cutting-edge" vector control technology. A major focus will be on the ecology of vectors in their local environments and how transmission dynamics are affected by changes in land use, urbanization, and climate. Students will learn about new WHO-approved strategies for integrated Vector Management (IVM) and how they are applicable for the prevention and control of all vector-borne diseases.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 640. Urban Environment and Public Health. 3 Credit Hours.

Where we live, where we work, where we go, and how we get there may all impact our behaviors and ultimately our health and well-being. This course examines the urban environment - in particular, those aspects of urban/suburban/semi-rural environments created by humans. This includes how homes, neighborhoods, cities and regions impact public health challenges such as obesity, chronic disease, mental health, infectious disease, and injuries. This course will teach students to translate scientific findings to design healthy communities, and develop interventions to promote urban health. Students will learn how to map neighborhood characteristics such as food outlets, parks and walkability, and to develop recommendations for policymakers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 641. Integrated Aspects of Environmental Health. 3 Credit Hours.

Interdisciplinary scope of environmental health problems. Development of a practical, dynamic model for integrating fundamental concepts from a variety of environmental disciplines. Open only to EPH majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 642. Oceans and Human Health. 3 Credit Hours.

This course provides students with introductory knowledge of the broad and relatively young field of Oceans and Human Health. The focus is the present, future, and potential effects of oceanic processes and marine organisms on human health and wellbeing. These diverse factors reflect the physical, chemical, biotic and social processes which require an integration of information and knowledge from the medical, marine, and social sciences. Of growing concern in this rapidly-developing area of study is the human health effects from exposure to substances that occur widely in marine ecosystems including synthetic organic chemicals, polycyclic aromatic hydrocarbons (PHAs), metals (both introduced and anthropogenic), marine toxins, and pathogens.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 644. Fundamentals of Program Evaluation. 3 Credit Hours.

Fundamentals of Program Evaluation was developed as a survey course directed specifically at providing an overview of the broad area of program evaluation. At its base, program evaluation is the investigator of a program's characteristics and merits. In context of health care, the purpose of program evaluation is to provide information in the effectiveness of programs or interventions so as to optimize the outcomes, efficiency and quality of health care. Evaluation of a program is an essential part of the successful implementation and conduct of any health care project or intervention, and should ideally be designed along with the project itself. Program evaluation activities can use a wide range of methodologies (e.g., qualitative, quantitative), analyze different aspects of a program (e.g., structure, activities, organization), and have a large number of intended outcomes (e.g. achievement or program's goals objectives, extent of program impact, program cost).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 645. Behavioral Epidemiology. 3 Credit Hours.

A sub-discipline of epidemiology with a principal focus on lifestyle behaviors that are health-enhancing or health-compromising. With a focus on health behavior rather than disease endpoints, behavioral epidemiology has a primary prevention orientation. This course explores epidemiologic approaches to description/intervention upon dietary behaviors, exercise, substance use behaviors (cigarettes, alcohol, illicit drugs), and sexual behaviors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 646. Health Services Research Methods. 3 Credit Hours.

Health services research examines how people get access to health care, how much care costs, and what happens to patients as a result of care. It produces knowledge about the resources, organization, financing, provisions, and policies of health services; and is an applied multidisciplinary field. This course will be a survey course of methods in health services research studies.

Components: LEC.

Grading: CNC.

Typically Offered: Fall.

EPH 647. Community-based Participatory Research. 3 Credit Hours.

Community-based participatory research (CBPR) is methodology, increasingly popular in public health and other disciplines, which invites community collaboration throughout the research process from conceptualization of study focus to dissemination of findings. This course will provide an opportunity for medical and graduate students to better understand the process by which community members and academic researchers work collectively to address health disparities and influence social change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 649. Survey Methods: Planning and Conducting Health Surveys. 3 Credit Hours.

The purpose of this class is to introduce students to theories, principles, methods, and best practices of survey design, measurement, and sampling as applied to health surveys. Students develop an understanding of the survey research process including problem definition, strengths and limitations of survey research, survey design, survey sampling techniques, data entry and management, data analysis, and proper reporting of results.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 650. Health Economics for Evaluation and Policy. 3 Credit Hours.

This course centers on a discussion of the criteria used to evaluate the allocation of resources and analyze the behavior of two of the principal actors-consumers and firms. The principles of microeconomics are presented in the context of health care systems and markets. Numerous real-world issues and case studies are used to demonstrate economic decision-making techniques, especially for health care organizations and consumers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 651. Research Methods. 3 Credit Hours.

Purpose of the course is to provide students with a sound understanding of the fundamental concepts and methods for conducting public health research. After a brief introduction to the philosophy of science, the major emphasis in the early portion of the course is on research conceptualization, design and measurement, with a particular focus on the logic of minimizing rival alternative explanations of finding for experimental and quasi-experimental studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

EPH 652. Health Policy. 3 Credit Hours.

Part I will examine seven models encompassing different perspectives on public health: philosophy, political theory and politics, law, economic, science and information culture and religion, and organization and management, including how they relate and their relevance in formulating, implementing, and evaluating public policy. Part II will examine the policy making process including how issues reach the government agenda, how laws are formulated, and how the process affects substance. Part III describes the core elements of policy analysis including: problem definition; background; political, economic, and social landscape; development of policy options; and recommendation. It will also include discussions of how to find and analyze documents and data as well as discuss the financing of health care.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 653. Leading Change In Public Health. 3 Credit Hours.

This new "transition" course at the end of the second year will prepare students for their more advanced experiences in community and public health in the third and fourth years. The objective of this course is to provide students with an opportunity develop essential skills in leading change in public health while linking their academic work in epidemiology and public health for real world application in public health practice. Students will receive didactic presentations on topics such as leading change, interest based negotiation, and leading from the middle as well as lectures on the health disparities and the social determinants of health. These lectures will be integrated with interactive discussions and hands-on small group exercises to explore how practitioners can translate public health and community knowledge into sustainable solutions. "Leading Change in Public Health— Moving From Talk to Action" will provide students with 21st century leadership skills that prepare them to tackle public health issues in our society from the most simple to very complex. Participants will be challenged to think differently on many levels and prepare them to be agents of change for future generations.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

EPH 654. Ethics And Law In Public Health. 3 Credit Hours.

This course focuses on key concepts of law and ethics, economics and epidemiology, and policy analysis, as applied to public health; and it seeks to demonstrate with both current and historical examples how these perspectives empower and constrain public health decision-making and actions. The organizing framework is legal structure, but approached from the perspective that a society's established laws are the clearest exemplars of societal notions of ethics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 656. Leading Change In Public Health. 3 Credit Hours.

Components: LEC.

Grading: CNC.

Typically Offered: Summer.

EPH 660. Public Health Seminar. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 661. Public Health Nutrition. 3 Credit Hours.

This course provides a dynamic, interactive approach to public health designed to prepare students in basic policy, epidemiology, and health education related to nutrition. Recognizing the multiple social, cultural, environmental, and physiological factors leading to nutritional disease. The course includes experts from a variety of disciplines. Public health nutrition addresses issues germane to the public's health by elucidating their extent, determinants and consequences, and the policies and programs to address them. Open only to EPH majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 662. Child Policy. 3 Credit Hours.

This course will focus on U.S. federal child policy. This course has been designed to provide a comprehensive, multi-disciplinary (e.g., public health, public policy and social work), and cross-sector perspective (e.g., government, private and philanthropic sectors) on child and family policies. Sessions will cover varying approaches and include presentations from a wide range of experts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 671. Maternal and Child Health. 3 Credit Hours.

Preventative and therapeutic concepts pertinent to the reduction of morbidity and mortality among mothers and their children.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 680. Practical Field Experience. 3 Credit Hours.

Practical field experience requirement for MPH students. Students are placed in health-related settings (local, national, and international) to work on projects of mutual interest to both the field organization and the student.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 681. Capstone Experience Project. 3 Credit Hours.

The capstone project is intended to build upon EPH 680 field work and will provide students with an opportunity to apply public health academic theory and acquired skills to community health problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPH 684. Special Topics. 3.00 Credit Hours.

This course is designed to allow the listing of special topics within the Department of Epidemiology and Public Health and cross-list topics with other departments' offerings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPH 699. Public Health Projects. 1-6 Credit Hours.

Research and/or design projects. Individual investigation of current public health problems. Required of all MPH students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPH 700. Research Seminar. 1-3 Credit Hours.

Course consists of bi-weekly research seminars. Seminar format is individual student-led presentations and discussions with faculty supervision. Topics may include epidemiologic methods, analytic strategies, study design, conduct of human subjects research, bio-ethics, and other pertinent topics. Ph.D. students are required to complete 3 credit hours of EPH 600 prior to graduation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPH 703. Statistical Methods in Epidemiology. 4 Credit Hours.

Advanced statistical methods used in analyzing data from epidemiologic investigations. Topics include Mantel-Haenszel chi-square, interaction, standardization of rates, incidence density, logistics regression, and other special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 705. Statistical Methods in Epidemiology II. 3 Credit Hours.

Continuation and elaboration of EPH 603. Advanced statistical methods used in analyzing data from epidemiologic investigations. Topics include Kappa statistics, life tables, survival analyses, logistic regression, Poisson regression, log linear models, clusters, meta-analysis, and other special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 711. Cancer Epidemiology. 3 Credit Hours.

This course covers the basic epidemiology of cancer. Major sites and exposures are stressed, highlighting descriptive, etiologic and preventive aspects. A major course project and one final exam are included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 717. Integrating Behavior Health Theories and Models. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 720. Cardiovascular Disease Epidemiology and Prevention. 3 Credit Hours.

Course aims to teach and train MPH students in the epidemiology and prevention of cardiovascular and cerebrovascular diseases which are the leading causes of morbidity and mortality among the adult U.S. population. Essential knowledge for those working in the area of public health is emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 721. Chronic Disease Epidemiology. 3 Credit Hours.

The major chronic diseases (e.g. Heart Disease, Cancer, diabetes) their population impact and methods of prevention. Specialized problems associated with chronic disease studies are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 722. Common Pathways: Infectious Diseases. 3 Credit Hours.

This course emphasizes surveillance, investigation, control and global health problems related to infectious diseases. Emphasis will be on the biology of infectious disease systems, development of study designs, epidemiological and biostatistical methods, and the employment of epidemiological methods for addressing major public health issues in international research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 723. Epidemiology and Public Health Aspects of Diabetes Mellitus. 3 Credit Hours.

This course presents an overview of the epidemiology and public health impact of an important chronic disease, diabetes mellitus (DM). Topics include the classification and descriptive epidemiology of DM and associated health complications, disease screening, evaluation of risk factors, methodological issues associated with DM research, DM among special populations, and the public health impact of DM in the U.S.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

EPH 728. Social Epidemiology of Drug Abuse. 3 Credit Hours.

This intersession course will provide students with a systematic and selective overview of conceptual approaches and research findings related to the impact of social context on substance use behavior. We will consider the social factors that shape the population distribution of drug use, abuse, and addiction and the related consequences. Each session will highlight a different area of research on the frontier of this nascent field. Through a combination of lectures and discussions, the course will focus on describing and understanding the association between social class, race and ethnicity, psychosocial factors, neighborhood and community characteristics, place, and life-course processes to the incidence and progression of drug use, abuse, and addiction and related health consequences.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

EPH 730. Drug Abuse Epidemiology. 3 Credit Hours.

The purpose of this course is to educate students how to design, implement, and conduct studies of drug abuse epidemiology and its related scientific disciplines.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 740. Basic Pathology and Patho-physiology. 3 Credit Hours.

The course emphasizes basic patho-physiological mechanisms and diseases of particular interest to students of public health. Students obtain an understanding of basic pathological processes, nomenclature of pathological findings, and common natural and unnatural diseases affecting various body systems. Observations of autopsies and the gross pathology of selected organs are also incorporated in the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 751. Survival Analysis in Clinical Trials. 3 Credit Hours.

Statistical methods for analysis and interpretation of survival data arising from clinical trials. Topics include survival curves, estimation of sample size, survival curves, proportional-hazard models, time dependent variables, and prognostic indices.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 752. Advanced Research Methods. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

EPH 774. Advanced Epidemiologic Methods I. 3 Credit Hours.

The fundamental concepts, principles, and methods of epidemiologic study designs will be presented at an advanced level. In addition, the practical issues in the design, conduct and analysis of epidemiologic studies and interpretation of research findings will be discussed.

The emphasis will also include on application of the epidemiologic methods in the forms of journal article critique and research proposal development. The goal of this course is to present the advanced epidemiologic methods and their theoretical backgrounds to PhD students in fulfilling part of the PhD in Epidemiology degree.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

EPH 776. Advanced Epidemiological Methods II. 3 Credit Hours.

This is the second course of a 2-part course in advance epidemiologic methods. The fundamental concepts, principles, and methods of epidemiologic study designs will be presented at an advanced level. In addition, the practical issues in the design, conduct and analysis of epidemiologic studies and interpretation of research findings will be discussed. The emphasis will also include on application of the epidemiologic methods in the forms of journal article critique and research proposal development. The goal of this course is to present the advanced epidemiologic methods and their theoretical backgrounds to PhD students in fulfilling part of the PhD in Epidemiology degree.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

EPH 782. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPH 825. Continuous Registration--Master's Study. 0 Credit Hours.

To establish residence for MPH students who are preparing for project presentation. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

EPH 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the PhD. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of EPH 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

EPH 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Executive and Special Programs (ESP)

ESP 500. Review Module. 0 Credit Hours.

A non-credit review session to provide students with the skills necessary to prepare for the successful completion of the common body of knowledge courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ESP 560. Fundamentals of Marketing. 3 Credit Hours.

Marketing problems experienced by top executives are examined. Fundamental problem-solving concepts are developed. Students consider problems of consumer needs, product planning, promotion, distribution, and pricing. The discovery and application of marketing management skills are developed through the use of cases and a major planning project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

Finance Business Administration (FIN)

FIN 300. Fundamentals of Finance for Non-Finance Majors. 3 Credit Hours.

This course provides an overview of modern finance for non-business majors. Topics include: how financial markets work, understanding financial pages in newspapers and the Internet, how stock and bond prices are determined, how investment portfolios are structured, concepts of risk and return, how companies manage their cash and investments and international finance. Not for credit for business students.

Requisite: Non Business Majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 302. Fundamentals of Finance. 3 Credit Hours.

Introduction to the basic tools and concepts in finance. This is the core class in finance for our undergraduate program. Topics include the financial framework of a business entity, taxes, the time value of money, capital market theory, financial risk measures, and capital budgeting.

Note: to be eligible to major in finance, a student must earn a grade of B or higher in this class (a grade of B- does not qualify).

Prerequisites: ECO 211, ACC 211, MAS 201 or MAS 311 or MTH 224 or IEN 311 or IEN 310 or PSY 204 or PSY 290 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 303. Intermediate Financial Management. 3 Credit Hours.

This course provides an overview of financial decision-making by corporations. Building on topics covered in the introductory finance classes, this course develops the foundations of optimal financial policy and applies these principles to corporate financial decision-making including capital structure, capital budgeting, dividend policy, leasing, securities issuance and the role of investment banks, and mergers and acquisitions. Note: a student must have obtained a B or higher grade in FIN302 to major in Finance. Earning an A in this class or any other class or classes does not eliminate that requirement.

Prerequisites: FIN 302, MAS 202 or MAS 312 or IEN 312.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 308. Intermediate Financial Management for Entrepreneurs. 3 Credit Hours.

This course is primarily for students majoring in entrepreneurship. It provides an overview of financial decision-making by entrepreneurs. Building on topics covered in the introductory finance classes, this course develops the foundations of optimal financial policy and applies these principles to entrepreneurial financial decision-making involved with such things as capital structure, working capital budgeting, leasing, hedging and risk management, securities issuance and the role of investment banks, and mergers and acquisitions. Note: Students cannot take both FIN 308 and FIN 303, so this class is not open to students who have taken FIN 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 315. Trading & Markets. 3 Credit Hours.

This course provides an introduction to the functioning of financial markets and the fast changing field of market microstructure. On the equity trading side, the course covers major exchanges such as NYSE Euronext and Nasdaq OMX, and new players such as BATS and Direct Edge/ISE. Students also learn about dark pools, options and futures exchanges, electronic bond trading platforms, and currency trading systems. In addition, the course provides a summary of different market structures, the role of market participants, different order types, trading strategies, and trading externalities. The course draws on theories and tools from economics and behavioral finance, current institutional practices and market regulation.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 320. Investment and Security Markets. 3 Credit Hours.

This course introduces students to both practical and theoretical aspects of investment with an emphasis on financial markets. Topics include valuation of financial securities such as stocks, bonds and options; modern portfolio theory; the process and institutional characteristics of investing. Note that this course does not address the details of individual security valuation and selection, i.e., this course is not about stock picking or about how to get rich by investing in the markets. Instead, this course attempts to help you develop a lasting conceptual framework in which to view the investment process and to analyze future ideas and changes in investment environment. This class is essential to any student considering a finance concentration. Note: A student must have obtained a B or higher in FIN302 to major in Finance. Earning an A in this class or any other class or classes does not eliminate this requirement.

Prerequisites: FIN 302, MAS 202 or MAS 312 or IEN 312.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 330. International Finance. 3 Credit Hours.

This course applies the principles of finance to international business decisions. Topics include the analysis of foreign exchange rates, balance of payments, characteristics and use of international financial institutions and instruments, the analysis and management of financial risk in the international environment, and financing multinational corporations. Note: a student must have a B or higher in FIN 302 to major in International Finance and Marketing (or Finance). Earning an A in this class or any other class or classes does not eliminate this requirement.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 340. Real Estate Principles. 3 Credit Hours.

This course provides an introduction to basic principles and fundamental practices in the real estate industry. Students learn how to apply the principles of finance to the real estate industry. Topics include common institutional aspects, brokerage, contracting, financing, ownership, management, valuation, appraisal, and investment analysis.

Prerequisites: FIN 302 or FIN 300.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 344. Real Estate Investment Analysis. 3 Credit Hours.

This course introduces the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications. Each student will complete a written evaluation and investment analysis of an existing or proposed commercial real estate project in Miami-Dade, Broward or Monroe County.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 347. Introduction to ARGUS. 1 Credit Hour.

ARGUS software is used extensively in the development, financing and management of commercial real estate, especially in the office, industrial and retail sectors. The introduction to ARGUS class exposes the student to the basic concepts and terminology in the commercial real estate market and to the typical inflows and outflows an owner who invests in real estate faces over the life of the investment.

Prerequisite: FIN 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 348. Advance ARGUS. 1 Credit Hour.

At the end of the Advanced ARGUS class the student will be able to assess the viability of detailed rent and operating expense assumptions, make decisions about the impact of financing on investor returns and critically evaluate the investment potential of leveraged office and retail property.

Prerequisites: FIN 302, FIN 347.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 355. Smif Fund Analyst I. 1 Credit Hour.

The course is designed to introduce the student to the investment management process, including valuation of publicly traded equities. The course is one credit and meets once a week each semester; students must commit to and enroll in the follow-up class. Admission to the course is through a competitive application process.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 356. Smif Fund Analyst II. 1 Credit Hour.

This course is designed to introduce the student to the investment management process, including valuation of publicly traded equities. The course is one credit and meets once a week each semester. Enrollment in the course is limited.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 404. Applications in Corporate Finance. 3 Credit Hours.

An application of the concepts and tools of corporate finance. Primary emphasis on analyzing real-world cases dealing with liquidity issues, capital budgeting, firm valuation, advanced corporate financing, hedging with options and futures, corporate financial strategy, and other current issues in corporate finance.

Prerequisites: FIN 302, FIN 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 405. Financial Modeling. 3 Credit Hours.

This course takes a variety of finance topics, which have been covered in the prerequisite courses, and implements them using practical spreadsheet models. Students will use the internet and financial databases to obtain input data for their models. Students will use Visual Basic for Applications (VBA) and design functions and macros to enhance their models. Students must have a solid working knowledge of Windows and Excel, as well as a good understanding of the material taught in the prerequisite finance classes. Students are required to also take FIN406, a co-requisite (zero credit) laboratory class, which provides hands-on instruction. Students must have a mobile (?lap-top?) computer with the capability to run Windows-based software.

Prerequisites: FIN 302, FIN 303, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 408. Introduction to Mergers & Acquisitions. 3 Credit Hours.

This course introduces students to the world of mergers & acquisitions (M&A). More specifically, the course is designed to develop an understanding of (i) the economic, financial, and strategic issues involved in the acquisition of a (public or private) company; (ii) the analytical tools used to value an acquisition target; and (iii) academic research that reports results from large samples of M&A deals. Students will apply their understanding of these issues by analyzing various actual and potential acquisitions.

Prerequisites: FIN 302, FIN 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 409. Introduction to Private Equity & Venture Capital. 3 Credit Hours.

In this course, you will learn about the private equity (PE) industry, composed of both venture capital (VC) and buyouts (BO). The focus is on how PE investors evaluate, select, value, and structure deals. This course has several goals. First, the course will deepen your current understanding of corporate finance by applying key concepts and tools to a new and increasingly important industry. Second, the course seeks to introduce you to the institutions of the PE industry. This involves examining, for example, how funds are raised and how term sheets are structured. Finally, a goal is to understand the valuation process used by PE investors.

Prerequisites: FIN 302, FIN 303 or FIN 308.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 410. Financial Institutions and Markets. 3 Credit Hours.

This course examines financial institutions, such as banks (commercial, investment, mortgage, savings), credit unions, insurance companies, pension funds, and mutual funds and the money markets in which they operate, and focuses on why they exist and how to manage them. Topics include financial intermediation and transmutation, monetary theory and policy, Federal Reserve management of the money supply, velocity of money, fiscal theory and policy, interest rates, and immunization.

Prerequisites: FIN 302, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 411. Commercial Bank Management. 3 Credit Hours.

This course introduces the theory and practice of asset-liability management by large publicly traded commercial banks, including the fundamental principles of structuring loans into balance sheets. A major objective of this class is to provide students sufficient background to enter the credit department in the executive development program of major money center bank.

Prerequisites: FIN 302, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 421. Investment Portfolio Management. 3 Credit Hours.

This course covers the techniques of institutional and individual portfolio management. Topics include: Portfolio theory, diversification, asset allocation strategies, equity indexing, equity style management: value versus growth, mutual funds, basics of hedge funds and fund of funds, ETF basics, introduction to private equity, equity and bond portfolio management strategies.

Prerequisites: FIN 302, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 422. Speculative Markets and Derivatives. 3 Credit Hours.

This course is an introduction to derivative securities, and examines the nature of derivatives and applications of such instruments in investment and corporate settings. The emphasis is on derivatives of equity-based securities (such as stocks and stock indices), but coverage includes derivatives of debt-based securities (such as Treasury and Eurodollar securities). Topics include options, futures, forwards, and other derivatives, such as options on futures, foreign currency derivatives, swaps, exotic options, real options, as well as financial engineering using derivatives.

Prerequisites: FIN 302, FIN 303, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 423. Introduction to Alternative Investment. 3 Credit Hours.

The objective of this course is to provide an introduction to alternative financial instruments and how capital market participants utilize them. The course covers a large set of investment choices, with a specific focus on fixed income and alternative instruments, such as commodities, interest rates and currency. While covering each instrument, the course also examines with how macro-economic, technological, labor market, taxes and regulatory issues affect specific investment decisions.

Prerequisites: FIN 302, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 425. Business and Security Valuation. 3 Credit Hours.

Applications of finance theory to the problem of valuing public and non-public companies. Multiplier models, discounted cash flow analysis, and the strengths and weaknesses of traditional security valuation methods are addressed in detail. Financial spreadsheet programs and data sources are an integral part of the course.

Prerequisites: FIN 302, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 427. Fixed Income Markets and Analysis. 3 Credit Hours.

This course examines financial markets that trade fixed income securities. A fixed income security is based primarily on a debt contract, such as a bond, debenture, note or Treasury bill. Topics include the valuation, computation of return, and computation of various measures of risk for fixed income securities, as well as the analysis of the term structure of interest rates and various option features commonly included in debt contracts and fixed income securities. Students must have a solid working knowledge of Excel to take this class.

Prerequisite: FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 431. International Financial Management. 3 Credit Hours.

This is an advanced class in international finance from the viewpoint of multi-national organizations, including corporations, investment banks, and commercial banks. Topics include managing the various sources of risk, such as economic, political, and currency; cash receivables, inventory, and payables management; financing; transfer pricing; taxation; currency netting; capital budgeting; and hedging.

Prerequisites: FIN 302, FIN 320, FIN 330.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 444. Real Estate Investment Analysis. 3 Credit Hours.

This course introduces the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market. Each student will complete a written evaluation and investment analysis of an existing or proposed commercial real estate project in Miami-Dade, Broward or Monroe County.

Prerequisites: FIN 302, FIN 303 or FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 445. Real Estate Finance. 3 Credit Hours.

This course introduces the theoretical concepts and analytical techniques used to make a decision to finance the purchase or development of a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market. Students are also encouraged to use their semester projects to apply for one of the numerous case competitions.

Prerequisites: FIN 302, FIN 303 or FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 456. Behavior Finance. 3 Credit Hours.

The goal of this course is to expose you to selected topics from the upcoming field of behavioral finance. This will include a discussion of prospect theory and different types of behavioral biases such as representativeness, disposition effect, overconfidence, narrow framing, familiarity bias, and the house-money effect. In addition, the course will cover the implications of behavioral biases for asset pricing, corporate finance, and the overall macro-economy. Simple experiments will be conducted in class to illustrate some key behavioral concepts.

Prerequisites: FIN 302, FIN 303, FIN 320.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 457. Smif Fund Portfolio Of Instructor. 1 Credit Hour.

The course is designed to introduce the student to the investment management process, including the tools used to compose a diversified portfolio that covers each of the major industrial sectors. The course is one credit and meets once a week each semester. Enrollment in the course is limited.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 458. Smif Fund Portfolio Manager li. 1 Credit Hour.

The course is designed to introduce the student to the investment management process, including the management of an investment organization and the evaluation of portfolio performance. The course is one credit and meets once a week. Enrollment in the course is limited.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 499. Special Topics in Finance. 3.00 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 555. Finance Honors Research Project. 3.00 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Finance.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

FIN 599. Directed Study. 3 Credit Hours.

Individually supervised research projects in selected finance topics. Approval of the Chairperson and advisor is required prior to registration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 602. Fundamentals of Finance. 3 Credit Hours.

This is a core MBA course in our executive MBA program, devoted primarily to the area of finance. No prior background in finances is assumed. The course objective is to provide students with a conceptual framework for appreciating and understanding the problems facing the financial manager.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 603. Advanced Corporate Finance. 3 Credit Hours.

Applications in corporate finance. This class builds on the core MBA courses in our executive MBA program, especially Fundamentals of Finance (Finance 602). Topics include working capital management, financial planning, basic option valuation, agency theory, capital structure management, mergers and acquisitions, liabilities management and leasing. Note: required for Finance concentration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 613. Intermediate Corporate Finance and Investments. 4 Credit Hours.

Prerequisite: BUS 640.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 614. International Finance, Valuation, & Financial Statement Analysis. 4 Credit Hours.

Prerequisites: BUS 640, FIN 613.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 615. Financial Decision Making. 4 Credit Hours.

Prerequisites: BUS 640, BUS 613, FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 616. Advanced Corporate Finance. 4 Credit Hours.

Prerequisites: BUS 640, BUS 613, FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 617. Derivatives and Financial Modeling. 4 Credit Hours.

Prerequisites: BUS 640, BUS 613, FIN 614.

Components: DIL.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FIN 620. Investment Analysis. 3 Credit Hours.

This course deals with theory and application of investment analysis. Topics include general stock trading, portfolio and risk-return theory, models of stock valuation, portfolio diversification, market efficiency, options and futures, bond valuation and bond portfolio strategy, general commodity investing, and personal financial planning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 621. Portfolio Construction and Management. 3 Credit Hours.

The evolution of portfolio theory and practice and its role in modern investment management. Individual constraint models within the general capital market theory are included as well as empirical evidence, theoretical discussion, and practical exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 622. Financial Options and Futures. 3 Credit Hours.

Study of the theoretical development of models for pricing contingent claims in the field of finance. Application of theoretical results to the hedging of current and future assets and liabilities and to speculative strategies for the risk-averse, profit-maximizing entity are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 630. International Finance. 3 Credit Hours.

The financing of international trade and capital placements. Restrictions on capital retrieval and problems of international liquidity related to the U.S. and non-U.S. firms is discussed as well as current developments in international banking, theory, and policy. Cases involving foreign capital commitments and transactions, especially Latin America are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 631. International Financial Management. 3 Credit Hours.

Sources and uses of long and short term capital for international business applications and foreign currency markets. Financial decisions associated with international cash and capital budgeting, capital repatriation and taxation strategies, capital exposure and coverage, and multinational firm financial strategies are discussed. Lectures and cases are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 641. Valuation and Financial Decision Making. 2 Credit Hours.

Basic financial valuation. This is one of the core classes in finance for our regular MBA program. Topics include the financial environment; the time value of money; capital market efficiency; basic security valuation; risk, return and asset pricing; cost of capital; and an introduction to capital budgeting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 642. The Financial Environment. 2 Credit Hours.

A continuation of FIN 641. Topics include an introduction to the global securities markets and foreign exchange, basic derivatives, real options, the securities trading process, fixed income securities markets, the term structure, investment banking, and short-term financial management and planning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 643. Quantitative Finance & Market Microstructure. 2 Credit Hours.

This course exposes students to the fast growing field of market microstructure. Students will learn about different trading mechanisms encountered in financial markets today, how information affects prices and liquidity, what algorithms practitioners use to implement their trading strategies, and some basic models of market microstructure. The course ends with a brief description of several common quantitative trading strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 644. Real Estate Investment and Appraisal. 2 Credit Hours.

This course will introduce students to the theoretical concepts and analytical techniques used to make a decision to purchase an ownership interest in a commercial real estate project. There is heavy reliance on Excel applications and the use of the Argus database that is a standard resource in the commercial real estate market.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 645. Real Estate Finance. 2 Credit Hours.

This course will introduce you to the theoretical concepts and analytical techniques used to make a decision to loan money for the purchase or development of a commercial real estate project.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 647. Introduction to ARGUS. 1 Credit Hour.

ARGUS software is used extensively in the development, financing and management of commercial real estate, especially in the office, industrial and retail sectors. The introduction to ARGUS class exposes the student to the basic concepts and terminology in the commercial real estate market and to the typical inflows and outflows an owner who invests in real estate faces over the life of the investment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 648. Advanced ARGUS. 1 Credit Hour.

At the end of the Advanced ARGUS class the student will be able to assess the viability of detailed rent and operating expense assumptions, make decisions about the impact of financing on investor returns and critically evaluate the investment potential of leveraged office and retail property.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 650. Financial Investment. 2 Credit Hours.

This course builds on FIN 641 and FIN 642 to provide a more advanced knowledge of the field of investments, particularly the fixed income markets, portfolio construction, asset pricing, and behavioral biases affecting financial decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 651. Advanced Topics in Investments. 2 Credit Hours.

This course is about applying finance theory to the practice of investments. Topics include building a term structure model, building a fixed income portfolio, performance standards and measurement, and the role of futures and options in portfolios.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 653. Alternative Investments. 2 Credit Hours.

The course provides an advanced theoretical and practical understanding of various alternative investment strategies, with a specific focus on derivatives (e.g., interest rate and credit derivatives), venture capital and private equity investments, and real estate investments. The course also examines how macro-economic, technological, labor market, taxes and regulatory issues affect specific investment decisions. In addition, the students learn about valuation, investment and risk management strategies of sophisticated investors and recent chronology of events that affect market participants.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 655. Smif Fund Analyst I. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 656. Smif Fund Analyst II. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 657. Smif Fund Portfolio Manager I. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 658. Smif Fund Manager II. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 660. International Finance. 2 Credit Hours.

Finance 660 builds on Finance 641 and 642, and introduces students to the concepts that are important in today's dramatically changing global economy. The course covers the international monetary system; the interrelationship between national economies through the balance of payments; the economic relationships that determine a currency's value relative to other currencies and real goods; the markets and instruments of international finance; currency crises and contagion; the hedging of international risk exposure; and international portfolio investment. Requisite: Master in International Business Studies Students Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 661. Advanced Topics in International Finance. 2 Credit Hours.

This course builds directly on Finance 660 and on the MBA core classes, Finance 641 and 642, using a variety of techniques, including group projects and class discussion. A number of special topics are covered including measuring and managing the many additional risk exposures faced by a multi-national enterprise, investment decisions in a global framework, and financing the multi-national firm.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 663. Ad Corporation Fin. 3 Credit Hours.

Components: LEC.

Grading: GRD.

FIN 670. Corporate Finance. 2 Credit Hours.

This course builds on Finance 641 and 642 and focuses on financial decision making from a corporation's perspective. Issues addressed include capital structure, management of corporate liabilities, leasing and other asset-based financing techniques, advanced treatment of capital budgeting and some of the complex issues involved, and corporate mergers and acquisitions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 671. Advanced Topics in Corporate Finance. 2 Credit Hours.

This course builds directly on Finance 670 and on the MBA core classes, Finance 641 and Finance 642, and relies mainly on the analysis and vigorous class discussion of a variety of real-world cases. The cases cover a broad range of topics, including short- and long-term financing, capital budgeting decisions, corporate valuation, hedging with options and futures, dividend policy and share repurchases, corporate financial strategy, and other current issues in corporate finance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 674. Financial Analysis of Mergers and Acquisitions. 2 Credit Hours.

This course is designed to develop an understanding of (1) the economic and financial issues involved in the acquisition of a company; (2) the analytical valuation tools used to evaluate an acquisition; and (3) potential and empirical stock market reaction to an acquisition. Students are then asked to apply their understanding of the issues to analyze cases involving various aspects of acquisition.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 679. Private Equity and Venture Capital. 2 Credit Hours.

In this course, you will learn about the private equity (PE) industry, composed of both venture capital (VC) and buyouts (BO). The focus is on how PE investors evaluate, select, value, and structure deals. The course will improve your understanding of corporate finance by applying central concepts and tools to a new and increasingly important industry. The course will also introduce you to the institutions of the PE industry. This involves examining, for example, how contracts are structured to reduce asymmetric information problems and agency costs that are endemic to any PE investment. In addition, the students will learn about the valuation process used by PE investors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FIN 681. Financial Institutions. 2 Credit Hours.

Finance 681 builds on Finance 641 and 642 and focuses on the management of financial institutions, such as banks. Topics include risk management, deposits and deposit insurance, liquidity, reserve requirements, capital adequacy, liability management, investment interest rate risk, and current issues connected with financial institutions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 683. Financial Modeling. 2 Credit Hours.

This course takes a variety of finance topics and implements them using practical spreadsheet models. Students will use the intent and financial databases to obtain input data for their models. Students will learn Visual Basic for Applications (VBA) to design functions and macros that will enhance their models. In addition to class time, this course will meet in a "computer lab" (a classroom) for hands-on instruction. Students are presumed to have a working knowledge of Windows and Excel.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 685. Mathematics of Financial Derivatives. 2 Credit Hours.

This course builds on Finance 650 and 670. This course provides an in-depth mathematical treatment of derivatives and is divided into three parts: (1) options; (2) futures and forwards; and (3) other derivative instruments, which include options on futures, foreign currency derivatives, swaps, exotic options, and financial engineering. The emphasis is placed on equity instruments, although there is also some coverage of short- and long-term interest bearing instruments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FIN 686. Financial Decision Making. 2 Credit Hours.

The goal of this course is to use decision-making theory to better understand why investors, money managers, and corporate managers often make suboptimal economic and financial decisions. The first part of the course focuses on the basic techniques and models that a manager or an investor can use to make effective financial decisions. The second part of the course focuses on the psychological, social, and cultural determinants of suboptimal investor and managerial behavior. In addition, the course examines the impact of those mistakes for financial markets (e.g., price bubbles) and the overall economy. The course should be useful to individuals who work in a corporate setting or at a money management firm (mutual funds, hedge funds, pension funds, etc.).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FIN 698. Selected Topics in Finance. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 699. Directed Readings and Study. 1-3 Credit Hours.

Individually supervised research or reading projects in selected fields. Evaluation of project and subject by the supervising professor is required at the time of registration.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 705. Theory of Corporate Finance. 3 Credit Hours.

The aim of this course is to expose students to some of the important papers that constitute the theoretical foundations of corporate finance. The course will try to give you a working understanding of the key papers and give you a flavor of the techniques for setting up and solving models, which you could possibly apply in your own research. The later part of the course leans more towards empirical work and discusses the connections and gaps between theoretical and empirical corporate literature.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 706. Empirical Methods in Finance. 3 Credit Hours.

The objective of this course is to give you an introduction to empirical research in finance. This class is not designed like an econometrics class where the emphasis is the statistical specification of tests and the derivation of underlying asymptotics. The focus in this class is the understanding of the technique and the actual implementation in finance. The goal is to provide you with a toolbox of techniques that you can use to answer empirical questions in corporate finance and asset pricing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 707. Financial Economics I. 3 Credit Hours.

This course is an introductory Ph.D. level course on the fundamental theories of asset pricing. Specifically, it consists of three parts. The first part focuses on individual choice under uncertainty. The second part develops equilibrium asset pricing theories, which include mean-variance efficiency and the Capital Asset Pricing Model (CAPM), as well as the Arbitrage Pricing Theory (APT). The third part reviews recent development in asset pricing by introducing some stylized facts and new theories.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 708. Financial Economics II. 3 Credit Hours.

This is a second course on asset pricing. The class is divided in two independent modules. The first module covers discrete time asset pricing models with frictions. These frictions include, among others, asymmetric information, slow-moving capital, delegated portfolio management, and short-sale constraints. The second module is an introduction to continuous time finance. Topics include introduction to stochastic calculus, derivative pricing and hedging, optimal portfolio choice, and equilibrium asset pricing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 709. Behavioral Finance. 3 Credit Hours.

This course will cover selected topics from the field of behavioral finance. Issues related to both asset pricing and corporate finance will be discussed. The main objective of the course is to help you identify a few interesting research ideas and execute one of these ideas into a completed paper, which could be part of your dissertation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FIN 830. Pre-Dissertation Research. 1-6 Credit Hours.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

First-Year Seminar Fine Arts (FFA)

FFA 190. First-Year Seminars in Arts. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Fine Arts. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FFA 191. First-Year Seminars in Arts. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Fine Arts. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FFA 192. First-Year Seminars in Arts. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Fine Arts. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

First-Year Seminar Literature (FLT)

FLT 190. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 191. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 192. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 193. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 194. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 195. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FLT 196. First-Year Seminars in Literature. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to Literature. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

First-Year Seminars Social Science (FSS)

FSS 190. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 191. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 192. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 193. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 195. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 197. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FSS 199. First-Year Seminars in Social Sciences. 3 Credit Hours.

Seminars designed to introduce up to 25 freshmen to the Social Sciences. Topics will vary from year to year, as will faculty teaching the seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

French (FRE)

FRE 101. Elementary French I. 3 Credit Hours.

For students with no background or previous study of French. The focus of FRE 101 is the development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: university life, family, leisure activities, home and community. Includes both oral and written assessment of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French. Not open to students who have completed 2 or more years of high school French. Closed to heritage or native speakers of French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 102. Elementary French II. 3 Credit Hours.

Continuation of FRE 101. The development of communicative abilities in speaking, reading, writing and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: childhood and adolescence, food and lifestyle, university life and professions. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 105. Accelerated Elementary French. 3 Credit Hours.

For students with previous study of French desiring to review material covered in FRE 101 and 102 in preparation for continued study of French at the intermediate level. The focus of FRE 105 is the continued development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: family, leisure activities, home, and community, childhood and adolescence, food and lifestyle, university life and professions. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 201. Intermediate French I. 3 Credit Hours.

For students with previous study of elementary-level French. The continued development of communicative abilities in speaking, reading, writing, and comprehension of French and an introduction to the cultural practices of the Francophone world. Themes on: travel, technological innovations, the evolution of family values, and social and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 202. Intermediate French II. 3 Credit Hours.

For students with some previous study of French at the intermediate level, who are familiar with all the tenses and with vocabulary related to the topics covered in FRE 101-201. FRE 202 is the first semester of a two-semester sequence ending with FRE 203. The continued development of skills in reading, writing, speaking, and listening in French, with an additional emphasis on cultural competence in the French-speaking world. Themes on: relationships, cultural values, different historical perspectives, and current politics. These themes will be explored through articles, films and literary texts. The course will develop writing and reading strategies, providing them with the tools to think, read, and write critically and analytically in papers of 1-3 pages. Progress will also be assessed through quizzes and exams. Course conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 203. Advanced French. 3 Credit Hours.

Continuation of FRE 202. This course will prepare students for advanced literature, linguistic, and culture courses. The class will use films, literary works, and other cultural texts. Students will write analytic essays of 3-5 pages to develop style, vocabulary, and syntax. Course conducted entirely in French.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

FRE 280. French Culture And Conservation. 3 Credit Hours.

The major social, historical and political factors that have shaped contemporary and traditional French culture and society. This cultural approach to language-learning is set in the small towns and villages of the Sete region, rich and vibrant with a centuries-old history of intellectual advances and social tolerance. The historical and social evolution of French culture will be studied through film, literature and art with visits to relevant historical sites and museums.

Prerequisite: FRE 102 or FRE 105.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 301. Interpreting Literary And Cultural Texts In French. 3 Credit Hours.

Tools for the interpretation and analysis of literary and cultural materials from the French-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to native speakers formally educated in French.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 302. The Cultures of France. 3 Credit Hours.

Historical survey of French intellectual, artistic, and popular culture. Writing credit.

Prerequisite: FRE 214 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 303. The Cultures Of Francophone Africa, Canada, And/Or The Caribbean. 3 Credit Hours.

Historical survey of the intellectual, artistic, and popular culture of the French-speaking communities in Africa, Canada and the Caribbean.

Prerequisite: FRE 214 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 310. Topics in French and Francophone Studies in Translation. 3 Credit Hours.

Topics in the literature and/or cultures of the French-speaking world. Readings and discussion in English. Development of critical reading and writing skills. Fulfills humanities literature requirement. Writing Credit. Does not fulfill foreign language requirement. May be repeated when the topic varies. May be used toward the French major in accordance with Department of Modern Languages and Literature stipulations.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 321. Literary Topics. 3 Credit Hours.

The study of literature, film and/or the arts through a specific topic. Maybe repeated for credit if topic is different.

Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 322. Topics in Global French Culture. 3 Credit Hours.

Issues centered on the culture of France and/or regions where French is spoken. Topics such as film, Caribbean history, journalism, translations, migration. May be repeated for credit if topic is different.

Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 325. Topics In French-Language Cinema. 3 Credit Hours.

Topics in the cinema of the French-speaking world. Analysis of films in their cultural context. May be repeated for credit if topics vary.

Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

FRE 330. Topics In Gender And Sexuality. 3 Credit Hours.

Topics in gender and sexuality in the context of the French-speaking world, through literary and/or cultural studies. Writing Credit. May be repeated if topics vary. Prerequisite: FRE 301 or the Equivalent.

Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 340. Migration In Literary And Cultural Studies. 3 Credit Hours.

Study of migration to or from France, French-speaking Canada and America, Africa and/or the Caribbean. Writing Credit. May be repeated for credit if topics vary. PREREQUISITE: FRE 301, OR EQUIVALENT.

Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 345. Franco-Maghrebian Studies. 3 Credit Hours.

The study of major historical, social, cultural and literary issues related to the Franco-Maghrebian interface. Writing Credit. May be repeated for credit if topics vary. PREREQUISITE: FRE 301, OR EQUIVALENT
Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 346. African Studies. 3 Credit Hours.

Topics in the literary and/or cultural study of French-speaking Africa. May be repeated for credit if topics vary. Writing Credit.
Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 360. The Caribbean Through Literary And Cultural Studies. 3 Credit Hours.

Literary and cultural readings on the Caribbean. Writing Credit. May be repeated for credit if topics vary.
Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 363. Medieval And Renaissance Topics In French. 3 Credit Hours.

Topics within French literature from the 12th century to the end of the 16th century.

Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 364. Early Modern Topics In French. 3 Credit Hours.

Topics within French literature from the 17th and 18th centuries.
Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 365. 19Th Century Topics In French. 3 Credit Hours.

Topics within French literature from the 19th and 20th centuries.
Prerequisite: FRE 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

FRE 366. 20th and 21st Century Tpoics in French. 3 Credit Hours.

Study of currents, themes, and movements that define and run the course of 20th and 21st century French literature and culture. Course materials may encompass a diverse array of sources, including art, film, literature, theatre, aesthetics, political cultures and theoretical debates. May be repeated if the topic changes substantially.

Prerequisite: FRE 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FRE 395. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 396. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 397. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 398. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 399. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 432. French For Global Business. 3 Credit Hours.

The language and culture tools needed to work and conduct business in French anywhere it is spoken around the world.

Prerequisite: FRE 301. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

FRE 442. Advanced writing workshop in French. 3 Credit Hours.

Intensive writing of various genres based on the discussion of readings.

Prerequisite: FRE 301. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 495. Transfer Credits. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

FRE 501. Capstone. 3 Credit Hours.

Course with a broad-based topic designed to integrate high-level linguistic, critical and analytical skills with the body of knowledge acquired during the course of study toward the major. Topics vary. Open only to undergraduates in the last semester of their French major. Course is writing intensive; fulfills writing credit requirement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 591. Directed Readings. 1-3 Credit Hours.

May be repeated for credit if topic is different.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 592. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 593. Directed Readings. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 594. Senior honors Thesis I. 3 Credit Hours.

Directed research for honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 595. Senior Honors Thesis II. 3 Credit Hours.

Directed writing of honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

FRE 611. Topics in French Medieval Literature. 3 Credit Hours.

Recent topics: exile, the epic, orientalism, imperialism, monsters.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 612. Topics in French Renaissance Literature. 3 Credit Hours.

Specific genres, works, authors, and movements. Possible topics: Melancholy and Madness; Montaigne; Rabelais; Marguerite de Navarre; lyric poetry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 613. Topics in 17th Century French Literature. 3 Credit Hours.

Recent topics: Racine, Moliere, Corneille: Pascal and the Moralists tradition, the birth of the psychological novel, love and war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 614. Topics in 18th Century French Literature. 3 Credit Hours.

Recent topics: Diderot, Rousseau, Sade; exoticism as related to political theory; the epistolary novel; the Enlightenment and post-colonial theory.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 615. Topics in 19th Century French Literature. 3 Credit Hours.

Recent topics: Balzac, Stendhal, Flaubert; Dandysm and Decadence; the Symbolist movement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 616. Topics in 20th-21st Century French Literature. 3 Credit Hours.

Recent topics: Paris 1913; Surrealism; Artaud, Beckett, Ionesco, Genet; the Nouveau Roman.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 621. Special Topics in French Studies. 3 Credit Hours.

Special Topics in French Studies.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 625. Elementary French for Graduate Research. 0 Credit Hours.

Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 675. Topics in Francophone Studies. 3 Credit Hours.

Recent topics: travel narratives, literary historiography, discourses of race, colonialism, multilingualism and literacy, nationalism and culture.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 691. Writing Practicum. 1 Credit Hour.

The writing of a publishable research paper under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 692. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

FRE 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. Prior to admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of FRE 730 may be taken in a regular semester, nor more than six in a summer session. Students who have not passed their qualifying examinations yet, but are not taking any courses, may enroll in FRE 730.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

FRE 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. After admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of FRE 740 may be taken in a regular semester, nor more than six in a summer session. Students who have passed their qualifying examinations, but are not taking courses any more, may enroll in FRE 740. Where a student has passed his /her(a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

FRE 850. Research in Residence. 1 Credit Hour.

Used to establish residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

General Business Management and Organization (GBM)

GBM 100. Fundamentals Of Ethics And Leadership. 3 Credit Hours.

This is a comprehensive course specifically designed to assist students focus on building a proper foundation to prepare for college and then law school or graduate school in the future. The course creates opportunities for students to hone their ethical, business and legal skills. Students will be exposed to the functional areas of business: management, legal studies, and marketing. GBM 100 is a blend of academics, leadership, networking and teamwork that are at the core of a successful transition from high school to college to graduate school.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

GBM 101. Fundamentals Of Business. 3 Credit Hours.

This course is designed to provide a broad introduction to the various fields of business knowledge that are essential for successful decision making in the global marketplace. Students will be exposed to the functional areas of business: economics, accounting, finance, and management. The curriculum will require students to engage in hands-on activities that will help to familiarize them with the different business fields and decide if a career in business is right for them.

Components: LEC.

Grading: GRD.

GBM 580. Law & Econ In Soc. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Genomic Medicine (GNM)

GNM 601. Fundamentals Of Genomic Medicine. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GNM 602. Clinical Applications Of Genomic Medicine Ii. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GNM 605. Research Ethics. 1 Credit Hour.

This course introduces foundational concepts in research ethics in preparation for conducting the genomic medicine practicum. Online Human Subjects Research and Responsible Conduct of Research training through the CITI program website will be supplemented with 6 one-hour in-person discussion sessions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GNM 610. Clinical Application Of Genomic Medicine 1. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GNM 630. Clinical Applications Of Genomic Medicine Iii. 4 Credit Hours.

This course continues the systems-based learning in GNM610 and GNM602, covering topics in rheumatology, autoimmunity, infectious disease, hematology, oncology, endocrinology, diabetes and metabolism, ophthalmology, and dermatology. The class will meet 2 hours each week for literature-based discussion sessions, and self-directed learning (online lectures and text-based learning modules) will take approximately 2 hours per week.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GNM 631. Genomic Medicine Laboratory. 3 Credit Hours.

Components: LAB.

Grading: CNC.

Typically Offered: Fall & Summer.

GNM 640. Pharmacogenomics. 1 Credit Hour.

This course covers pharmacogenomics as a special case of genomic medicine that will be practiced in every setting. The course provides an overview of known drug/gene interactions, interpreting test results, and integrating these results into clinical practice.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GNM 660. Computational Methods For Genomic Medicine. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GNM 680. Genomic Ethics And Public Policy. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Geography (GEG)

GEG 101. Digital Earth. 3 Credit Hours.

Explores various geospatial technologies and the societal implications of our digital world with particular emphasis locational services, mapping, imagery, and other capabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 105. World Regional Geography. 3 Credit Hours.

An introduction to geography's basic concepts within the framework of a comprehensive survey of the world's major regions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 110. Introduction to Human Geography. 3 Credit Hours.

An introduction to the sub-fields of human geography by an examination of patterns and process in the international system.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 120. Physical Geography. 3 Credit Hours.

The Earth system (atmosphere; hydrosphere; biosphere; lithosphere) emphasizing the interrelationships among its constituent subsystems; human-environmental interactions and geographic dimensions of these four subsystems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 199. Introduction to GIS (Geographic Information Systems). 3 Credit Hours.

This course uses lecture and lab sessions to teach fundamental concepts in Geographic Information Systems (GIS) and introduce related geographic technologies (Global Positioning Systems, Remote Sensing, etc.). Topics include the nature and sources of digital and spatial data, map projections and datums, raster and vector data structures, raster and vector spatial analysis, and GIS project design. Students will learn to use ArcView and Idrisi, two leading GIS software programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 201. Topics in Geography. 3 Credit Hours.

Content and prerequisites vary.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 210. Introduction To Geographic Research Methods. 3 Credit Hours.

Explores the fundamentals of conducting social science research, such as research design, hypothesis formulation, and field data collection, with particular emphasis on quantitative and qualitative geographic analytical methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 212. Geography of Middle America and the Caribbean. 3 Credit Hours.

Human and physical geography of Middle America and the Caribbean.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 221. Introduction To Health And Medical Geography. 3 Credit Hours.

An introduction to health and medical geography which has recently emerged as a significant subfield integrating public health and medicine with human and physical geography and climatology. Medical geography is explored across three major themes: disease ecology (relationship between disease and the natural/human environments), social approaches (including political economy and socio-behavioral approaches), and the spatial approach (using maps and spatial statistics to identify patterns in health outcomes and health services).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 222. Geography of South America. 3 Credit Hours.

This course is an introduction to the geography of South America. It explores the physical, political, economic, social and cultural geographies of this diverse and complex world region. The course covers agrarian and urban land-use patterns, migration and territorial development and includes urban and regional planning, health, education and social services, with particular attention given to how these interventions address problems of uneven territorial development and social inequality.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 232. Geography and Development in Africa. 3 Credit Hours.

A survey of the geography of Africa south of the Sahara, with particular emphasis on development and the role of African states in the international system.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 242. Economic and Political Geography of the Middle East. 3 Credit Hours.

Human and physical geography of the Middle East with emphasis on current topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 252. United States and Canada. 3 Credit Hours.

Human and physical geography of North America.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 272. Jewish Geography. 3 Credit Hours.

Facts of Jewish history, geography, and demography both in the world and the United States. Basic geographic concepts that help us to understand the Jewish world and provide a basis for understanding the various ways that Jewish communities have adapted to different geographic circumstances.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 280. Introduction to Cartography and Computer Mapping. 3 Credit Hours.

Methods and techniques of cartography. Cartographic representation of spatial data.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 300. Human Geography. 3 Credit Hours.

The focus is on human geography by exploring pressing global issues including population growth, migration, economic crises, environmental decline, food security, identity politics, war and urbanization. These topics will be explored through the lens of cultural geography, uncovering, how spatial interconnections and geographical interdependence shape the world as we know it. FOR BGS STUDENTS ONLY

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 301. Topics in Geography. 3 Credit Hours.

Content and prerequisites announced when offered. Course may be repeated for credit if content varies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 304. World Economic Geography. 3 Credit Hours.

Geographic analysis of the distribution of economic activities with emphasis on present-day patterns and trends of production, distribution, and consumption of the world's major commodities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 311. Drinking Water: Past, Present, And Future. 3 Credit Hours.

Traces the past, present, and future of human drinking water supplies through a social science lens. Examines drinking water as a physical, social, economic, and political resource, and how the integration of these views affects the management of global drinking water supplies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 341. Geography of Population and Development. 3 Credit Hours.

Major world population issues are discussed, including population growth, fertility patterns, mortality change, migration, ethnicity, and population structure changes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 343. Doomsters & Boomsters: Perspective on Population Growth & Sustainability. 3 Credit Hours.

A critical look at two general views of global population growth and humankind's future prospects for sustainable well-being: so-called Doomsters, who believe that growing global human populations and resource-consuming lifestyles threaten our environment and the welfare of most human beings, and so-called Boomsters, who do not believe that population growth and consumption are a threat, but rather that the environment and lifestyles are generally improving, and that human ingenuity and technology will continue to make the world a better place.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 362. World Urban Geography. 3 Credit Hours.

An introduction to the principles and methods that apply to the geographic study of cities and urbanization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 370. Conservation of Resources. 3 Credit Hours.

Problems of resource availability in an urban-industrial society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 371. Environmental Geography: Current Issues. 3 Credit Hours.

Topics selected from a wide range of current environmental problems from a geographical perspective. Students will become familiar with a wide range of ecological processes as well as the human forces that currently modify them.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 391. Intermediate GIS (Geographic Information Systems). 3.00 Credit Hours.

This course deals with fundamental concepts of raster and vector data manipulation and analysis through lectures and laboratory exercises.

Topics covered include vector polygon editing and topology, data quality assessment, integration of raster and vector data, basic concepts of remote sensing, cartographic modeling, suitability mapping, and multi-criteria evaluations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 392. Remote Sensing of the Environment. 3 Credit Hours.

Theory and techniques of environmental remote sensing and imagery interpretation for earth resources monitoring and management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 420. Geopolitics. 3 Credit Hours.

Analysis of contemporary global geopolitical issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 481. Introduction to Quantitative Methods. 3 Credit Hours.

The use of basic methods or quantitative analysis in geographic research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 491. GIS and Environmental Modeling. 3 Credit Hours.

Creation, editing, management and display of spatial databases in ARC/INFO, a vector-based GIS (Geographic Information System).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 501. Place, Region, Nature. 3 Credit Hours.

Seminar for Graduate and senior undergraduate students about geographic thought and geographical traditions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 510. Survey Research in Geography. 3 Credit Hours.

The use of survey research including the choice of a survey mechanism, sampling, questionnaire design, survey logistics, survey analysis, and reporting of results.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 511. Field Studies in Geography. 1-6 Credit Hours.

One to six weeks of intensive geographic field studies outside the Miami area. Lectures will be given prior to departure. The locations and topics of study will vary.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 513. Advanced Cartography. 3 Credit Hours.

Cartographic research techniques, cognitive mapping, distortion, transformations and cartograms. Prerequisite: GEG 280 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 515. Human Dimensions of Global Environmental Change. 3 Credit Hours.

Explores the human dimensions of global environmental change using an interdisciplinary approach. The course is reading and writing intensive. Special attention is given to the central role that land-use/cover change plays in the larger realm of global environmental change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 519. Immigration to the United States. 3 Credit Hours.

A description and analysis of current immigration patterns in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 522. Urbanization in the Developing World. 3 Credit Hours.

Patterns and processes in large cities in the developing world are examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 523. Seminar in Urban Management. 3 Credit Hours.

Identification of and responses to urban problems in large cities in European and Latin American metropolitan areas. Emphasis is on demographic, cultural/ethnic, service-provision, environmental, transportation, and land-use problems. Approach is via case studies, theory applications, and planning practicalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 525. Topics in Geography. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 530. Resources and Society. 3 Credit Hours.

This course examines the relations between human society and material nature from within a broad theoretical perspective, relating questions of science, culture, and technology to the politics and economics of natural resources, focusing particularly on water, food, and petroleum.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 535. Internship in Geography. 1-4 Credit Hours.

Students are assigned to work for a local public or private agency.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 543. Doomsters & Boomsters: Perspective on Population Growth & Sustainability. 3 Credit Hours.

A critical look at two general views of global population growth and humankind's future prospects for sustainable well-being: so-called Doomsters, who believe that growing global human populations and resource-consuming lifestyles threaten our environment and the welfare of most human beings, and so-called Boomsters, who do not believe that population growth and consumption are a threat, but rather that the environment and lifestyles are generally improving, and that human ingenuity and technology will continue to make the world a better place.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 545. Special Topics. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 552. Seminar on the Geography of South Florida. 3 Credit Hours.

Human and physical geography of South Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 555. Field Methods and Geospatial Analysis. 3 Credit Hours.

With a focus on geo-spatial applications, this methods course introduces students to field research addressing complex socio-environmental issues. The course includes exercises with GPS data collection; geo-tagged photography; ground truthing; spatial survey design; and distributed GIS. Various research areas and cognate field methods including environmental demography, community surveying, cultural mapping, and multi-sited ethnography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 563. URBAN GEOGRAPHY. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 580. Introductory Quantitative Methods for Geographical Analysis.. 3 Credit Hours.

Basic quantitative methods for geographic analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 582. Advanced Quantitative Methods. 3 Credit Hours.

Continuation of GEG 481. The use of statistical methods and techniques in the solution of geographic research problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 585. Advanced Cartography. 3 Credit Hours.

An understanding of cartography; a high degree of fluency in the art and science of map-making. The theory, principles, concepts and techniques required to present geographically-referenced data in order to effectively communicate spatial relationships, patterns, and the results of spatial analyses. Extensive experience in creating a wide variety of aesthetically-pleasing, professional-looking maps using ArcGIS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 591. Introduction to GIS (Geographic Information Systems) for graduate students. 3.00 Credit Hours.

Overview of basic concepts in GIS (Geographic Information Systems) for students wishing to get graduate credit. This class involves a student project using GIS.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 592. Advanced Environmental Remote Sensing. 3 Credit Hours.

A foundation in remote sensing and digital image processing. Special emphasis will be paid to land applications, use of satellite imagery, and the use of optical imagery in land-cover mapping. Introductory concepts of electromagnetic energy and radiative transfer; a basis for understanding remote sensing applications typically found in geography including multispectral image processing and classification.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 593. Intermediate GIS. 3.00 Credit Hours.

The objective of this course is to provide an introduction to analysis of spatial data in geographic information systems (GIS). The course will provide students with instruction on manipulation of raster and vector data as well as cartographic modeling using raster-based GIS software. Students also will receive exposure to introductory concepts of remote sensing and visualization, which are rapidly growing sub-fields of GIS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 595. Web Gis. 3 Credit Hours.

Map serving technologies and internet map design, focusing on the programming concepts needed to construct and implement high-quality web mapping applications. Lab exercises will make use of both the commonly used open source GIS and related programming tools for customizing web-based mapping applications, as well as the leading proprietary web mapping capabilities provided in ESRI's ArcGIS Server. Students build their own on-line interactive, customizable maps and will learn the basics of client/server architecture and processing, JavaScript programming, and XML/HTML basics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 602. Place, Region, Nature. 3 Credit Hours.

Seminar for Graduate and senior undergraduate students about geographic thought and geographical traditions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 603. Advanced Research Design in Geography. 3 Credit Hours.

Designing and proposing geographic research projects based upon a critical reading of the geographical literature. Students will prepare a master's thesis (master's students) or dissertation (doctoral students) project proposal.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 610. Survey Research in Geography. 3 Credit Hours.

The use of survey research including the choice of a survey mechanism, sampling, questionnaire design, survey logistics, survey analysis, and reporting of results.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 613. Advanced Cartography. 3 Credit Hours.

Cartographic research techniques, cognitive mapping, distortion, transformations and cartograms. Prerequisite: GEG 280 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 615. Human Dimensions of Global Environmental Change. 3 Credit Hours.

Explores the human dimensions of global environmental change using an interdisciplinary approach. The course is reading and writing intensive. Special attention is given to the central role that land-use/cover change plays in the larger realm of global environmental change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 619. Immigration to the United States. 3 Credit Hours.

A description and analysis of current immigration patterns in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 622. Urbanization in the Developing World. 3 Credit Hours.

Patterns and processes in large cities in the developing world are examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 623. Seminar in Urban Management. 3 Credit Hours.

Identification of and responses to urban problems in large cities in European and Latin American metropolitan areas. Emphasis is on demographic, cultural/ethnic, service-provision, environmental, transportation, and land-use problems. Approach is via case studies, theory applications, and planning practicalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GEG 625. Advance independent study in geography I. 1-6 Credit Hours.

Advanced independent study for Two-Paper Option for first paper.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 635. Internship in Geography. 1-4 Credit Hours.

Students are assigned to work for a local public or private agency.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 637. Development Studies. 3 Credit Hours.

Advanced seminar on issues in contemporary development studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 645. Advanced Independent Study in Geography II. 1-6 Credit Hours.

Advanced independent study for Two-Paper Option for second paper.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 652. Seminar on the Geography of South Florida. 3 Credit Hours.

Human and physical geography of South Florida.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 655. Field Methods and Geospatial Analysis. 3 Credit Hours.

With a focus on geo-spatial applications, this methods course introduces students to field research addressing complex socio-environmental issues. The course includes exercises with GPS data collection; geo-tagged photography; ground truthing; spatial survey design; and distributed GIS. Various research areas and cognate field methods including environmental demography, community surveying, cultural mapping, and multi-sited ethnography.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 661. Advanced Urban Geography. 3 Credit Hours.

Analysis of the spatial structure of urban centers, the development of and interaction between functional zones, and the movement of goods and people in urban areas.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 663. URBAN GEOGRAPHY. 3 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall.

GEG 680. Introductory Quantitative Methods for Geographical Analysis.. 3 Credit Hours.

Basic quantitative methods for geographic analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GEG 681. Advanced Spatial Statistics. 3 Credit Hours.

Social and environmental science applications of spatial statistical analysis illustrated with data and numerical (simulation experiments) examples employing interactive software. This course's focus is on spatial auto correlation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 685. Advanced Cartography. 3 Credit Hours.

An understanding of cartography; a high degree of fluency in the art and science of map-making. The theory, principles, concepts and techniques required to present geographically-referenced data in order to effectively communicate spatial relationships, patterns, and the results of spatial analyses. Extensive experience in creating a wide variety of aesthetically-pleasing, professional-looking maps using ArcGIS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 691. Introduction to GIS (Geographic Information Systems) for graduate students. 3.00 Credit Hours.

Overview of basic concepts in GIS (Geographic Information Systems) for students wishing to get graduate credit. This class involves a student project using GIS.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GEG 692. Advanced Environmental Remote Sensing. 3 Credit Hours.

A foundation in remote sensing and digital image processing. Special emphasis will be paid to land applications, use of satellite imagery, and the use of optical imagery in land-cover mapping. Introductory concepts of electromagnetic energy and radiative transfer; a basis for understanding remote sensing applications typically found in geography including multispectral image processing and classification.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 693. Intermediate GIS. 3.00 Credit Hours.

The objective of this course is to provide an introduction to analysis of spatial data in geographic information systems (GIS). The course will provide students with instruction on manipulation of raster and vector data as well as cartographic modeling using raster-based GIS software. Students also will receive exposure to introductory concepts of remote sensing and visualization, which are rapidly growing sub-fields of GIS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GEG 695. Web Gis. 3 Credit Hours.

Map serving technologies and internet map design, focusing on the programming concepts needed to construct and implement high-quality web mapping applications. Lab exercises will make use of both the commonly used open source GIS and related programming tools for customizing web-based mapping applications, as well as the leading proprietary web mapping capabilities provided in ESRI's ArcGIS Server. Students build their own on-line interactive, customizable maps and will learn the basics of client/server architecture and processing, JavaScript programming, and XML/HTML basics.

Components: LEC.

Grading: GRD.

GEG 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

GEG 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in GEG 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GEG 825. Continuous Registration--Master's Study. 0 Credit Hours.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Geological Sciences (GSC)

GSC 101. Origin and Evolution of Planet Earth. 3 Credit Hours.

The origin of the elements and the evolution of the universe. The formation and early evolution of the solar system. The differentiation of the earth into core, mantle, and crust. Origin of the oceans and atmosphere.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 102. Evolution of the Biosphere. 3 Credit Hours.

The physical basis of life. The origin, early evolution, history of life on Earth. Emphasis on major crises and innovations, including the evolution of modern man.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 103. Evolution of the Modern Earth's Environment. 3 Credit Hours.

The earth's crust: composition and morphology. Ocean and atmosphere: radiation balance and dynamics. Climatology and paleoclimatology. The ice ages and the evolution of the modern environment. The relationships between the geological environment and human activities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 105. THE GLOBAL ENVIRONMENT. 3 Credit Hours.

Anthropogenic effects on the Earth's environment compared to analogous natural events.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 106. Geological Influences on Society. 3 Credit Hours.

Impact of geological processes on daily human activities and decision-making. Geological hazards and human habitation. Economic geology and exploration of natural resources. Influences of geology on other disciplines.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 107. Natural Disasters - Hollywood Vs. Reality. 3 Credit Hours.

This course will explore the causes, effects and societal responses to disasters. We will look at a variety of natural hazards and related disasters including flooding, volcanoes, landslides, earthquakes, hurricanes, tsunami and drought. Using excerpted segments of "disaster films" in conjunction with scientific treatments, we can identify the causes, frequency, consequences, risks, and public perceptions of natural hazards.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 110. The Earth System. 3 Credit Hours.

Interactions among the major components of the Earth System - the geosphere, the hydrosphere, the atmosphere, and the biosphere. To be taken concurrently with GSC 114 lab section.

Corequisite: GSC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 111. Earth System History. 4 Credit Hours.

Earth History, beginning with earliest origins and surveying major steps in the evolution of the geosphere, atmosphere, hydrosphere, and biosphere.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 114. Earth Processes Lab. 2 Credit Hours.

Minerals, rocks, sediments, maps, imagery, fossils and paleoenvironmental reconstruction methods. Current frontiers of knowledge and field introduction to marine geology. Co-requisite: GSC 110.

Corequisite: GSC 110.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 204. Environmental Statistics. 3 Credit Hours.

This introductory course provides an overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 230. Reef Systems Through Time. 3 Credit Hours.

Interacting geological, physical, chemical, biological, and climatic processes that define a reefal setting and system. Field trips included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 231. Field Study of Reef Systems Through Time. 2 Credit Hours.

Fossil reef systems of the Paleozoic age in west Texas and New Mexico. Components, fabrics, and facies relationships. Field Methods. Visit to the Permian reef complex at Alamogordo. Carlsbad and Mississippian, Pennsylvanian and Permian reef mounds near Alamogordo. Fee required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 240. Introduction to Marine Geology. 3 Credit Hours.

Learn about the origin, structure and evolution of the ocean basins and their margins, including interpretation of the paleo-archives hidden on the seafloor. The course material is necessarily broad, covering marine geography, plate tectonics, active and passive margins, coastal and ocean processes, sediment processes, continental margin and seafloor resources, and climate and ocean history and interactions. Our approach will be interdisciplinary, requiring integration of chemical, physical and biological systems, as well as geologic processes. A special emphasis will be placed on learning to read the sediment record as an archive of information on biologic and climate evolution.

Prerequisite: GSC 110, and GSC 114 or GSC 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 260. Earth Materials. 4 Credit Hours.

Physical and optical properties of common rock-forming minerals and their occurrence in igneous, metamorphic, sedimentary rocks, and ore deposits. Lecture, 3 hours; laboratory, 4 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 300. Trout and Calderas.. 3 Credit Hours.

A study of Earth processes necessary for environment which support and sustain wild trout. Instruction in fly fishing techniques based on an understanding of these processes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 310. Microbes and the Environment. 3 Credit Hours.

This course is designed to provide students in geology, biology and environmental science a fundamental understanding of the role microbes play in shaping the Earth and its environments as well as the basic principles and approaches to studying these interactions in both modern and ancient settings. The metabolic diversity displayed by microbial communities makes them an integral component of global elemental cycles. In this regard, microorganisms have shaped our planet over the past 4 billion years and continue to do so in a very prominent way. The goal of this course is to learn about microbial diversity and metabolism, and the ability of microbes to shape and influence the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 311. Field Study of Volcanoes and Society. 2 Credit Hours.

Field trip to Popocatepetl and surrounding sites near Mexico City. Nature and impact of explosive volcanic eruptions on prehistoric civilizations. Fee required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 360. Depositional and Diagenetic Systems. 4 Credit Hours.

Sedimentary processes, sedimentology, and sedimentary diagenesis. Physical, biological and chemical sedimentation in Earth's surficial environments. Paleoenvironmental and diagenetic history reconstruction using petrologic, hand specimen, and field methods. Cyclicity in sedimentary systems. Lecture, 3 hours; field/ laboratory, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 380. Paleontology and Stratigraphy. 4 Credit Hours.

Biostratigraphy, paleoecology, taphonomy, micro- and macro-evolutionary processes, and physical and chemical methods used for stratigraphic correlation. Major groups of invertebrate phyla comprising the bulk of the fossil record. Lecture, 3 hours; laboratory, 2 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 401. Senior Internship. 3 Credit Hours.

Field and laboratory studies conducted in conjunction with an approved academic environmental or industrial research laboratory or agency.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GSC 410. Environmental Geochemistry. 3 Credit Hours.

Natural distribution of the elements on earth, and how this is being changed. Radioactivity and energy, greenhouse warming and ozone depletion, water and waste and other environmental problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GSC 420. Geophysics. 3 Credit Hours.

The earth's gravitational field. Geomagnetism and paleomagnetism. Seismology. Heat flow. Plate tectonics. Lecture, 3 hours; laboratory, 2 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 440. Igneous and Metamorphic Petrology. 4 Credit Hours.

Genesis and classification of igneous and metamorphic rocks, field relationships of rock assemblages, and results of recent laboratory investigations. Identification of common rock types in hand specimens and by thin-section and X-ray diffraction techniques. Lecture, 3 hours; laboratory, 3 hours.

Prerequisite: GSC 260.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 462. Earth's Ancient Atmospheres, Climates, And Sea Levels. 3 Credit Hours.

The Earth's atmospheres, climates, and sea level from the early Pre-Cambrian to present. Focus is placed on how the study of Earth's past is relevant to both modern and future climate change.

Prerequisite: GSC 110 and GSC 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 480. Structural Geology. 4 Credit Hours.

Behavior of rock materials; analysis, description and classification of geologic folds, faults, joints; analysis of rock fabrics; tectonic and geologic history of continents and continental margins. Lecture, 2 hours; laboratory, 2 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GSC 482. Field Methods. 2 Credit Hours.

Field and laboratory exercises in mapping. Interpretation of aerial and satellite photographs; coring and laboratory meets two hours/week. Field portion is on alternate Saturdays plus four day trip to Appalachians or Caribbean.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

GSC 490. Senior Thesis. 3 Credit Hours.

Individual, original research of independent study supervised by a member of the Departmental faculty and concluded by formal thesis preparation, public oral defense and submission of the thesis to the Department.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 491. Senior Thesis. 3 Credit Hours.

Individual, original research of independent study supervised by a member of the Departmental faculty and concluded by formal thesis preparation, public oral defense and submission of the thesis to the Department.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 550. Hydrogeology. 3 Credit Hours.

Movement of subterranean water. The mechanical, chemical and thermal interaction of water with porous solids, and the transport of energy and chemical constituents. The origin of porosity and permeability. The controls exerted on aquifers by the lithology, stratigraphy and structure of geologic deposits and formations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 560. Colloquium - Current Topics in the Geosciences. 1 Credit Hour.

Weekly presentations and discussions. Written and oral presentations required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GSC 561. Colloquium - Current Topics in the Geosciences. 1 Credit Hour.

Weekly presentations and discussions. Written and oral presentations required.

Components: DIS.

Grading: GRD.

Typically Offered: Spring.

GSC 574. Special Studies. 1-4 Credit Hours.

Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 575. Special Studies. 1-4 Credit Hours.

Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 576. Special Studies. 1-4 Credit Hours.

Students engaged in approved field and/or laboratory activities, such as work at sea or in the laboratory under supervision, may register for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GSC 580. Summer Field Geology. 4 Credit Hours.

An intensive four-week summer field laboratory study of modern geological processes and ancient rock sequences. Mapping, description and interpretation of rock and structural sequences, paleoenvironmental reconstruction, interpretation of tectonic history. Reports required.

Touring course. Travel fee required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

GSC 581. Summer Field Environmental Geology. 2 Credit Hours.

Field evaluation of environmental geology problems in marine, coastal, wetland and terrestrial environments. Effects of human alteration of landscape, natural hazards, pollution of ground water, surface water and soils. Role of climate change on surficial environments. Reports required.

Touring course. Travel fee required. Co-requisite: GSC 580.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

GSC 582. Field Studies. 1-4 Credit Hours.

Conducted field trips to selected geological sites in the United States and abroad. Report required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GSC 596. Research in Geology. 1-4 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

German (GER)

GER 101. Elementary German I. 3 Credit Hours.

Fundamental grammatical principles; exercises to develop a foundation for skills of listening, speaking, reading, and writing; introduction to German culture. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GER 102. Elementary German II. 3 Credit Hours.

Continuation of GER 101. Building upon fundamental grammatical principles; exercises to develop a foundation for skills of listening, speaking, reading, and writing; introduction to German culture. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GER 201. Intermediate German I. 3 Credit Hours.

Continuation of GER 102, with special emphasis on essay writing.

Components: LEC.

Grading: GRD.

GER 202. Intermediate German II. 3 Credit Hours.

Integrated grammar, writing, and conversation via content-based instruction. Diverse selection of readings: stories, plays, essays, interviews, other materials. Development of skills in a workshop format.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GER 301. Interpreting Literary And Cultural Texts In German. 3 Credit Hours.

Tools for the interpretation and analysis of literary and cultural materials from the German-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills.

Prerequisite: GER 212 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

GER 302. The Cultures of the German-Speaking World. 3 Credit Hours.

Historical survey of cultures in areas of the world where German is spoken: arts, letters, science, political and social institutions. Conducted in German. Collateral readings and reports.

Prerequisite: GER 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 310. Ger 310: German Studies in Translation. 3 Credit Hours.

Topics in German literature, philosophy, history, etc. Readings and discussion in English. Development of critical reading and writing skills. Fulfills humanities literature requirement. Writing credit. Does not fulfill foreign language requirement. May not be used for German minor credit. Prerequisite: ENG 106 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

GER 321. Special Topics in German Studies. 3 Credit Hours.

Intensive study of a special topic. May be repeated for credit when topic varies. May be used to fulfill the humanities literature requirement. Writing credit.

Prerequisite: GER 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 365. Twentieth-Century German Studies. 3 Credit Hours.

The second empire and the third Reich, the Weimar Republic, and the two Germanies. Examination of the arts, sciences, letters, and political and social institutions of twentieth-century Germanophone areas. May be used to fulfill the humanities literature requirement. Writing credit.

Prerequisite: GER 301 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 370. The Holocaust in History, Film, and Memorial Culture. 3 Credit Hours.

The course examines the representation of the Holocaust in historiography, film, and memorial culture. Readings will include texts by historians and writers such as Primo Levi, Raul Hilberg, Daniel Goldhagen, James Young and others; films will include, among others, Alain Resnais's NIGHT AND FOG, Claude Lanzmann's SHOAH, and Steven Spielberg's SCHINDLER'S LIST. Reading-and writing-intensive course with reading and discussions in English. In addition to daily/weekly homework assignments, an in-class midterm exam and a final, cumulative take-home exam, students will also complete an extended analytical term paper. Students will also be required to watch films outside of regularly scheduled class hours.

Requisite: Sophomore Status.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 395. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 396. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 397. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 398. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 399. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

GER 400. Advanced German Conversation: Contemporary German Politics & Society. 3 Credit Hours.

This advanced German conversation course provides students with the opportunity to expand and strengthen their oral proficiency and listening comprehension in German through a systematic exploration and guided discussions of current issues in contemporary German politics and society.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

GER 442. Advanced Stylistics and Composition. 3 Credit Hours.

Analysis of grammar and style. Discussion of readings. Intensive writing. Writing credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GER 592. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 594. Senior Honors Thesis I. 3 Credit Hours.

Directed research for honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

GER 595. Senior Honors Thesis II. 3 Credit Hours.

Directed writing of honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

GER 625. German for Graduate Research. 0 Credit Hours.

Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor.)

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

GER 691. Directed Readings. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Graduate School (GRD)

GRD 600. Graduate Student Training: Preventing Sexual Harassment and Sexual Violence. 0 Credit Hours.

Components: DIL.

Grading: NON.

Typically Offered: Fall & Spring.

GRD 601. Graduate Student Training: Graduate Teaching Assistant Orientation. 0 Credit Hours.

Components: DIL.

Grading: NOG.

Typically Offered: Fall & Spring.

Greek (GRE)

GRE 101. Elementary Ancient Greek I. 3 Credit Hours.

Alphabet, pronunciation, accentuation, vocabulary, grammar, reading exercises, and written exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 102. Elementary Ancient Greek II. 3 Credit Hours.

Continuation of GRE 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GRE 103. Intensive Greek for the New Testament. 3 Credit Hours.

An intensive introduction to the Koine dialect of the New Testament and Septuagint. The course is intended for students with little to no background in Ancient Greek, and covers material similar to that found in the GRE 101 and GRE 102 sequence for Attic Greek. Students leave GRE 103 prepared for GRE 201 and capable of reading extended passages from the New Testament.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 201. Intermediate Ancient Greek I. 3 Credit Hours.

Reading from classical and Hellenistic authors. Building on their knowledge of elementary Greek grammar, students move toward real fluency in reading ancient Greek, and the pleasure of encountering these great authors in their original language.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 202. Intermediate Ancient Greek II. 3 Credit Hours.

Reading Ancient Greek poetry. Students will read selections from Homer's *Odyssey* and *Iliad*, with emphasis on the Homeric dialect, meter, and the oral tradition of these epics. Greek 202 prepares students for 300- and 400-level Ancient Greek poetry courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GRE 300. Sophocles. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GRE 311. Plato. 3 Credit Hours.

Reading of Plato's dialogues and letters with a view to syntax, the acquisition of vocabulary, and Plato's prose style and philosophical thought.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GRE 321. Euripides. 3 Credit Hours.

Readings in the plays of Euripides, with an emphasis on syntax, vocabulary, dramaturgy, and the social role of tragedy in ancient Athenian culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GRE 400. Sophocles Antigone. 3 Credit Hours.

This course reads Sophocles' *Antigone* in its entirety in the original Greek. We discuss historical, cultural, and linguistic problems while familiarizing ourselves with some of the main features of the critical reception of this central Greek tragic drama.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 401. Special Topics in Greek Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle) Analogous to REL 404-409 courses. [This will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 402. Special Topics in Greek Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle) Analogous to REL 404-409 courses. [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 403. Special Topics in Greek Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle) Analogous to REL 404-409 courses. [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 404. Special Projects in Ancient Greek Literature & Culture. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle) Analogous to REL 407-409 [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 405. Special Projects in Ancient Greek Literature and Culture. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 406. Special Projects in Ancient Greek Literature and Culture. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 408. Supervised Reading in Classical Greek. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 409. Supervised Reading in Classical Greek. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 411. Homer. 3 Credit Hours.

Readings from the *Iliad* and/or *Odyssey*.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

GRE 421. Greek Orators. 3 Credit Hours.

Readings from Lysias and Demosthenes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 422. Aristophanes. 3 Credit Hours.

Readings from Aristophanes' plays in the original Ancient Greek.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

GRE 431. Herodotus. 3 Credit Hours.

Readings in ancient Greek from Herodotus, the "father of history."

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

GRE 491. Directed Readings. 1-3 Credit Hours.

Content to be determined by faculty member and registering student(s).

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

GRE 691. Directed Readings in Latin for Graduate Students. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Haitian Creole (HAI)

HAI 101. Elementary Haitian Creole I. 3 Credit Hours.

Development of basic listening, speaking, reading and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HAI 102. Elementary Haitian Creole II. 3 Credit Hours.

Basic listening, speaking, reading and writing skills developed in Elementary Haitian Creole 101. Students will produce more complex grammatical structures in oral and written presentations, and focus on improvement of pronunciation.

Prerequisite: HAI 101 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HAI 201. Intermediate Haitian Creole I. 3 Credit Hours.

Basic listening, speaking, reading and writing skills developed in Elementary Haitian Creole 102. Continued development of communicative abilities and introduction to the cultural practices, family values, and social and environmental issues of Haiti. Include both oral and written components.

Prerequisite: HAI 102 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HAI 625. Haitian Creole for Graduate Research I. 0 Credit Hours.

Basic listening, speaking, reading, and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

HAI 626. Haitian Creole for Graduate Research II. 0 Credit Hours.

Continuation of 625 listening, speaking, reading, and writing skills; focus on conversation and the grammatical fundamentals of Haitian Creole.

Prerequisite: HAI 625 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Healthcare Sciences (HCS)

HCS 202. Introductory Statistics in Health Care. 3 Credit Hours.

Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing, health sciences and public health.

Corequisite: MTH 101. Or Requisite: ALEKS > or = 55 or SAT Score > or = 630 or ACT > or = 28.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 207. Introduction to Pharmacology. 3 Credit Hours.

Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included. Emphasis is on the understanding of the different classes of drugs and their application in various health care settings.

Prerequisites: BIL 150, CHM 103 or CHM 111, HCS 212, and HCS 215.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 212. Human Anatomy. 3 Credit Hours.

Emphasis is on the understanding of the anatomical compartments of the human body and the ability to identify the bony skeleton, musculatures, blood vessels and internal organs of each compartment.

Prerequisite: BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 213. Human Anatomy Laboratory. 1 Credit Hour.

Laboratory to accompany HCS 212.

Prerequisite: HCS 212. Or Corequisite: HCS 212.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 215. Principles of Systemic Physiology. 3 Credit Hours.

Emphasis is on the understanding of the Physiology and selected Pathophysiology of various organs and systems.

Prerequisites: HCS 212, CHM 111, CHM 113 or CHM 103, CHM 105. Or Corequisites: CHM 111, CHM 113 or CHM 103, CHM 105.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 216. Principles of Systemic Physiology Laboratory. 1 Credit Hour.

Laboratory to accompany HCS 215

Prerequisite: HCS 215. Or Corequisite: HCS 215.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

HCS 352. Biological Principles Of Public Health. 3 Credit Hours.

This course examines the biological basis and pathogenesis of diseases from a public health perspective and describes the impact on populations. This course also presents the basic scientific and biomedical concepts of modern public health problems and explores in depth mechanisms and models of the major categories of disease. The biologic principles presented in this course are foundations to developing and implementing public health disease prevention, control, or management programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 355. Global Nutrition. 3 Credit Hours.

This course examines nutrition related public health issues in the global setting. Nutrition related morbidity and mortality, etiologic factors, and population-focused strategies to address these issues are covered. Food relief and nutrition policies and programs at the local, national and international levels are examined. Current scientific research in international nutrition is reviewed from an epidemiological perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 402. Global Health Disparities Research. 3 Credit Hours.

This is a 4 week intensive educational experience that prepares students to be successful conducting supervised health disparities research as part of the MHIRT program at a foreign institution, disseminating findings, and applying to graduate school. The training program is broken into a preparation phase (3 weeks prior to leaving to their host country), and a dissemination phase (1 week after they return). Students will be working as a research assistant at a foreign site for eight weeks in between the preparation and dissemination phases of this training program. Students will learn about the influence of culture and healthcare policy on health and health disparities, research design, statistics, communicating research findings and careers in health disparities research.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

HCS 461. Health Disparities Research Practicum. 1-4 Credit Hours.

This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research. Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 465. Public Health Statistics And Data Management. 3 Credit Hours.

This course is designed to give students an opportunity to apply basic principles of statistics and data management in public health. Students will learn to use statistical techniques to answer questions relating to the morbidity and mortality of health conditions and the efficacy and effectiveness of public health interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 487. Global Health Practicum. 3 Credit Hours.

Collaborative clinical venture between UM/SON and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas, including MedSurg, Surgery, ICU and/or Emergency nursing units. Students will apply and synthesize basic science knowledge and skills that foster ethical, legal and culturally specific health care.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HCS 499. Selected Topics. 6.00 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HCS 600. Public Health Information. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

HCS 601. Legal, Ethical And Regulatory Issues In Health Informatics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HCS 603. Healthcare Databases: Design, Development And Clinical Application. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 604. System Life Cycle/Project Management. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 605. Health Information Exchange. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 608. Information Security. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HCS 609. Research Methods And Applications For Health Informatics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

HCS 611. Capstone In Health Informatics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HCS 658. Structure And Processes In Health Care Organization And Health Care Policy. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

Hebrew (HEB)

HEB 101. Elementary Hebrew I. 3 Credit Hours.

Grammatical principles: reading for comprehension and conversation; oral and written exercises. Normally, closed to students who have completed two years of high school Hebrew. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HEB 102. Elementary Hebrew II. 3 Credit Hours.

Continuation of HEB 101. Closed to native speakers.

Prerequisite: HEB 101 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HEB 201. Intermediate Hebrew I. 3 Credit Hours.

Integrated grammar review. Diverse selection of readings: stories, plays, essays, interviews. Practice in speaking and in writing. Class conducted in Hebrew. Closed to native speakers.

Prerequisite: HEB 102 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HEB 202. Intermediate Hebrew II. 3 Credit Hours.

Continuation of 201 with oral presentations, compositions, and grammar review. Class conducted in Hebrew. Closed to native speakers.

Prerequisite: HEB 201 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

History (HIS)

HIS 101. History of the United States, I (to 1877). 3 Credit Hours.

Political, social, and economic development of the United States through Reconstruction.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 102. History of the United States, II (since 1877). 3 Credit Hours.

Political, social, and economic development of the United States since Reconstruction.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 121. Emperors, Shoguns, And Concubines: East Asia, Origins-1800. 3 Credit Hours.

Examines the history of East Asia to 1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 122. The Dragon And The Rising Sun: East Asia, 1800-Present. 3 Credit Hours.

Examines the history of East Asia since 1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 131. Development of Western Civilization, I. 3 Credit Hours.

A survey of the development of the West from the emergence of the earliest civilizations in Mesopotamia and Egypt to the formation of modern European nation states in the sixteenth and seventeenth centuries, emphasizing the ideas, values, events, and institutions that have influenced the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 132. Development of Western Civilization, II. 3 Credit Hours.

A survey of the development of the West from the formation of modern European nation states in the sixteenth and seventeenth centuries to the present, emphasizing the rivalry of European powers, the impact of European expansion, the effect of industrialism and revolution upon Western society, and the role of the New World.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 161. History of Latin America, I (to 1824). 3 Credit Hours.

A survey of Spanish and Portuguese America from the pre-Columbian era through the end of the colonial period.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 162. History of Latin America, II (since 1824). 3 Credit Hours.

A survey of the national period in Latin American history, emphasizing the political and social issues in the transition from colonialism to nationhood.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 192. Studies in History. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 193. Studies in History. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 194. Studies in History. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 200. The Early Modern Mediterranean. 3 Credit Hours.

A thematic overview of the early modern Mediterranean, approximately 1450 -1750. It will consider the characteristics that make each of the civilizations in this region unique while also examining networks of religious, economic, cultural, political, and intellectual exchange.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 201. History of Africa, I (to 1800). 3 Credit Hours.

History of Africa before the Colonial period, emphasizing sources for the study of African history, African political and social institutions, the slave trade, and "legitimate" trade and markets.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 202. History of Africa, II (since 1800). 3 Credit Hours.

The emergence of modern Africa from about 1800 to the present, emphasizing the European conquest of Africa, African responses to colonialism, independence and the post-independence period.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 209. African-American History to 1877. 3 Credit Hours.

History of people of African descent in the United States from African roots to 1877.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 210. African-American History, 1877-PRESENT. 3 Credit Hours.

History of people of African descent in the United States from 1877 to present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 211. Epics, Gods, Kings: Pre-Mofern India 2500 B.C.E. to 1600 A.D.. 3 Credit Hours.

This course will explore the history, culture and political economy of India tracing it thematically from 2500 B.C.E. to 1600 A.D.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 212. The Mughals And The British (1526-1947). 3 Credit Hours.

A survey of historical India, covering the modern states of India, Pakistan, and Bangladesh, that highlights social and religious identities, modernization, nationalism, the "women question," partition, and independence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 220. History of European Sexuality. 3 Credit Hours.

The history of European sexuality from the Greeks to the present day.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 223. Medicine And Society: From The Ancient World To The 21St Century. 3 Credit Hours.

Medicine and society presents a historical survey of the development of western medicine and public health from the earliest times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 225. History of the Modern Business Enterprise. 3 Credit Hours.

This course examines the history of big business in the nineteenth and twentieth centuries. Drawing often on individual firm histories, its focus will be a comparative study of the big business experience in America, Europe, Asia, and the imperial world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 226. The World in the Twentieth Century. 3 Credit Hours.

Survey of twentieth century international history with a focus on the main political, social, and economic trends.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 227. Nationalism: Love Thy Brother, Hate Thy Neighbor?. 3 Credit Hours.

This lower-division lecture course will offer an introductory thematic overview to the ideas and politics of nationalism throughout the globe.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 228. Holy War and Toleration in Western Religious Traditions. 3 Credit Hours.

An exploration of concepts of Holy War and Just War and of traditions of tolerance and intolerance in Judaism, Christianity, and Islam, from ancient times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 229. Consumer Society: A Global History. 3 Credit Hours.

In the United States we are surrounded today with a seemingly limitless variety of consumer goods, and we are offered constant reminders of the increasingly globalized nature of modern life. Too often, however, such commentary reflects a shocking lack of perspective about the origins and evolution of these trends. This course encourages a deeper understanding by exploring the history of how consumer societies emerged across the world. Spanning an arc from the eighteenth century to the present, the course looks at the social and cultural impact of global consumables (ranging from food to automobiles) in the Americas, Europe, Asia, and other regions. The readings and lectures consider the social, ethical, and environmental problems associated with the rise of global consumption.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 240. Europe's Great Revolutions: A Comparative Study of the Eng French Russian Revolutions. 3 Credit Hours.

This course examines and compares the three revolutions that have shaped the modern Western world: The Puritan Revolt in 17th-century England, the French Revolution of 1789, and the Russian (Communist) Revolution of 1917. Each of these events was of course historically distinct, but there are discernible parallels as well. This course explores their intellectual, social, economic, and political causes and consequence in a comparative context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HIS 246. Origins and History of the Russian Revolution. 3 Credit Hours.

The background and events of the Russian Revolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 253. History of Mexico: Guns and Tortillas, or, How Mexico Became Mexican. 3 Credit Hours.

Culture and ideology of the Mexican Revolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 254. History of the Cold War in the Americas.. 3 Credit Hours.

Focusing on the late 1940s to late 1980s, this course examines the origins, evolution, and enduring consequences of the Cold War in the Americas. It explores key issues such as the emergence of new nationalist currents, the impact of U.S. intervention, competing visions of revolution and counter-revolution, and shifting definitions of democracy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 261. Women's America I (Nineteenth Century). 3 Credit Hours.

An introduction to the major currents in American women's history during the Nineteenth Century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 262. Women's America II (Twentieth Century). 3 Credit Hours.

An introduction to the major currents in American women's history during the Twentieth Century.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 265. Witchcraft in Colonial America. 3 Credit Hours.

Exploration of witch beliefs and witch-hunting in colonial America, incorporating religious, cultural, gendered, psychological, political, legal, social, and economic perspectives.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 266. The Founders: Fact And Fiction. 3 Credit Hours.

Explores the history of the American founders.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 267. Objects in History: The Material Culture of Early America. 3 Credit Hours.

What material culture objects, architecture, and landscape can tell us about the lives of people in the past. Our focus is on the early period of American history, and we will work with objects in Richter Library's Special Collections and the Lowe Art Museum, as well as visit museums in greater Miami, to enrich our studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 271. American Political History Since 1960: Policy , Public History, and Modern Media. 3 Credit Hours.

Explores selective elements of modern American politics, policy studies, media, and public history, predominantly since 1960.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 282. The History of Zionism. 3 Credit Hours.

The religious, cultural, historical, political and social underpinnings of the development of Zionism that led to the creation of the State of Israel.

Through readings, analysis of speeches and essays, exploration of films and the internet, the class will move through time from the origins of the Zionist idea to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 284. The Second World War.. 3 Credit Hours.

The Second World War: Analysis of its origins, the military and political course of events, and its consequences, such as the cold war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 285. The origins and history of the Third Reich.. 3 Credit Hours.

This lecture course offers a comprehensive survey of the history of Nazi Germany from early pre-fascist movements before World War I to the final ignominious collapse of the Nazi regime in 1945.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 290. The Beach: The Beach as Place, Space and Event in World Historical Context. 3 Credit Hours.

History of the beach as a particular geographic place and space in human history in comparative world context. Themes and issues include tourism, socio-economic factors in beach access, beach-related industries, immigration, cultural contact, exploration, "beach life," surfing, ethnicity, segregation, and politics of real estate.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 291. The Sea In History. 3 Credit Hours.

Human relations with the sea from prehistoric times to the present and across the globe. It will look at the spread of peoples, ideas, religions, and goods across the seas, and the role of networks, empires and navies in this history.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 292. Transfer Credits. 1-5 Credit Hours.

Courses for which there is no direct equivalent.

Components: LEC.

Grading: GRD.

HIS 293. Transfer Credits. 1-5 Credit Hours.

Courses for which there is no direct equivalent.

Components: LEC.

Grading: GRD.

HIS 294. Transfer Credits. 1-5 Credit Hours.

Courses for which there is no direct equivalent.

Components: LEC.

Grading: GRD.

HIS 296. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated parenthetically following course title in class schedules.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HIS 297. History Internship. 3 Credit Hours.

Provides history students with the opportunity to obtain credit for an internship with the approval and under the close supervision of a faculty member.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 300. World War I in the Middle East, 1911-1923. 3 Credit Hours.

This class will cover the period between the Young Turk Revolution in 1908 and the demise of the Ottoman Empire in the early 1920s. The course will analyze the violence associated with the breakdown of imperial rule during World War I and will conclude with a discussion of the legacies of Ottoman rule in Anatolia, the Balkans, and the Arab provinces.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 303. Ancient Egypt. 3 Credit Hours.

History of Egypt from unification (ca. 3100 B.C.) until the conquest by Alexander the Great (323 B.C.). Prerequisite: Three credits in history.

Components: LEC.

Grading: GRD.

HIS 306. The Modern Near East. 3 Credit Hours.

The Near East since 1453, emphasizing the Ottoman Empire, Arab nationalism and Zionism, the Mandate System, and the Arab-Israeli conflict.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 308. West Africa since 1000 A.D.. 3 Credit Hours.

The Sudanic empires, the spread of Islam, the slave and legitimate trades, the establishment of European colonies, and the struggle for independence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 309. History of Southern Africa. 3 Credit Hours.

The establishment of the Dutch settlements and the apartheid system, African responses to European domination, and the collapse of apartheid and the emergence of a multi-racial South Africa.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 310. Africa in Cuba/Cuba in Africa: Slave Trade to Cuban Internationalist Missions in Africa.. 3 Credit Hours.

The relationship between Cuba and Africa from the period of the slave trade to the late 1990s.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 311. Gandhi and the making of Modern India. 3 Credit Hours.

This course will study Gandhi's practice of civil disobedience and non-violent movement against the British Empire, as well as his theories and praxis regarding moral discipline, critique of modernity and alternative vision of civil society and policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 312. Femininity, Masculinity, And Sexual Politics In Indian History. 3 Credit Hours.

A thematic study of gender and sex in ancient, medieval, and modern India, focusing on social constructions of identity, sexual politics, social and religious gender roles, and contested histories of womanhood.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 313. Bollywood and Beyond: Religion, Gender and Politics in South Asian Film. 3 Credit Hours.

Themes in Indian society through the lens of Indian cinema - both Bollywood and the regional film industry. The important themes covered are: the complex narratives of caste, myth, politics, gender, sexuality, and the challenges of modernity in India.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 315. Imperial China. 3 Credit Hours.

History of China from the origins of Chinese civilization to 1798.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 316. Modern China. 3 Credit Hours.

Rise of a Superpower.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 317. History of the Caribbean, I. 3 Credit Hours.

Caribbean history major topics, debates, and themes from the fifteenth to early nineteenth centuries; the centrality of the Caribbean to larger world histories of conquest, colonialism, slavery and emancipation, capitalism, migration, religious transformation, republicanism, and nation-state formation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 318. Modern Caribbean History. 3 Credit Hours.

Major topics, debates, and themes in Caribbean history from the late eighteenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 321. The Greek World. 3 Credit Hours.

Greek civilization from the Late Bronze Age to the end of Greek independence at the battle of Chaeronea in 338 B.C.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 324. Roman Empire. 3 Credit Hours.

Roman Civilization from the reign of Augustus in 27 BC to the Fall of Rome in AD 476.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 325. The Early Middle Ages: Europe, 450-1095. 3 Credit Hours.

Western historical development from the collapse of the classical ancient world to Europe's emergence as a distinct and viable civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 326. The High and Late Middle Ages: Europe 1095-1500. 3 Credit Hours.

The mature medieval civilization and its transformation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 327. The Renaissance in Italy. 3 Credit Hours.

Cultural, social, economic, religious and political life in Renaissance Italy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 328. Reformation Europe. 3 Credit Hours.

The history of the 16th-century religious revolution known as the Reformation. Course focuses on its causes, development, and especially its political, social, and cultural consequences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 329. Renaissance Humanism. 3 Credit Hours.

A movement that affected major Renaissance figures from Petrarch to Machiavelli and Erasmus. Emphasis on Education, Ethics, Literature, Religion and relationships with society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 330. The Scientific Revolution. 3 Credit Hours.

Transition between medieval science and Newtonian physics, focusing on sixteenth- and seventeenth-century developments in medicine, cosmology, physics, and scientific method.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 331. England to the Accession of the Tudor Dynasty (to 1485). 3 Credit Hours.

The Creation of England and its development during the medieval period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 332. England, 1485-1688. 3 Credit Hours.

England under the Tudors and Stuarts. Topics include: the monarchs and the monarchy; relations between England, Ireland, and Scotland; Henry VIII and the English Reformation; puritanism and society; popular culture; the city of London; the English Civil War; the "Glorious Revolution" of 1688.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 333. England and the Empire in the Age of Queen Victoria (1815-1901). 3 Credit Hours.

Victorian Britain, emphasizing the manners, politics, and empire building, and the exploitation and humanitarianism of the century of Pax Britannica.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 334. Britain and the Commonwealth in the Twentieth Century. 3 Credit Hours.

The challenges and changes in Britain and its overseas dominions in the century of total war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 335. The French Revolution and Napoleon (1789-1815). 3 Credit Hours.

An analysis of French history from the Revolution to the collapse of the Napoleonic Empire, stressing the passing of feudalism in France.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 336. Modern French History. 3 Credit Hours.

This course covers the political, social, cultural, economic, and military history of France since 1870. Major themes include power and decline, the weight of historical memories, issues of French identity, and the central role of the French state.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 337. Modern European Jewish History. 3 Credit Hours.

Jewish history in Europe since 1789, emphasizing the effects of the Enlightenment, nationalism and Nazism, Jewish life in Western Europe and in the communist bloc, and the impact of Israel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 338. The Holocaust in Historical Perspective. 3 Credit Hours.

The evolution and implementation of the theory of racialism in imperial Germany and the Third Reich.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 339. Germany from the Reformation to 1815. 3 Credit Hours.

German history from the Reformation through the reorganization of the German states after the Napoleonic Wars (1815) with emphasis on the federal character of early modern Germany, religion, and topics of social and economic change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 340. History of Modern Germany since 1815. 3 Credit Hours.

German history since 1815 concentrating on the political and social history of the German Empire, Germany's role in World War I, the Weimar Republic and the rise of Hitler, Nazi Germany, and developments since 1945.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 341. History of the Third Reich. 3 Credit Hours.

A comprehensive survey of the history of Nazi Germany from the pre-fascist movements before World War I to the final collapse of the Nazi regime in 1945.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 342. Europe between the Versailles Treaty and the Cold War.. 3 Credit Hours.

A study of European history since World War I, giving special attention to contemporary economic, social, political, and international problems.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 343. Ages of Gold and Silver: An Economic and Social History of Europe, 1450-1750. 3 Credit Hours.

Economic and social history of Europe in the early modern period. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 344. Medieval Russia. 3 Credit Hours.

Domestic political, economic, social and religious developments, and foreign policies from the foundation to Kievan Rus' through the Mongol era and the formation of Muscovy to the end of Rurikid rule in the late 16th century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 345. Early Modern Russia. 3 Credit Hours.

The transition from Muscovy to Imperial Russia. Domestic political, social, economic and cultural issues, and foreign affairs will be examined with emphasis on Western influences and reactions to them during the first two centuries of Romanov rule (17th and 18th centuries).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 346. Imperial Russia. 3 Credit Hours.

Domestic political, social, economic and cultural developments, and foreign affairs in Russia from the beginning of the 19th century to the Russian Revolution of 1917.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 347. Soviet Union and Post-Soviet Russia. 3 Credit Hours.

The Soviet Union from the Russian Revolution (1917) to the disintegration of the USSR (1991), and the post-Soviet period to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 348. Europe in the Age of Hitler and Stalin. 3 Credit Hours.

This course covers European history between 1914 and 1945. Principal topics include the experience of two world wars, the rise of fascism and communism, the challenge of democracy, and the failure to secure a lasting peace.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 349. European Diplomatic History from Bismarck to the Cold War. 3 Credit Hours.

European Diplomatic History from the Revolutions of 1848 to the Cold War period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 350. Europe and the World in Modern Times. 3 Credit Hours.

This course examines European relations with the wider world over the past several centuries. It combines the perspectives of the history of European exploration and expansion, imperialism and decolonization, global transport and trade, world wars, and globalization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 351. Science and Society. 3 Credit Hours.

The relationships between science and society, historically and in contemporary life.

Components: LEC.

Grading: CNC.

Typically Offered: Offered by Announcement Only.

HIS 352. The Inquisition. 3 Credit Hours.

History of the Inquisition: 1200-1800.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 353. History of Cuba. 3 Credit Hours.

The development of the Cuban nation, emphasizing the nineteenth and twentieth centuries and the Castro revolution. This course will concentrate on studying "Cuba After Castro". We will analyze various scenarios for "change" and what implications these will have for the next administration in Washington DC as well as in other parts of the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 354. Latin America's Urban Explosion: 1900-2010. 3 Credit Hours.

Examines major facets of Latin America's urban transformation, 1900-2010. Studies urbanization from the perspectives of multiple disciplines including architecture, photography, art history, music, cultural studies and political science. Major themes include: architectural modernization and cultural change; industrialization and the emergence of professional sports; rural-urban migration and the proliferation of shanty towns; the emergence of mass politics; the expansion of the informal sectors; and the growth of social violence, drugs and crime.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 355. Modern Brazil. 3 Credit Hours.

The history and culture of modern Brazil.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 356. History of Argentina's Civilization, Barbarism, and Power.. 3 Credit Hours.

How did a country that was supposedly so prosperous and advanced become a land of perennial crisis? Countless observers have posed variations on this question in seeking to make sense of the "Argentine riddle." This class will provide students with an introduction to the fascinating history of Argentina. We will reject pat explanations of the "riddle" to examine instead the array of cultural, political, and economic forces that have shaped Argentine society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 357. Social History of Latin America. 3 Credit Hours.

Demographic changes, race and ethnic relations, immigration, and urbanization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 358. Gender and Sexuality in Latin America. 3 Credit Hours.

Latin American History from colonial times to the present day using gender as a central category of historical analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 359. Caribbean Intellectual History. 3 Credit Hours.

Nineteenth and twentieth-century Caribbean political and social thought. Connects the history of ideas to the history of social movements in the region. Links international, intellectual, political and artistic currents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 360. Modern Latin America Through Film. 3 Credit Hours.

Analysis of films with regard to their historical value and their impact on forming historical perceptions about modern Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 361. American Colonial History (1607-1763). 3 Credit Hours.

History of the British mainland colonies from the establishment of Jamestown to the end of the French and Indian War.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 362. The American Revolution (1763-1783). 3 Credit Hours.

The political, social, and constitutional issues that culminated in the Declaration of Independence, and the achievement of American nationhood.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 363. The Early Republic (1783-1850). 3 Credit Hours.

A study of the constitutional, political, territorial, economic, and social development of the United States from the end of the American Revolution to the Compromise of 1850.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 364. Civil War and Reconstruction (1850-1877). 3 Credit Hours.

A study of the origins of the American Civil War, emphasizing the economic, political and social, as well as military aspects of the conflict, and the course and consequence of the Reconstruction period.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 365. Emergence of Modern America (1877-1917). 3 Credit Hours.

United States from the end of Reconstruction to the First World War.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 366. America in Crisis (1917-1945). 3 Credit Hours.

The United States from World War I through World War II.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 367. Contemporary America. 3 Credit Hours.

The United States since World War II.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 368. Nature and the Environment in American History. 3 Credit Hours.

Shifting attitudes toward nature and the environment in American history; the rise of environmentalism and changes in public policy related to environmental conservation and preservation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 369. Introduction to Urban America. 3 Credit Hours.

The changing role of the city in American history. The built environment. The interaction of the built environment and the lives of residents.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 371. Immigration, Race and Ethnicity in American History. 3 Credit Hours.

Migration and immigration in 19th- and 20th-century in the United States. How Americans have understood themselves as part of a multicultural society, and how ethnic and racial identities have been defined throughout American history.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 372. The Sixties. 3 Credit Hours.

The culture and history of the 1960s in the United States through writings, film, music, and the experience of faculty members who participated in important events during this era of major conflict and change.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 373. The Civil Rights Movement. 3 Credit Hours.

This course explores the modern Civil Rights Movement, one of the most profound occurrences in the history of the United States of America, and examines how it reshaped the nation, from politics and the economy to social relations and cultural values.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 374. History Of Feminism. 3 Credit Hours.

History of Feminism with a focus on the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 375. Gender, Sex, and Sexuality in Early America. 3 Credit Hours.

Gender ideologies, gender relations, family life, attitudes toward sex, sexual behavior, and the regulation of sex in early America (1607-1800).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 376. American Legal and Constitutional History. 3 Credit Hours.

The development of legal thought and practice in the context of American politics, economy and ideology during the twentieth century. Special consideration will be given to social movements and their treatment under the rule of law.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 377. Sport in American History. 3 Credit Hours.

The role of sport in American culture. Sports relation to urban growth, professionalism, ethnic identity and assimilation, nationalism, and consumption.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 378. Early American Religious History (1607-1800). 3 Credit Hours.

Religious beliefs and practices during the seventeenth and eighteenth centuries in the British colonies that became the United States, emphasizing the diversity of religious culture in Early America.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 379. History of the Old South (1607-1861). 3 Credit Hours.

The American South from Jamestown to secession, emphasizing the development of plantation society, the rise of internal and external conflict, and the shaping of the idea of the "Old" South.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 380. The New South (since 1877). 3 Credit Hours.

History of the U.S. South from "Redemption" to the present, emphasizing Populism, Progressivism, the idea of a "New" South, and the civil rights movement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 381. History of Florida. 3 Credit Hours.

Florida from its discovery, exploration, and colonization to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 382. Ideas And Culture In Early American History. 3.00 Credit Hours.

Intellectual and cultural history in America from the colonial period to the Civil War, focusing on developments in religion, philosophy, political and social theory, and the arts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HIS 383. Ideas and Culture in Modern United States History. 3 Credit Hours.

American Social Movements.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 384. U.S. Gay and Lesbian History. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 385. The Growth of the American Empire. 3 Credit Hours.

Diplomatic history of the United States from the American Revolution to the present, focusing on the ideology and perceptions accompanying America's rise to world power.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 386. History of U.S. Relations with Latin America. 3 Credit Hours.

A study of U.S. policy toward Latin America from the early 1800s to the present, emphasizing the roles of economics, territorial expansion, ideology, and race.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 387. American Military History. 3 Credit Hours.

The military history of the United States from the colonial period to the present, emphasizing the development of the armed forces, their operations in wartime, and their interaction with American society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 388. The Vietnam War. 3 Credit Hours.

U.S. involvement in Vietnam from 1945 to 1973, emphasizing the diplomatic and military components.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 389. Nineteenth-Century Europe: Barricades, Borders and Bourgeoisie. 3 Credit Hours.

Survey of 19th Century Europe from the French Revolution to World War I, focusing on political and cultural history.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

HIS 390. Europe after Hitler. 3 Credit Hours.

Survey of European History from the end of World War II, focusing on political and cultural developments.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 391. The History of Everyday Life. 3 Credit Hours.

The History of everyday life in early modern Europe (ca. 1500-1700). We will study how Europeans experienced and made sense of their environment, their communities, relationships, time, the self, the stages of life, food, drugs, work, and recreation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HIS 392. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 393. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 394. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 395. World War I. 3 Credit Hours.

The military and political history of the First World War (1914-1918), beginning with a survey of military and naval developments in the early 20th Century and the diplomatic background of the war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 396. Special Topics. 3 Credit Hours.

Content varies by semester and is indicated parenthetically following course title in class schedules.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

HIS 397. History Internship. 3 Credit Hours.

Provides history students with the opportunity to obtain credit for an internship with the approval and under the close supervision of a faculty member.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 401. Directed Readings in African History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 411. Directed Readings in Asian History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 421. Directed Readings in European History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 451. Directed Readings in Latin-American History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 461. Directed Readings in United States History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 491. Directed Readings in Comparative History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 501. Studies in African History. 3 Credit Hours.

Selected topics in African history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 511. Studies in Asian History. 3 Credit Hours.

Selected topics in Asian history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 515. Studies in Chinese History. 3 Credit Hours.

Selected topics in Chinese history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 531. Studies in European History. 3 Credit Hours.

Selected topics in European history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 534. Studies in Ancient History. 3 Credit Hours.

Selected topics in Ancient history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 536. Studies in Medieval History. 3 Credit Hours.

Selected topics in Medieval history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 538. Studies in Early Modern European History. 3 Credit Hours.

Selected topics in European history before the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 544. Studies In Modern European History. 3 Credit Hours.

Selected topics in European history after the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 551. Studies in Latin American History. 3 Credit Hours.

Selected topics in Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 553. Studies in Colonial Latin American History. 3 Credit Hours.

Selected topics in the colonial period of Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 554. Studies in Modern Latin American History. 3 Credit Hours.

Selected topics in Latin-American history before and after Independence. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 561. Studies in United States History. 3 Credit Hours.

Selected topics in United States history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 564. Studies in American Intellectual and Cultural History. 3 Credit Hours.

Selected topics in American intellectual and cultural history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 565. Studies in American Political and Diplomatic History. 3 Credit Hours.

Selected topics in American political and diplomatic history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 569. Studies In African-American History. 3 Credit Hours.

Selected topics in African-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 570. Studies in Public History. 3 Credit Hours.

Selected topics in public history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 591. Studies in Comparative History. 3 Credit Hours.

Selected topics in Comparative History. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 592. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 593. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 594. Transfer Credits. 1-5 Credit Hours.

Courses taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

HIS 595. Studies in Visual History. 3 Credit Hours.

Selected topics in the use of photographs and other visual evidence for historical purposes. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 599. Independent Research. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 602. Studies in African History. 3 Credit Hours.

Selected topics in African history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 611. Studies in Asian History. 3 Credit Hours.

Selected topics in Asian history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 632. Studies in European History. 3 Credit Hours.

Selected topics in European history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 633. Seminar in European History. 3 Credit Hours.

Selected topics in European History.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 634. Seminar in Ancient History. 3 Credit Hours.

Selected topics in Ancient History.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 636. Studies in Medieval History. 3 Credit Hours.

Selected topics in Medieval history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 638. Studies in Early Modern European History. 3 Credit Hours.

Selected topics in European history before the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 641. Field Preparation: Colonial Latin America. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Colonial Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 646. Studies In Modern European History. 3 Credit Hours.

Selected topics in European history after the French Revolution. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 652. Studies in Latin American History. 3 Credit Hours.

Selected topics in Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 654. Studies in Modern Latin American History. 3 Credit Hours.

Selected topics in Latin-American history before and after Independence. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 655. Studies in Colonial Latin American History. 3 Credit Hours.

Selected topics in the colonial period of Latin-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 662. Studies in United States History. 3 Credit Hours.

Selected topics in United States history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 664. Studies in American Intellectual and Cultural History. 3 Credit Hours.

Selected topics in American intellectual and cultural history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 665. Studies in American Political and Diplomatic History. 3 Credit Hours.

Selected topics in American political and diplomatic history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 669. Studies In African-American History. 3 Credit Hours.

Selected topics in African-American history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 670. Studies in Public History. 3 Credit Hours.

Selected topics in public history. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 697. Studies in Visual History. 3 Credit Hours.

Selected topics in the use of photographs and other visual evidence for historical purposes. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 701. Seminar in Comparative History. 3 Credit Hours.

Selected topics in Comparative History.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 702. Seminar in Comparative History. 3 Credit Hours.

Selected topics in Comparative History.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 703. Directed Readings in African History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 704. Directed Readings in Asian History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 705. Directed Readings in European History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 706. Directed Readings In Latin-American History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 707. Directed Readings in American History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 708. Directed Readings in Comparative History. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 709. Field Preparation: Colonial and Revolutionary America. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Colonial and Revolutionary America.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 712. Field Preparation: Modern America. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Modern America.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 713. Field Preparation: Medieval Europe. 3 Credit Hours.

The central historical issues and historiographical debates in the field of Medieval European History.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

HIS 714. Field Preparation: Early Modern Europe. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Early Modern Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 718. Field Preparation: Modern Latin America. 3 Credit Hours.

An introduction to central historical issues and historiographical debates in the field of Modern Latin America.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 721. Historiography. 3 Credit Hours.

The philosophy, theory, and practice of history.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 760. Seminar in Latin-American History. 3 Credit Hours.

Selected topics in Latin-American History.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 761. Seminar in United States History. 3 Credit Hours.

Selected topics in United States History.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

HIS 762. History as a Profession. 3 Credit Hours.

Practical experience for graduate students in designing courses; preparing lectures, conference papers and scholarly publications; and in applying for jobs and research grants

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

HIS 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in HIS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

HIS 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

HIS 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of HIS 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

HIS 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Honors and Academic Enhancement (HON)

HON 323. Topics in Humanities. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

HON 330. Books That Matter. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HON 333. Topics in Social Science. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

HON 351. Topics In The Natural Sciences. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

Human Genetics and Genomics (HGG)

HGG 601. Seminar/Journal Club. 1 Credit Hour.

All registered students must participate in the Seminar/Journal Club. Students are required to review published papers and discuss in detail the findings described therein.

Components: SEM.

Grading: SUS.

Typically Offered: Fall & Spring.

HGG 621. Fundamentals Of Genetic Epidemiology. 3 Credit Hours.

This class is a survey of introductory topics in genetic epidemiology and statistical genetics. Basic concepts and methods will be covered including introduction to genetic linkage and genetic association including candidate gene analysis and genome-wide studies, gene-environment interactions, quantitative trait analysis, and rare variant analysis. The course will consist of a combination of lectures and computational laboratory assignments, with some discussion from the primary scientific literature. There will be several lab assignments (requiring use of laptops), one exam, and two in-class paper discussions. Details on the assignments will be posted to BlackBoard.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HGG 630. Variation and Disease. 2 Credit Hours.

This course provides an overview of the science of genetics, including historical and modern approaches, with emphasis on the underlying mechanisms of human genomic variation and their relation to human disease. After taking this course the student will be able to list the different types of human genomic variation, explain the mechanism by which each occurs, and discuss the consequences of the variation. Where appropriate, specific examples of human disorders will be related to the variation. Topics include: chromosomal, biochemical, and DNA sequence variation, mitochondrial genome variation and epigenetic effects. The course structure consists of a combination of lectures and discussion of primary literature.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HGG 631. Genes in Populations. 3 Credit Hours.

The course explores the relevant history and principals governing the behavior of genes in human populations. Topics include Hardy-Weinberg equilibrium; Mendelian, complex and quantitative traits; principals of selection and change in populations, neutral theory; and molecular evolution of gene families. The course is lecture based with supplemental readings.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

HGG 640. Family Studies and Genetic Analysis. 2 Credit Hours.

This course will cover the analysis of genetic data in family based data sets. Topics include: heritability, segregation analysis and linkage analysis. This course includes a computer lab component in which students will learn to use the relevant analytic programs.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HGG 650. Advanced Topics in Molecular Genetics. 3 Credit Hours.

Topics include human microRNAs, the neurobiology of aging, structural variation, modern genome technology, among others. The course structure consists of discussions and analysis of primary literature.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

HGG 660. Bioinformatics Theory and Practice. 3 Credit Hours.

This course covers a gradient of basic to advanced bioinformatics theory, data mining, and analysis. Each class will include a lecture to explain the concepts, followed by a hands-on lab session with worksheets and exercises. Early lectures will cover in-depth searching of the major databases, alignments, and motif discovery. These themes will recur with the applications of these and other algorithms to gene expression analysis, next generation sequencing data and its analysis, and analysis of variation. Freely available web resources will be used wherever possible, and the students will learn how to use perl for some bioinformatics applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

HGG 680. Genome Ethics and Public Policy. 3 Credit Hours.

This course explores current and future applications of human genetics as they pertain to the health and identity of individuals and society. Topics to be covered will include the science of genetic testing, the ethical, legal and social issues related to such testing, living with a genetic diagnosis, the factors influencing the use of human genetic information, and evolving direct-to-consumer genetic testing services. The emphasis will be on real life examples and experiences, with a primary goal of helping students explore how their life, and the society in which we live, will be affected by genetic information. Policy themes include: the role of society in regulating the use of genetic testing and genetic information, implications of genetic testing for people with disabilities, role of the media in public genetic education, legal issues associated with the use of genetic information (e.g. discrimination, duty to warn, wrongful birth), and the role of eugenics in today's society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

HGG 681. Human Genetics Clinical Rotation. 1 Credit Hour.

The HGG graduate students participate in medical genetics clinic post clinical rounds, metabolic-sign out and journal clubs. During clinic students observe clinical evaluations and counseling, and participate in weekly didactic sessions with faculty and residents.

Components: CLN.

Grading: SUS.

Typically Offered: Fall & Spring.

HGG 689. Human Genetics and Genomics Teaching Practicum. 1 Credit Hour.

HGG students serve one semester as a teaching assistant for a core course. This experience will include giving at least one lecture, leading small group discussions, and holding regular office hours to discuss student questions. This will generally take place in the student's third or fourth year, and will be graded as a one-credit pass-fail course.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

HGG 830. Doctoral Dissertation- Pre Candidacy.. 1-12 Credit Hours.

1 - 12 credit course for Doctoral candidates working on pre-candidacy dissertation.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

HGG 840. Doctoral Dissertation - Post Candidacy. 1-12 Credit Hours.

1-12 credit course for Doctoral Candidates working on dissertation post candidacy.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

HGG 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for Ph.D, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Industrial Engineering (IEN)

IEN 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools and computer techniques for problem solving, data acquisition, analysis, presentation, software design, and computer aided drafting. Development of design skills through several design and building competitions. Introduction to professional ethics, intellectual property, ethics, intellectual property rights, and an introduction to use of MATLAB, AutoCAD, and programming in C++.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 112. Introduction to Engineering II. 2 Credit Hours.

Continuation of IEN 111. An overview of Industrial Engineering concepts and issues important to the design and operation of industrial and service systems. Students will learn the use of software tools developed to enhance the Industrial Engineer's ability such as database management, high level programming languages, electronic spreadsheets, and computer graphics.

Prerequisite: IEN 111.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 201. Methods Analysis and Work Measurement. 3 Credit Hours.

Design of improved methods for doing work based on effective human effort. Time standardization of productive operations by work measurement, predetermined time systems, and activity sampling are discussed. Tools and charts for methods analysis are discussed and use of Microsoft Vision is emphasized and reviewed.

Prerequisite: IEN 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 306. Manufacturing Processes. 3 Credit Hours.

Basic and applied sciences in processing of materials. Effects of processing on the manufactured parts, selection of processing methods, and their relation with material properties. Contemporary and non-traditional processes used in manufacturing are also covered.

Prerequisite: CHM 111 or CHM 151, PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 310. Introduction to Engineering Probability. 3 Credit Hours.

Axioms of probability, discrete and continuous random variables, probability density functions, cumulative distribution function, expectation, conditioning, independence, functions of random variables, multiple random variables, sums of random variables, introduction to statistical analysis, estimation, and hypothesis testing. Cross-listed with EEN 310.

Prerequisite: MTH 162 or equivalent. Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 311. Applied Probability And Statistics. 3 Credit Hours.

This course covers fundamental probability concepts, random variables, mathematical expectation, discrete and continuous probability distributions, sampling distributions, point and interval estimation, hypothesis testing, and simple linear regression and correlation. The use of Minitab, a statistical software application, is emphasized. Examples are drawn from various disciplines.

Prerequisite: MTH 162 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 312. Applied Statistical Methods. 3 Credit Hours.

Linear regression, multiple regression, analysis of variance, and design of experiments are discussed. Cross-listed with MAS 312.

Prerequisite: IEN 310 or ECE 310 or IEN 311 or MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 351. Industrial Safety Engineering. 3 Credit Hours.

Basic principles of accident prevention and safety engineering approach to the design of mechanical equipment, facilities, and manufacturing processes. Analysis and design of fire prevention procedures and accident control procedures in industry are included.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 360. Productivity Engineering. 3 Credit Hours.

Definitions and scope of productivity engineering and management. The productivity cycle. Productivity measurement, evaluation, improvement-discussion and examples. Productivity planning and improvement through the application of industrial and systems engineering techniques. Discussion of individual techniques with examples.

Application potential of the course in real life situations.

Prerequisite: MTH 162 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 361. Industrial Cost Analysis. 3 Credit Hours.

Analysis of financial statements and cost factors in manufacturing and service systems. Cost accounting methods, job order costing and process costing approaches. Deterministic and probabilistic estimates of cost.

Prerequisite: MTH 162 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 363. Project Management for Engineers. 3 Credit Hours.

This course will help students develop a basic understanding of the key concepts, theories, tools, and methodologies of project management. Students will be introduced to the different phases of managing projects from conception to termination with particular emphasis on planning, scheduling, resource allocation, monitoring and control. The course will utilize a case-study-based approach in analyzing the techniques and methods of project management.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 372. Emerging Technologies And The Creation Of Technological Innovations. 3 Credit Hours.

A variety of emerging technologies will be discussed (nanotechnology, energy technologies, information technologies, biotechnologies, etc). The process of utilization in innovations will be covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

 IEN 380. Engineering Economy. 3 Credit Hours.

Engineering Economy Fundamentals. Interest and money-time relationship, methods of making economic decisions, risk and uncertainty, sensitivity analysis, selections among multiple alternatives, depreciation, benefit-cost analysis, replacement studies, minimum cost analysis, and related topics.

Prerequisite: MTH 162 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

 IEN 399. Internship. 1 Credit Hour.

Practical application of classroom theory through employment with firms offering positions consistent with the student's field of study. Course may be repeated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

 IEN 406. Computer-Aided Manufacturing. 3 Credit Hours.

A comprehensive view of manufacturing with a focus on design, automation, and the use of computers in manufacturing. The topics include computer-aided design, communications, programmable logic controllers, CNC machining, industrial robots, process planning, and computer-integrated manufacturing. Laboratory projects are an integral part of the course.

Prerequisite: CHM 111 or CHM 151, PHY 205.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 407. Product Design for Manufacturing. 3 Credit Hours.

The different phases of engineering design process. Guided Iteration Methodology for product design. Topics include design for manufacturing (DFM), best practices of product realization, solid modeling using SolidWorks, quality in design, issues in patents, liability and ethics. Engineering design specifications, evaluation methods for design alternatives.

Prerequisite: IEN 406.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 441. Deterministic Models in Operations Research. 3 Credit Hours.

Introduction to deterministic mathematical models with applications to operational problems. Topics include the methodology of operations research, mathematical programming, game theory, network flow-theory, and dynamic programming. Cross-listed with MAS 441.

Prerequisite: MTH 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

 IEN 442. Stochastic Models in Operations Research. 3 Credit Hours.

Probabilistic models in operations research. Topics include probabilistic inventory models, queuing theory, Markov chains, and probabilistic dynamic programming. Cross-listed with MAS 442.

Prerequisites: IEN 310 or ECE 310 or IEN 311 or MAS 311, IEN 441 or MAS 441.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

 IEN 465. Production and Inventory Control. 3 Credit Hours.

Production and inventory management techniques such as forecasting methods, inventory control subject to both known and uncertain demand, aggregate planning, introduction to scheduling, materials requirement planning (MRP), just-in-time (JIT) manufacturing, and introduction to scheduling are covered.

Prerequisite: IEN 310 or ECE 310 or IEN 311 or MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

 IEN 494. Senior Project. 3.00 Credit Hours.

Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems. Course includes preparation of project proposal, data collection, analysis, reporting, and formal presentations.

Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

 IEN 501. Manufacturing Analysis and Design I. 3 Credit Hours.

Analysis of Production Systems stressing diagnosis of problems associated with work measurement, manufacturing methodologies, and their interaction with cost factors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 502. Manufacturing Analysis and Design II. 3 Credit Hours.

Analysis of production systems stressing diagnosis of problems of quality and production control, utilizing quantitative techniques and analytical methods.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 505. Robotics. 3 Credit Hours.

Fundamentals of robotics including kinematics and dynamics, trajectory planning, sensors and actuators, robotic vision, and case studies.

Building your own robot is an integral part of hands-on laboratory exercises. Matlab control toolbox and image analysis toolbox will be extensively used for design and analysis.

Prerequisite: IEN 406.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 507. Design of Manufacturing Systems. 3 Credit Hours.

State-of-the-art techniques and tools relevant to the design, analysis, and control of modern manufacturing systems. Topics include modeling of manufacturing systems, tools for manufacturing system analysis, manufacturing system planning and scheduling, and lean manufacturing systems.

Prerequisite: IEN 465 or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 509. Automated Assembly. 3 Credit Hours.

Fundamentals of automated assembly including parts transfer systems and feeders, parts orientation and grasping techniques, product design for automated assembly (DFA), assembly robots, and performance and economics of assembly systems.

Prerequisite: IEN 406.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 512. Statistical Quality Control and Quality Management. 3 Credit Hours.

This course addresses the concepts, theories, tools and methodologies employed in the management and improvement of quality. The course examines many of the advance topics in statistical quality control including control charts and process capability studies, acceptance sampling, as well as Quality Function Deployment (QFD) and introduction to reliability. Also covered in the course are Lean Six Sigma methodology, tools and concepts.

Prerequisite: IEN 311 or MAS 311 or IEN 312 or MAS 312.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

IEN 513. Quality Management in Service Organizations. 3 Credit Hours.

Course examines the issues of quality and productivity management in the service sector. Topics covered include the development and use of questionnaires, service industry applications of quality such as in banking, insurance, healthcare, transportation, government, public utilities, and retail trade.

Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 524. Decision Support Systems in Industrial Engineering. 3 Credit Hours.

Theory and application of decision support systems in industrial engineering. Topics include the study of model-based, data-based, knowledge-based, and communication-based decision support systems. Emphasis is placed on the selection process of the appropriate systems for various decision problems in industrial environments.

Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 547. Computer Simulation Systems. 3 Credit Hours.

Computer simulation and the development of simulation models. Application of discrete and continuous system simulation languages to systems studies is also included.

Prerequisites: IEN 442, MAS 442 or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 551. Accident Prevention Systems. 3 Credit Hours.

Introduction to the basic principles of accident prevention and how to apply the safety engineering approach to the design of industrial accident prevention systems.

Prerequisite: IEN 351 or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 557. Ergonomics And Human Factors Engineering. 3 Credit Hours.

The study of human capacities and limitations with emphasis on human performance in system design. Topics include design of displays and controls, workload, job design, human information processing, anthropometry, workplace design, biomechanics, task analysis, and research techniques in human factors engineering. Lecture, 3 hours.

Prerequisite: IEN 312 or MAS 312 or Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Summer.

IEN 558. Industrial Hygiene I. 3 Credit Hours.

Recognition of occupational chemical health hazards. Evaluation methods and analytical procedures used to determine level of exposure to chemical and toxic hazards. Control measures and compliance with OSHA requirements with special emphasis on industrial ventilation, and other methods of control are included.

Prerequisites: CHM 111 or CHM 151. Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 559. Industrial Hygiene II. 3 Credit Hours.

Recognition of physical occupational health hazards and evaluation methods and instruments used in measuring exposure levels with special emphasis on physical hazards. Protective measures and compliance with OSHA requirements is also included. Lecture, 3 hours.

Prerequisites: CHM 111 or CHM 151. Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 568. Materials Handling and Facilities Planning. 3 Credit Hours.

Analysis and design of production and service facilities, emphasis on material handling requirements. Capacity requirements, facility location, layout, storage systems and warehousing are discussed.

Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 570. Engineering Management. 3 Credit Hours.

Integrating engineering discipline into the social and economic considerations of managing systems. Tools and techniques used by engineering managers including engineering project life cycle, role playing, communication, decision-making in engineering management, and managing change in engineering organizations are discussed.

Prerequisite: IEN 311 or MAS 311 or IEN 312 or MAS 312 or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 571. Engineering Entrepreneurship. 3 Credit Hours.

The conversion of technological know-how and engineering theories into business enterprises. The role of technology in creating wealth, connecting technology with market, the role and characteristics of entrepreneurs, starting a business and the business plan, innovation, industrial and service organizations, and the new business environment.

Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 572. Management of Technological Innovation. 3 Credit Hours.

Engineering, Science and Management Principles contributing to the development of a successful framework for Managing technology with an organization, nationally or internationally. The process of technological innovations, technological planning and forecasting, and socio-economic changes. Prerequisite: Senior or graduate standing.

Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

IEN 590. Special Topics in Industrial Engineering. 1-3 Credit Hours.

Sub-titles describing the topics are shown in parentheses in the class schedule, following the title "Special Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 594. Master's Capstone Design Project. 3.00 Credit Hours.

A capstone design project for students in the five-year BSIE/MSIE program. Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems is emphasized. Offered for students in this program only.

Prerequisite: IEN 547. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 595. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 596. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 599. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 601. Manufacturing Analysis and Design I. 3 Credit Hours.

Analysis of Production Systems stressing diagnosis of problems associated with work measurement, manufacturing methodologies, and their interaction with cost factors.

Prerequisite: IEN 301 or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 602. Manufacturing Analysis and Design II. 3 Credit Hours.

Analysis of production systems stressing diagnosis of problems of quality and production control, utilizing quantitative techniques and analytical methods.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 605. Robotics. 3 Credit Hours.

Fundamentals of robotics including kinematics and dynamics, trajectory planning, sensors and actuators, robotic vision, and case studies.

Building your own robot is an integral part of hands-on laboratory exercises. Matlab control toolbox and image analysis toolbox will be extensively used for design and analysis.

Components: LEC.

Grading: GRD.

IEN 607. Design of Manufacturing Systems. 3 Credit Hours.

State-of-the-art techniques and tools relevant to the design, analysis, and control of modern manufacturing systems. Topics include modeling of manufacturing systems, tools for manufacturing system analysis, manufacturing system planning and scheduling, and lean manufacturing systems.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 612. Statistical Quality Control and Quality Management. 3 Credit Hours.

This course addresses the concepts, theories, tools and methodologies employed in the management and improvement of quality. The course examines many of the advance topics in statistical quality control including control charts and process capability studies, acceptance sampling, as well as Quality Function Deployment (QFD) and introduction to reliability. Also covered in the course are Lean Six Sigma methodology, tools and concepts.

Prerequisite: IEN 311 or MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 613. Quality Management in Service Organizations. 3 Credit Hours.

Course examines the issues of quality and productivity management in the service sector. Topics covered include the development and use of questionnaires, service industry applications of quality such as in banking, insurance, healthcare, transportation, government, public utilities, and retail trade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 624. Decision Support Systems in Industrial Engineering. 3 Credit Hours.

Theory and application of decision support systems in industrial engineering. Topics include the study of model-based, data-based, knowledge-based, and communication-based decision support systems. Emphasis is placed on the selection process of the appropriate systems for various decision problems in industrial environments.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 647. Computer Simulation Systems. 3 Credit Hours.

Computer simulation and the development of simulation models.

Application of discrete and continuous system simulation languages to systems studies is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 651. Accident Prevention Systems. 3 Credit Hours.

Introduction to the basic principles of accident prevention and how to apply the safety engineering approach to the design of industrial accident prevention systems

Prerequisites: IEN 311, IEN 351.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 657. Ergonomics And Human Factors Engineering. 3 Credit Hours.

The study of human capacities and limitations with emphasis on human performance in system design. Topics include design of displays and controls, workload, job design, human information processing, anthropometry, workplace design, biomechanics, task analysis, and research techniques in human factors engineering. Lecture, 3 hours.

Requisite: Graduate Status.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Summer.

IEN 658. Industrial Hygiene I. 3 Credit Hours.

Recognition of occupational chemical health hazards. Evaluation methods and analytical procedures used to determine level of exposure to chemical and toxic hazards. Control measures and compliance with OSHA requirements with special emphasis on industrial ventilation, and other methods of control are included.

Prerequisite: IEN 557.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 670. Engineering Management. 3 Credit Hours.

Integrating engineering discipline into the social and economic considerations of managing systems. Tools and techniques used by engineering managers including engineering project life cycle, role playing, communication, decision-making in engineering management, and managing change in engineering organizations are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 671. Engineering Entrepreneurship. 3 Credit Hours.

The conversion of technological know-how and engineering theories into business enterprises. The role of technology in creating wealth, connecting technology with market, the role and characteristics of entrepreneurs, starting a business and the business plan, innovation, industrial and service organizations, and the new business environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEEN 672. Management of Technological Innovation. 3 Credit Hours.

Engineering, Science and Management Principles contributing to the development of a successful framework for Managing technology with an organization, nationally or internationally. The process of technological innovations, technological planning and forecasting, and socio-economic changes. Prerequisite: Senior or graduate standing. Prerequisite: IEN 572 or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

IEEN 690. Special Topics in Industrial Engineering. 3 Credit Hours.

Sub-titles describing the topics are shown in parentheses in the class schedule, following the title "Special Topics".

Components: LEC.

Grading: GRD.

IEEN 694. Master's Capstone Design Project. 3.00 Credit Hours.

A capstone design project for students in the five-year BSIE/MSIE program. Integration of Industrial Engineering principles and techniques in the design and improvement of production and service systems is emphasized. Offered for students in this program only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEEN 695. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEEN 696. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEEN 699. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEEN 712. Design of Experiments. 3 Credit Hours.

Design and analysis of experiments, randomized blocks, Latin Squares, factorials, multiple correlation and regression, and application to response surfaces are discussed. 3 hours.

Prerequisite: IEN 311 or MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEEN 713. Applied Regression Analysis. 3 Credit Hours.

Theory and applications of regression based models. Focus will be on empirical model building, estimation, inference and prediction with emphasis on interpretation of results and understanding model assumptions. Key Topics will be linear regression, panel data and time series analysis.

Prerequisite: IEN 311 or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEEN 715. Quality Through Planned Experimentation. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEEN 716. Advanced Quality Control. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEEN 742. Linear Programming and Extensions. 3 Credit Hours.

Formulation, solution, postoptimality analysis of linear programming problems; revised simplex, parametric programming, decomposition of large-scale systems. Use of computer packages. Introduction to integer programming, network flows, and nonlinear programming applications.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEEN 757. Ergonomics and Occupational Biomechanics. 3 Credit Hours.

Effects of human factors in the improvement of performance of systems. Human capacities, capabilities, and limitations as derived from anatomical, physiological, and psychological principles are applied to the design of tools and equipment. Incorporation of all factors into systems design to achieve better system performance is emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEEN 758. Ergonomics and Special Populations. 3 Credit Hours.

Ergonomic issues relevant to design for older adults and special populations such as the handicapped. Primary emphasis is placed on work environments, transportation and communication systems, and home environments. Topics include cognitive and physiological characteristics of special populations, workplace design, job and equipment design, rehabilitation engineering, clinical ergonomics, and legislation such as the ADA. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEEN 760. Productivity Measurement and Evaluation. 3 Credit Hours.

Basic concepts. Productivity measurement approaches at international, national, industry, and company levels. Latest measurement models for manufacturing companies. Relationships between total and partial productivities, profit and total productivity. Productivity evaluation: theory and methodology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 761. Engineering Cost Management. 3 Credit Hours.

Issues of cost management, including activity based costing of engineering projects. A detailed study of how to separate, identify, understand and manage the major activities performed, and how these activities relate to customer needs. Overall view of costs associated with products, processes, and customers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 763. Project Management Techniques. 3 Credit Hours.

Techniques and Tools in Project Management. Use of network flow techniques including PERT/CPM, planning, systems concepts, time management, conflicts, cost and resource control, tradeoff analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

IEN 764. Supply Chain Management. 3 Credit Hours.

Supply Chain Management focuses on the flow of products, information, and money throughout the supply chain. An overview of issues, opportunities, tools, and approaches is provided. Emphasis is placed on business processes, system dynamics, control, design and re-engineering, and on the relationship between the supply chain and the company's strategic position relative to its clients and its competition. The dimensions of inter-corporate relationships with partners, including decision-making, incentives, and risk are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 765. Advanced Production Systems. 3 Credit Hours.

Quantitative, heuristic and computer methods applied to problems of production planning, work force balancing and capacity expansion. Sequencing and scheduling models. Advanced Material Requirements Planning (MRP II). Just In Time production systems (JIT). Master Production Scheduling (MPS). Optimize Production Technology (OPT). KANBAN production planning system. Learning curve theory. Advanced forecasting and time-series analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 772. Strategic Management of Technological Innovation.. 3 Credit Hours.

Advanced topics in the management of technology emphasizing the relationship between technology and competitiveness in the global marketplace. Technology development in the U.S., Japan, and Europe, industrial R & D, strategic technological planning, and conditions for successful implementations. Case studies are used with individual and group assignments. Prerequisite: IEN 572 - Management of Technology or permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 791. Industrial Engineering Seminar. 0 Credit Hours.

Oral presentation and discussion of current topics in Industrial Engineering.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

IEN 794. Master's Project. 3 Credit Hours.

A capstone project for M.S. students in the non-thesis option.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

IEN 795. Special Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 796. Special Problems. 1-3 Credit Hours.

Research and/or design projects through an individual investigation. of current problems. Offered by special arrangement only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 799. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

IEN 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

IEN 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in IEN 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEN 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEN 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of IEN 730 may be taken in a regular semester, nor more than six in a summer session. n six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

IEN 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in IEN 740 may be taken in a regular semester, nor more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

IEN 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Instrumental Performance (MIP)

MIP 0B1. Oboe. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Barret (Brod, Luft, Sellner, Ferling). Repertoire: Albinoni, Bach, Hayde, Schumann, Britten. Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 0B3. Oboe. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Bozza (Gillet, Prestini). Repertoire: Mozart, Telemann, Bach, Poulenc, Vaughan Williams. Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 0B5. Oboe. 1-4 Credit Hours.

Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum. Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 0B6. Oboe. 1-2 Credit Hours.

Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum. Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 0B7. Oboe. 1-2 Credit Hours.

Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 1. Brass Forum. 0 Credit Hours.

An informal recital setting and performance class for brass principals and majors with guest and faculty presentations.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 120. Class Guitar I for Non-Music Majors. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 121. Class Guitar I for Jazz Majors. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 130. Afro-Caribbean Hand Drumming, Level I. 1 Credit Hour.

The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. This class is taught in a workshop format.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 131. Afro-Caribbean Hand Drumming, Level II. 1 Credit Hour.

The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Level II is a performance ensemble.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 135. Percussion Contemporary Chamber Music. 1 Credit Hour.

Mandatory for all classical percussionists, this course focuses on the contemporary uncondacted chamber music repertoire. The goal is for students to develop and use an advanced listening/communicating skill set, while playing music with others. This course also targets to improve students' capabilities in contemporary music interpretation and performance.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 138. Trombone Choir. 1 Credit Hour.

The study and performance of literature for small and large trombone ensembles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 139. Brass Chamber Music. 1 Credit Hour.

The study and performance of literature for small ensembles of similar or mixed brass instruments.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 140. Flute Choir. 1 Credit Hour.

Reading, rehearsing, and performing the flute choir repertoire (duets, trios, quartets, quintets).

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 141. Saxophone Ensemble. 1 Credit Hour.

The study and performance of classical and jazz literature for small saxophone ensembles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 143. Woodwind Chamber Music. 1 Credit Hour.

Exploring the woodwind chamber music repertoire as represented by various combinations of instruments.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 144. Woodwind Chamber Ensemble. 1 Credit Hour.

Woodwind chamber ensemble is designed to give students knowledge of the most important literature for woodwinds through practice, rehearsal, and performance of major works for woodwind chamber ensemble.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 145. String-Keyboard Chamber Music. 1 Credit Hour.

The study and performance of literature from the Baroque Period through the 20th Century for two or more players for string instrumentalists and strings with keyboard.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 169. Band of the Hour Pep Band. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 170. Marching Band. 1 Credit Hour.

The "Band of the Hour" Marching Band is open to all qualified undergraduate and graduate students, regardless of major. The band performs at all home Miami Hurricane football games and selected away games.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MIP 171. Symphonic Winds. 1 Credit Hour.

Symphonic Band is a large wind band that performs significant repertoire for wind and percussion instruments. It is open to all qualified undergraduate and graduate students, regardless of major.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 172. University Band. 1 Credit Hour.

University Band is a large ensemble offering students the opportunity to play standard repertoire of the wind band. This group is open to all wind and percussion players throughout the university, regardless of major.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MIP 174. Brass Choir. 1 Credit Hour.

Major works for Brass Choir are studied. Special emphasis is given to orchestral repertoire.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 176. Wind Ensemble. 1 Credit Hour.

This course offers performance opportunities for qualified wind and percussion players. Repertoire includes significant literature written for the small and large wind band.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 180. Symphony Orchestra. 1 Credit Hour.

The Symphony Orchestra performs significant repertoire for large orchestra. It is open to all qualified undergraduate students by audition.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 181. Instrumental Conducting I. 2 Credit Hours.

This course provides practical procedures and materials for beginning instrumental conducting students. Students demonstrate basic conducting patterns, preparations, and releases in all meters.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 182. Instrumental Conducting II. 2 Credit Hours.

This course provides practical procedures and materials for advancing instrumental conducting students. Students demonstrate refined skill in conducting musical styles and independence of gestures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 191. Tuba Ensemble. 1 Credit Hour.

The study and performance of compositions and/or transcriptions written for an ensemble of tubas and/or euphoniums.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 192. Classical Guitar Ensemble. 1 Credit Hour.

This course focuses on sightreading, rhythm recognition, and ensemble performance through the study of exercises, scales, and diverse repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 2. Guitar Forum. 0 Credit Hours.

An informal recital setting and performance class for guitar principals and majors with guest and faculty presentations.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 220. Class Guitar II for Non-music Majors. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 270. Leadership and Instructional Strategies for Marching Band. 1 Credit Hour.

Prerequisite: MIP 170. Or Requisite: Approval of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 281. Instrumental Conducting III. 1 Credit Hour.

This course provides a synthesis of the skills demonstrated in Instrumental Conducting I and II while developing error detection skills in common performance errors.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 282. Instrumental Conducting IV. 1 Credit Hour.

Students demonstrate knowledge of instruments, instrumentation of the wind band and orchestra, and analyze scores for conception, interpretation, rehearsal, and performance.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 307. Skills Lab V: Classical Improvisation. 2 Credit Hours.

Introduce students to the process of improvisation in all styles of classical music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 308. Skills Lab VI: Composition as Applied Improvisation. 2 Credit Hours.

Moving from the world of improvisation to composition, this course re-focuses musical expression into written form encompassing pre-tonal, tonal and post-tonal techniques through analysis, written improvisation, and model-composition.

Prerequisites: MTC 211 or MTC 240.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MIP 317. Basic Conducting. 2 Credit Hours.

A study of the basic techniques of all rhythms, patterns, subdivisions of beats, dynamics, starting, stopping, and giving cues. Course provides an elementary study of scores as to form and harmonic intent.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 399. Junior Recital. 1 Credit Hour.

A public recital of one half-hour or more. Course is required of all instrumental performance majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 407. Skills Lab VII: Basic Conducting/Arranging. 2 Credit Hours.

This course in basic conducting and arranging is designed to acquaint the student by application, with the basic beat, patterns (symmetrical and asymmetrical), preparatory beats, releases, dynamics, fermati, tempo changes, elementary score study and rehearsal techniques. Elements of practical arranging will be explored as students arrange excerpts for their specific skills ensemble that address areas of conducting technique.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 408. Skills Lab VIII: Culminating Project. 2 Credit Hours.

In this class students will create, perform, and produce a culminating concert event that will incorporate all the various skills they have acquired over the course of the Experiential Music Curriculum. The music for this performance will be written (or arranged), played, and conducted by the students in the skills ensemble, and it will require skills in improvisation, technology, and promotion that have been learned in the previous Skills Ensemble classes. The instructor will work in a consultative and guidance role to help the students develop and produce this performance.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MIP 418. Instrumental Conducting. 2 Credit Hours.

Course covers Baton technique, score reading, and interpretation. Actual experience in rehearsing instrumental ensembles is included.

Prerequisite: MIP 317.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 493. Special Projects In Instrumental Performance. 1-3 Credit Hours.

Supervised readings and other activities in specific areas of Instrumental Performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 494. Special Topics In Instrumental Performance. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 499. Senior Recital. 1 Credit Hour.

A public recital of one hour or more. Required of all performance majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 5. Percussion Forum. 0 Credit Hours.

An informal recital setting and performance class for Percussion principals and majors with guest and faculty presentations.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 541. Bassoon Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the bassoon since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 542. Clarinet Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the clarinet since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 543. Flute Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the flute since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 544. Oboe Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the oboe since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 545. Brass Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of brass instruments since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 546. Percussion Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of percussion instruments since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 547. Saxophone Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the saxophone since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 548. Guitar Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the guitar since 1600.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 549. String Repertoire and Pedagogy. 1-2 Credit Hours.

An exploration of teaching string playing. Areas covered include problem-solving and communication techniques, and practical considerations in establishing a teaching studio. Students participate in hands-on teaching opportunities. Prerequisite: Advanced standing in Music and permission of instructor.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 550. Bach Cello Suites. 1 Credit Hour.

The study and performance of the six suites for unaccompanied cello of Johann Sebastian Bach.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 580. Orchestral Audition Preparation. 1 Credit Hour.

The study of the more difficult excerpts from the orchestral literature for violin, viola, violoncello, or double bass. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 593. Special Projects In Instrumental Performance Or Conducting. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Instrumental Performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 594. Special Topics In Instrumental Performance And Conducting. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 641. Bassoon Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the bassoon since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 642. Clarinet Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the clarinet since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 643. Flute Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the flute since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 644. Oboe Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the oboe since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 645. Brass Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of brass instruments since 1600.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 646. Percussion Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of percussion instruments since 1600.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 647. Saxophone Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the saxophone since 1600.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 648. Guitar Repertoire and Pedagogy. 1-2 Credit Hours.

Solo and small ensemble literature of the guitar since 1600.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 649. String Repertoire and Pedagogy. 1-2 Credit Hours.

An exploration of teaching string playing. Areas covered include problem-solving and communication techniques, and practical considerations in establishing a teaching studio. Students participate in hands-on teaching opportunities. Prerequisite: Advanced standing in Music and permission of instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 650. Bach Cello Suites. 1 Credit Hour.

The study and performance of the six suites for unaccompanied cello of Johann Sebastian Bach.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 655. Seminar in Baroque Performance. 1 Credit Hour.

Students will present research on compositions representative of the Baroque period. Presentations will include interpretation, style, and historical context of both the composer and the work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 680. Orchestral Audition Preparation. 1 Credit Hour.

The study of the more difficult excerpts from the orchestral literature for violin, viola, violoncello, or double bass. Course may be repeated for cr

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 693. Special Projects In Instrumental Performance Or Conducting. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Instrumental Performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 694. Special Topics In Instrumental Performance And Conducting. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 7. String Forum. 0 Credit Hours.

An informal recital setting and performance class for string principals and majors with guest and faculty presentations.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 701. MM Recital Program Notes Preparation. 1 Credit Hour.

Students prepare extensive, original program notes, with bibliography. These notes will be made available to the audience of the second Masters recital. The notes may focus on the historical, analytical and performance aspects of the repertoire for this recital. Required in MM two-recital degree programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 710. Graduate Conducting Seminar. 1-2 Credit Hours.

The graduate conducting seminar is an advanced study of conducting and rehearsal techniques combined with score and ensemble topics. Specific topics vary each semester. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 720. Concepts and Processes of Classical Improvisation. 1 Credit Hour.

Concepts and Processes of Improvisation in classical music

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 730. Afro-Caribbean Hand Drumming, Level I. 1 Credit Hour.

The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Class is taught as a workshop.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 731. Afro-Caribbean Hand Drumming, Level II. 1 Credit Hour.

The study of hand drumming techniques used to perform the music of Africa and the new world African music that originated in the islands of the Caribbean and the countries of Central and Latin America. Level II is a performance ensemble.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 735. Percussion Contemporary Chamber Music. 1 Credit Hour.

Mandatory for all classical percussionists, this course focuses on the contemporary uncondacted chamber music repertoire. The goal is for students to develop and use an advanced listening/communicating skill set, while playing music with others. This course also targets to improve students' capabilities in contemporary music interpretation and performance.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 738. Trombone Choir. 1 Credit Hour.

The study and performance of literature for small and large trombone ensembles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 739. Brass Chamber Music. 1 Credit Hour.

The study and performance of literature for small ensembles of similar or mixed brass instruments.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 740. Flute Choir. 1 Credit Hour.

Reading, rehearsing, and performing the flute choir repertoire (duets, trios, quartets, quintets).

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 741. Saxophone Ensemble. 1 Credit Hour.

The study and performance of classical and jazz literature for small saxophone ensembles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 743. Woodwind Chamber Music. 1 Credit Hour.

Exploring the woodwind chamber music repertoire as represented by various combinations of instruments.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 744. Woodwind Chamber Ensemble. 1 Credit Hour.

Woodwind chamber ensemble is designed to give students knowledge of the most important literature for woodwinds through practice, rehearsal, and performance of major works for woodwind chamber ensemble.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 745. String-Keyboard Chamber Music. 1 Credit Hour.

The study and performance of literature from the Baroque Period through the 20th Century for two or more players for string instrumentalists and strings with keyboard.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 756. Seminar in Classical Performance. 1 Credit Hour.

Students will present research on compositions representative of the classical period. Presentations will include interpretation, style, and historical context of both the composer and the work.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 757. Seminar in Romantic Performance. 1 Credit Hour.

Students will present research on compositions representative of the Romantic period. Presentations will include interpretation, style, and historical context of both the composer and the work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIP 758. Seminar in Contemporary Performance. 1 Credit Hour.

Students will present research on compositions representative of the Contemporary music. Presentations will include interpretation, style, and historical context of both the composer and the work.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIP 769. Jazz Guitar Ensemble. 1 Credit Hour.

Components: SEM.

Grading: GRD.

MIP 770. Marching Band. 1 Credit Hour.

The "Band of the Hour" Marching Band is open to all qualified undergraduate and graduate students, regardless of major. The band performs at all home Miami Hurricane football games and selected away games.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MIP 771. Symphonic Winds. 1 Credit Hour.

Symphonic Band is a large wind band that performs significant repertoire for wind and percussion instruments. It is open to all qualified undergraduate and graduate students, regardless of major.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 774. Brass Choir. 1 Credit Hour.

Major works for Brass Choir are studied. Special emphasis is given to orchestral repertoire.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 776. Wind Ensemble. 1 Credit Hour.

This course offers performance opportunities for qualified wind and percussion players. Repertoire includes significant literature written for the small and large wind band.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 780. Symphony Orchestra. 1 Credit Hour.

The Symphony Orchestra performs significant repertoire for large orchestra. It is open to all qualified graduate students by audition.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 781. Instrumental Conducting Workshop. 2 Credit Hours.

This course provides practical procedures and materials for beginning and advancing conducting students. Students enrolled in the four-semester sequence demonstrate basic conducting techniques, demonstration of instruments and instrumentation of the wind band and orchestra, and analyze scores for conception, interpretations, rehearsal, and performance.

Prerequisites: MTC 112, MTC 122.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIP 782. Instrumental Conducting II. 2 Credit Hours.

This course provides practical procedures and materials for advancing instrumental conducting students. Students demonstrate refined skill in conducting musical styles and independence of gestures.

Prerequisites: MIP 781 or MIP 317.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MIP 791. Tuba Ensemble. 1 Credit Hour.

The study and performance of compositions and/or transcriptions written for an ensemble of tubas and/or euphoniums.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 792. Classical Guitar Ensemble. 1 Credit Hour.

This course focuses on sightreading, rhythm recognition, and ensemble performance through the study of exercise, scales, and diverse repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP 793. Special Projects In Instrumental Performance Or Conducting. 1-3 Credit Hours.

Projects in any phase of instrumental performance in which the student is interested and qualified to work.

Components: ENS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 794. Special Projects In Instrumental Performance Or Conducting. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP 811. Master's Recital Paper. 1-3 Credit Hours.

The student working on his/her master's recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIP 812. Master's Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the master's recital.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MIP 813. Master's Advanced Recital. 2 Credit Hours.

The second recital for those taking the two-recital option in the Master of Music in Instrumental Performance degree.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MIP 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MIP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIP 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MIP 731 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIP 832. Doctoral Recital. 1-2 Credit Hours.

Required of all candidates for the D.M.A.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MIP 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIP 9. Woodwind Forum. 0 Credit Hours.

An informal recital setting and performance class for woodwind principals and majors with guest and faculty presentations.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BA1. Bassoon. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Vivaldi Concerto, Bourdeau - Premier solo, Galliard, Handel, Marcello, Nino Rota Procaccini.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BA3. Bassoon. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Milde (Vol. 2). Gambaro. Repertoire: Bach, Bozza, Eigar, Jean Jean, Hindemith, Mozart, Flament.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAB. Bassoon. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Vivaldi Concerto, Bourdeau - Premier solo, Galliard, Handel, Marcello, Nino Rota Procaccini.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAC. Bassoon. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Bourdeau - Second Solo, David, Domenico, Dubois, Fasch, Kozeluh, Pierre, Telemann, Vivaldi.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAD. Bassoon. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Jancourt, Milde (Vol. 1). Repertoire: Bourdeau - Second Solo, David, Domenico, Dubois, Fasch, Kozeluh, Pierre, Telemann, Vivaldi.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAF. Bassoon. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Milde (Vol. 2). Gambaro. Repertoire: Bach, Bozza, Eigar, Jean Jean, Hindemith, Mozart, Flament.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAG. Bassoon. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Milde (Vol. 1). Bianchi. Repertoire: Bruns, Dutilleux, Francaix, Hummel, Saint-Saens, Tansman, Villa-Lobos, Weber (both).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAH. Bassoon. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Method Books by Giampieri, Milde (Vol. 1). Bianchi. Repertoire: Bruns, Dutilleux, Francaix, Hummel, Saint-Saens, Tansman, Villa-Lobos, Weber (both).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAI. Bassoon. 1-4 Credit Hours.

Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAJ. Bassoon. 1-4 Credit Hours.

Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAK. Bassoon. 1-4 Credit Hours.

Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP BAL. Bassoon. 1-4 Credit Hours.

Mastery of technical aspects of bassoon performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as reed making, specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAM. Bassoon. 1-4 Credit Hours.

Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAN. Bassoon. 1-4 Credit Hours.

Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAO. Bassoon. 1-4 Credit Hours.

Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAP. Bassoon. 1-4 Credit Hours.

Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAQ. Bassoon. 1-4 Credit Hours.

Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BAR. Bassoon. 1-4 Credit Hours.

Continued mastery of technical aspects of bassoon performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BH5. Baritone Horn. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BH6. Baritone Horn. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BH7. Baritone Horn. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BHK. Baritone Horn. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP BHL. Baritone Horn. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BHN. Baritone Horn. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BHO. Baritone Horn. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BHP. Baritone Horn. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BHQ. Baritone Horn. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP BHR. Baritone Horn. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD1. Conducting. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD3. Conducting. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD5. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD6. Conducting. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CD7. Conducting. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDB. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDC. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDD. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDF. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDG. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDH. Conducting. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDK. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP CDL. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDN. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDO. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDP. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDQ. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CDR. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CL1. Clarinet. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Scale study. Etude books: Rose 32 Etudes, Baermann Method Book 3. Repertoire: Schumann, Saint-Saens, Gade, Arnold. Orchestral excerpts.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CL3. Clarinet. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Jean Jean 16 or 18 Etudes, and Opperman Advanced Velocity Studies. Repertoire: Poulenc, Stravinsky, Bernstein, Brahms.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CL5. Clarinet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLB. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Scale study. Etude books: Rose 32 Etudes, Baermann Method Book 3. Repertoire: Schumann, Saint-Saens, Gade, Arnold. Orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLC. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Cavillini Caprices, and Opperman Intermediate Velocity Studies. Repertoire: Weber, Hindemith, Burgmuller.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLD. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Cavillini Caprices, and Opperman Intermediate Velocity Studies. Repertoire: Weber, Hindemith, Burgmuller.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLF. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Jean Jean 16 or 18 Etudes, and Opperman Advanced Velocity Studies. Repertoire: Poulenc, Stravinsky, Bernstein, Brahms.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLG. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Opperman Virtuoso Velocity Studies. Repertoire: Debussy, Rozsa, Muczynski, Berg.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLH. Clarinet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Same as previous semesters as well as Opperman Virtuoso Velocity Studies. Repertoire: Debussy, Rozsa, Muczynski, Berg.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLK. Clarinet. 1-4 Credit Hours.

Prerequisite: Master's level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP CLL. Clarinet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLN. Clarinet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLO. Clarinet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLP. Clarinet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLQ. Clarinet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP CLR. Clarinet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB1. Double Bass. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB3. Double Bass. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB5. Double Bass. 1-4 Credit Hours.

Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB6. Double Bass. 1-2 Credit Hours.

Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DB7. Double Bass. 1-2 Credit Hours.

Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBB. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBC. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBD. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBF. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBG. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBH. Double Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBJ. Double Bass. 1-4 Credit Hours.

Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBK. Double Bass. 1-4 Credit Hours.

Advanced study of the double bass. Preparation for Master's recitals, and oral defense, orchestral repertoire, planning auditions, and insights on teaching.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP DBN. Double Bass. 1-4 Credit Hours.

Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBO. Double Bass. 1-4 Credit Hours.

Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBP. Double Bass. 1-4 Credit Hours.

Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBQ. Double Bass. 1-4 Credit Hours.

Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP DBR. Double Bass. 1-4 Credit Hours.

Preparation of qualifying and DMA recitals and oral defense. Continuation of advanced orchestral repertoire and methods and audition preparation. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EU1. Euphonium. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Concone, Schlossberg, Barat, Presser.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EU3. Euphonium. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Fink Stevens, Maxime-Alphones, Jacob, Hartley.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUB. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Concone, Schlossberg, Barat, Presser.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUC. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bordogni-Rochut, Peters, Jones, Vivaldi.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUD. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bordogni-Rochut, Peters, Jones, Vivaldi.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUF. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Fink Stevens, Maxime-Alphones, Jacob, Hartley.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUG. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Charlier, Bozza, Uber, Horovitz Bellstedt; band and orchestral excerpts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP EUH. Euphonium. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. ½-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Charlier, Bozza, Uber, Horovitz Bellstedt; band and orchestral excerpts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FH1. French Horn. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Beginning transposition study. Studies by Shoemaker, Kopprasch, Maxime-Alphonse, Kling; appropriate passages from orchestral works. Repertoire: Mozart, Saint-Saens, F. Strauss, R. Strauss.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FH3. French Horn. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continued transposition study, further skills development, scales and arpeggios. Studies by Bach, Maxime-Alphonse, Gallay; Belloli; orchestral repertoire. Repertoire: Mozart, Strauss, Hindemith, Dukas, Chabier.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FH5. French Horn. 1-4 Credit Hours.

Emphasis will continue to be the advancement of repertoire experience and skill assessment. Preparation and presentation of a solo recital will be the main focus of repertoire study. In-depth study of Orchestral Literature will also begin this semester.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHB. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Beginning transposition study. Studies by Shoemaker, Kopprasch, Maxime-Alphonse, Kling; appropriate passages from orchestral works. Repertoire: Mozart, Saint-Saens, F. Strauss, R. Strauss.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHC. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continue transposition study. Continue development of embouchure, breathing, and articulation. Appropriate major and minor scales. Studies by Kopprasch, Maxime-Alphonse, Kling; Gallay; orchestral repertoire. Repertoire: Mozart, Strauss, Rachmaninoff, Glazounov.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHD. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continue transposition study. Continue development of embouchure, breathing, and articulation. Appropriate major and minor scales. Studies by Kopprasch, Maxime-Alphonse, Kling; Gallay; orchestral repertoire. Repertoire: Mozart, Strauss, Rachmaninoff, Glazounov.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHF. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continued transposition study, further skills development, scales and arpeggios. Studies by Bach, Maxime-Alphonse, Gallay; Belloli; orchestral repertoire. Repertoire: Mozart, Strauss, Hindemith, Dukas, Chabier.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHG. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further skills development to the highest attainable level. Studies by Reynolds, Hackelman, Neuling, Barboteo, Bach. Orchestral repertoire. Repertoire: Bozza, Gliere, Strauss, Haydn.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHH. French Horn. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further skills development to the highest attainable level. Studies by Reynolds, Hackelman, Neuling, Barboteo, Bach. Orchestral repertoire. Repertoire: Bozza, Gliere, Strauss, Haydn.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHI. French Horn. 1-2 Credit Hours.

Emphasis will be on an assessment of students' skills, needs and repertoire experience. Materials will be explored from the standard etude and solo literature that is relevant to the students' level and skill needs. Exploration will begin to choose material for a solo recital in the Spring semester.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHK. French Horn. 1-4 Credit Hours.

Further exploration of solo and chamber music repertoire. Orchestral literature will take a larger role in preparation for auditions. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP FHL. French Horn. 1-4 Credit Hours.

Focus on audition preparation and repertoire for the final Master's recital.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHM. French Horn. 1-4 Credit Hours.

Students' skills needs will be assessed and a course of study developed for any remedial needs. An in-depth study of appropriate literature for both solo and chamber recitals will be undertaken in preparation for a long-term degree plan. Advanced study of Orchestral Literature will begin, including listening and score study. Repertoire for an initial recital and the Qualifying Recital will be chosen and prepared.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHN. French Horn. 1-4 Credit Hours.

The initial Doctoral Recital and the Qualifying Recital will be presented.

Repertoire for these recitals will be the main focus but the Study of Orchestral Literature will remain a constant.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHO. French Horn. 1-4 Credit Hours.

Repertoire exploration for either the Solo recital or the Chamber Music recital along with continuing Orchestral Literature study.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHP. French Horn. 1-4 Credit Hours.

Final preparation and presentation for either the Solo recital or Chamber Music recital. Preparation for Orchestral auditions will also continue.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHQ. French Horn. 1-4 Credit Hours.

Repertoire exploration for the final recital along with Orchestral audition preparation. An overview of pedagogical materials will be explored and prepared as possible teaching tools.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FHR. French Horn. 1-4 Credit Hours.

Final preparation and presentation of remaining recital. Preparation for auditions should be advanced enough that the student can begin to take auditions. This will provide the opportunity for follow up work on audition skills and techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL1. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Berbiguer - 18 Etudes, Andersen Little Caprices. All major and minor scales, two octaves; Moyses - De la Sonorite, 24 Petite Melodies Vol. I. Repertoire: Handel Sonatas, Godard Allegretto.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL3. Flute. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Moyses Daily Exercises, Andersen Op. 15, Op. 63; Moyses De la Sonorite, Tone Development Through Interpretation. Repertoire: Mozart G Major Concerto, Hindemith Sonata, Debussy Syrinx.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL5. Flute. 1-4 Credit Hours.

Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FL7. Flute. 1-2 Credit Hours.

Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLB. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Berbiguer - 18 Etudes, Andersen Little Caprices. All major and minor scales, two octaves; Moyse - De la Sonorite, 24 Petite Melodies Vol. I. Repertoire: Handel Sonatas, Godard Allegretto.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLC. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Andersen, Op. 41; Moyse - De la Sonorite, 25 Petite Melodies Vol. II, Moyse Daily Exercises - major and minor scales, thirds.

Repertoire: Telemann Fantasies, CPE Bach Sonata, Faure Fantasia Chaminade Concertino.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLD. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Taffanel - Gaubert 17 Daily Exercises, Andersen, Op. 41; Moyse - De la Sonorite, 25 Petite Melodies Vol. II, Moyse Daily Exercises - major and minor scales, thirds.

Repertoire: Telemann Fantasies, CPE Bach Sonata, Faure Fantasia Chaminade Concertino.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLF. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Moyse Daily Exercises, Andersen Op. 15, Op. 63; Moyse De la Sonorite, Tone Development Through Interpretation. Repertoire: Mozart G Major Concerto, Hindemith Sonata, Dubussy Syrinx.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLG. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Moyse Daily Exercises, Andersen Op. 15, Soussmann Etudes; Moyse De la Sonorite, Tone Development Through Interpretation. Repertoire: Poulenc Sonata, Bach Sonatas, Martinu Sonata.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLH. Flute. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Moyse Daily Exercises, Andersen Op. 15, Soussmann Etudes; Moyse De la Sonorite, Tone Development Through Interpretation. Repertoire: Poulenc Sonata, Bach Sonatas, Martinu Sonata.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLI. Flute. 1-4 Credit Hours.

Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLK. Flute. 1-4 Credit Hours.

Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP FLL. Flute. 1-4 Credit Hours.

Mastery of technical aspects of flute performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement. Related areas such as specific individualized studies, instrumental maintenance, and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLN. Flute. 1-4 Credit Hours.

Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLO. Flute. 1-4 Credit Hours.

Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLP. Flute. 1-4 Credit Hours.

Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLQ. Flute. 1-4 Credit Hours.

Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP FLR. Flute. 1-4 Credit Hours.

Continue mastery of technical aspects of flute performance. Preparation of DMA recitals and oral defense. Preparation of repertoire for audition for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU1. Guitar. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU3. Guitar. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU5. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU6. Guitar. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GU7. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUB. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUC. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUD. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUF. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUG. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUH. Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUK. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP GUL. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUN. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUO. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUP. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUQ. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP GUR. Guitar. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA1. Harp. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA3. Harp. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA5. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA6. Harp. 1-2 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HA7. Harp. 1-2 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAB. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAC. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAD. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAF. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAG. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAH. Harp. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAK. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP HAL. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAN. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAO. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAP. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAQ. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP HAR. Harp. 1-4 Credit Hours.

Advanced study of solo harp literature.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBB. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Barret (Brod, Luft, Sellner, Ferling). Repertoire: Albinoni, Bach, Hayde, Schumann, Britten.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBC. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Ferling (Bleuzet, Sellner).

Repertoire: Saint-Saens, Hindemith, Vivaldi, Goossens, Francaix.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBD. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Ferling (Bleuzet, Sellner).

Repertoire: Saint-Saens, Hindemith, Vivaldi, Goossens, Francaix.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBF. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Bozza (Gillet, Prestini).

Repertoire: Mozart, Telemann, Bach, Poulenc, Vaughan Williams.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBG. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Loyon (Gillet).

Repertoire: Mozart, Strauss, Martinu, Dutilleux.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBH. Oboe. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales, arpeggios, trills. Appropriate technical exercises. Etudes by Loyon (Gillet).

Repertoire: Mozart, Strauss, Martinu, Dutilleux.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBK. Oboe. 1-4 Credit Hours.

Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP OBL. Oboe. 1-4 Credit Hours.

Mastery of technical aspects of oboe performance. Preparation of Masters recital(s) and Oral Defense. Preparation of audition repertoire for further study or professional placement. Related areas such as reed making, specific individualized studies, instrument maintenance, chamber music and orchestral excerpts are also part of the curriculum. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBN. Oboe. 1-4 Credit Hours.

Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBO. Oboe. 1-4 Credit Hours.

Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBP. Oboe. 1-4 Credit Hours.

Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBQ. Oboe. 1-4 Credit Hours.

Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP OBR. Oboe. 1-4 Credit Hours.

Continue mastery of technical aspects of oboe performance. Preparation of DMA recitals and Oral Defense. Preparation of audition repertoire for professional placement. An overview of pedagogy materials for performance and teaching use will also be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE1. Percussion. 2 Credit Hours.

1-hour lesson for students enrolled for 2-4 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of two mallets technique. Review of basic technique and repertoire on snare drum and timpani. Basic multi-percussion etudes. Repertoire: Mallet: G. H. Green, Musser, Creston, Rosauo. Snare Drum: Cirone, Delecluse, Rosauo. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE3. Percussion. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced four mallets technique on marimba and vibraphone. Advanced technique and repertoire on snare drum and timpani. Advanced multi-percussion etudes. Orchestral excerpts. Repertoire: Mallet: Abe, Ford, Friedman, Rosauo. Snare Drum: Cirone, Delecluse, Fink, Gautrieux. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE5. Percussion. 1-4 Credit Hours.

Second semester of the Masters Degree in percussion performance. The main area of focus is first recital; to be performed this semester. Exploration into solo and ensemble performance needs will continue through this semester.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE6. Percussion. 1-2 Credit Hours.

First semester of the Master's Degree in percussion performance. Emphasis on assessment of students' skills needs and repertoire experience. Materials covered to include standard solo and ensemble repertoire and technical work. First recital repertoire chosen from works supplementing students' needs.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PE7. Percussion. 1-2 Credit Hours.

First of six semesters of study for a DMA in percussion performance. Students' needs assessed, and a course of study devised. Solo and ensemble works studied in-depth accordingly. Works for an initial and qualifying recital chosen.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEB. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of two mallets technique. Review of basic technique and repertory on snare drum and timpani. Basic multi-percussion etudes. Repertoire: Mallet: G. H. Green, Musser, Creston, Rosauero. Snare Drum: Cirone, Delecluse, Rosauero. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEC. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of four mallets technique. Intermediate technique etudes and repertory on snare drum and timpani. Intermediate multi-percussion etudes. Repertoire: Mallet: Gomez, Musser, Peters, Rosauero. Snare Drum: Cirone, Delecluse, Fink, Rosauero. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PED. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of four mallets technique. Intermediate technique etudes and repertory on snare drum and timpani. Intermediate multi-percussion etudes. Repertoire: Mallet: Gomez, Musser, Peters, Rosauero. Snare Drum: Cirone, Delecluse, Fink, Rosauero. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEF. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced four mallets technique on marimba and vibraphone. Advanced technique and repertory on snare drum and timpani. Advanced multi-percussion etudes. Orchestral excerpts. Repertoire: Mallet: Abe, Ford, Friedman, Rosauero. Snare Drum: Cirone, Delecluse, Fink, Gautrieux. Timpani: Hochrainer, Writh, Goodman.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEG. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of advanced repertory and preparation for the final recital. Etudes and works on marimba, vibraphone, snare drum, timpani, multi-percussion, and orchestral excerpts. At least one piece at the final concert has to be a concerto-like composition performed with piano or percussion ensemble.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEH. Percussion. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of advanced repertory and preparation for the final recital. Etudes and works on marimba, vibraphone, snare drum, timpani, multi-percussion, and orchestral excerpts. At least one piece at the final concert has to be a concerto-like composition performed with piano or percussion ensemble.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEK. Percussion. 1-4 Credit Hours.

Third semester of the Master's Degree in percussion performance. Further exploration of solo and chamber music in preparation for final recital. An overview of pedagogy materials for performance and teaching introduced.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP PEL. Percussion. 1-4 Credit Hours.

Final semester of the Master's Degree in percussion performance. Main focus to be placed upon preparations for the final recital, which will be performed this semester.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEN. Percussion. 1-4 Credit Hours.

Second semester DMA. Main focus on initial and qualifying recitals, which are to be performed this semester. Ensemble and technical needs to be addressed.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEO. Percussion. 1-4 Credit Hours.

Third semester DMA. Repertoire for either solo or Chamber recital to be chosen.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEP. Percussion. 1-4 Credit Hours.

Fourth semester DMA. Either solo or chamber recital to be presented, as well as continuing ensemble studies.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PEQ. Percussion. 1-4 Credit Hours.

Fifth semester DMA. Repertoire for final recital will be the focus of the semester. Ensemble work to continue, as well as pedagogical studies.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP PER. Percussion. 1-4 Credit Hours.

Final semester DMA. Final preparation and presentation of the final recital to be the main focus of the semester. Any remaining pedagogical and ensemble concerns are addressed.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA1. Saxophone. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA3. Saxophone. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA5. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA6. Saxophone. 1-2 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SA7. Saxophone. 1-2 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAB. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAC. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAD. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAF. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAG. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAH. Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAK. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP SAL. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAN. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAO. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAP. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAQ. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP SAR. Saxophone. 1-4 Credit Hours.

Graduate level private study in classical saxophone is geared toward the individual's needs depending on the ability and skills mastered during the undergraduate level. The student will be required to seek refinement in all areas, including tone, intonation, technique, stylistic interpretation, and advanced forms of saxophone techniques. The student must be thoroughly versed in the pedagogy of the instrument. Study of advanced scales is required along with some jazz studies and advanced literature will be addressed in the private lesson format.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB1. Trombone. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, articulation, sound, and slide technique. Appropriate major and minor scales. Works by Arban, Blazhevich, Pares, Rochut, Tyrell, and others. Solo literature as appropriate for the student's abilities.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB3. Trombone. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of technical development including upper register, advanced slide technique, and refined articulation. Works as previously listed, followed by Masson and Bitsch. Solo literature as appropriate for the student's abilities, and continuation of selected orchestral excerpts.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB5. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB6. Trombone. 1-2 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TB7. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBB. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, articulation, sound, and slide technique. Appropriate major and minor scales. Works by Arban, Blazhevich, Pares, Rochut, Tyrell, and others. Solo literature as appropriate for the student's abilities.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBC. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of previous aspects of technical development. Works as previously listed, followed by Blume, and solo literature as appropriate for the student's abilities. Introduction of orchestral excerpts as both literature and as an aid to technical and musical development.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBD. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of previous aspects of technical development. Works as previously listed, followed by Blume, and solo literature as appropriate for the student's abilities. Introduction of orchestral excerpts as both literature and as an aid to technical and musical development.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBF. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of technical development including upper register, advanced slide technique, and refined articulation. Works as previously listed, followed by Masson and Bitsch. Solo literature as appropriate for the student's abilities, and continuation of selected orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBG. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of all technical aspects of performance. Works by Masson and Bitsch, and solo literature geared towards recital performance.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBH. Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of all technical aspects of performance. Works by Masson and Bitsch, and solo literature geared towards recital performance.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBK. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriell Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tonee and Technique. Additionally, solo concerto literature and contemporary workss are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style..

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP TBL. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBN. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBO. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBP. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBQ. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TBR. Trombone. 1-4 Credit Hours.

Advanced progressive study is chosen from the following etude books, Gabriel Masson 12 Various Etudes, Marcel Bitsch 15 Rhythmical Studies, Roger Bountry 12 Etudes for High Perfection, and Brade Edwards Lip-slurs-Exercises for Tone and Technique. Additionally, solo concerto literature and contemporary works are studied and prepared to advance the student's technical and musical mastery of the trombone. Orchestral excerpts are studied to further develop and refine an appropriate sense of orchestral style.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP1. Trumpet. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Clarke, Hering, Schlossberg; orchestral excerpts.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP3. Trumpet. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP6. Trumpet. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TP7. Trumpet. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPB. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Arban, Clarke, Hering, Schlossberg; orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPC. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPD. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPF. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPG. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPH. Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPJ. Trumpet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPK. Trumpet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP TPL. Trumpet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPN. Trumpet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPO. Trumpet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPP. Trumpet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPQ. Trumpet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TPR. Trumpet. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU1. Tuba. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Concone, Arban, Bordogni, Haddad, Hartley.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU3. Tuba. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bach/Bobo Ostrander, Kotsier, Hindemith, Wilder.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU5. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU6. Tuba. 1-2 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TU7. Tuba. 1-2 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUB. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Concone, Arban, Bordogni, Haddad, Hartley.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUC. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Vasiliev, Kopprash, Gally, Frankenpohl, Nelhybel, Bernstein.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUD. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Vasiliev, Kopprash, Gally, Frankenpohl, Nelhybel, Bernstein.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUF. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Bach/Bobo Ostrander, Kotsier, Hindemith, Wilder.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUG. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Cimera, Maenz, Broughton, Persichetti, orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUH. Tuba. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of embouchure, breathing, and articulation. Appropriate major and minor scales. Repertoire: Cimera, Maenz, Broughton, Persichetti, orchestral excerpts.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUK. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP TUL. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Alphonse, Sear, Kraft, Kelleway, and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUN. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUO. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUP. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUQ. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP TUR. Tuba. 1-4 Credit Hours.

Private lessons that focus on development of embouchure, breathing, and articulation, with emphasis on orchestral excerpts on Cinema, Snedecor, Wilder, Gould and others.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA1. Viola. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Right hand and left hand position evaluation and adjustment if necessary. Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA3. Viola. 2 Credit Hours.

1-hour lesson for students enrolled for 2-4 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA5. Viola. 1-4 Credit Hours.

Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA6. Viola. 1-2 Credit Hours.

Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VA7. Viola. 1-4 Credit Hours.

Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAB. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Right hand and left hand position evaluation and adjustment if necessary. Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAC. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAD. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAF. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAG. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAH. Viola. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Scales and etudes as assigned. Repertoire: Solo literature appropriate for level and major. Solo literature appropriate for level and major.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAK. Viola. 1-4 Credit Hours.

Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP VAL. Viola. 1-4 Credit Hours.

Mastery of technical aspects of viola performance. Preparation of Masters recital(s) and oral defense. Preparation of repertoire for audition for further study or professional placement.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAN. Viola. 1-4 Credit Hours.

Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAO. Viola. 1-4 Credit Hours.

Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAP. Viola. 1-4 Credit Hours.

Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAQ. Viola. 1-4 Credit Hours.

Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VAR. Viola. 1-4 Credit Hours.

Continued mastery of technical aspects of viola performance. Preparation of qualifying recital and DMA recitals and oral defense. Preparation of repertoire for audition for further study or professional placement.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC1. Violoncello. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of basic bow strokes, vibrato, and position changes. Appropriate major scales and arpeggios. Etudes as needed. Repertoire: Vivaldi Sonatas, Saint-Saens Concerto, Hayden C Major Concerto, Beethoven Sonata 1 or 2, Bach Suite 1 or 2.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC3. Violoncello. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Duport etudes. Repertoire: Dvorak Concerto, Hayden D Major Concerto, Shostakovitch Sonata, Bach Suite No. 4.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC5. Violoncello. 1-4 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC6. Violoncello. 1-2 Credit Hours.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VC7. Violoncello. 1-2 Credit Hours.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCB. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Development of basic bow strokes, vibrato, and position changes. Appropriate major scales and arpeggios. Etudes as needed. Repertoire: Vivaldi Sonatas, Saint-Saens Concerto, Hayden C Major Concerto, Beethoven Sonata 1 or 2, Bach Suite 1 or 2.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCC. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: All major and minor scales and arpeggios. Etudes as needed. Repertoire: Lalo Concerto, Boccherini B-flat, Beethoven or Brahms Sonatas, Bach Suite No. 3.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCD. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: All major and minor scales and arpeggios. Etudes as needed. Repertoire: Lalo Concerto, Boccherini B-flat, Beethoven or Brahms Sonatas, Bach Suite No. 3.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCF. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Duport etudes. Repertoire: Dvorak Concerto, Hayden D Major Concerto, Shostakovitch Sonata, Bach Suite No. 4.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCG. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Piatti etudes. Repertoire: Schumann Concerto, Bach Suites No. 5 or No. 6.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCH. Violoncello. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Popper etudes, Piatti etudes. Repertoire: Schumann Concerto, Bach Suites No. 5 or No. 6.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCK. Violoncello. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP VCL. Violoncello. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCN. Violoncello. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCO. Violoncello. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCP. Violoncello. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCQ. Violoncello. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VCR. Violoncello. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN1. Violin. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Schradieck School of Technic, Sevcik Shifting Studies, Sevcik Trill Studies. Fiorello - 36 Etudes and Caprices, Kreutzer - 42 Etudes. Repertoire: J. S. Bach, Beethoven, Mozart, Haydn, De Beriot.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN3. Violin. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Dont 42 Caprices, Gavinies 24 Matinees, Vieuxtemps 12 Studies. Repertoire: J. S. Bach, Beethoven, Brahms, Vaughan Williams, Ravel, Sarasate, Sibelius, Vieuxtemps, Shostakovich.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN5. Violin. 1-4 Credit Hours.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN6. Violin. 1-2 Credit Hours.

Graduate Level.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VN7. Violin. 1-2 Credit Hours.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNB. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Schradieck School of Technic, Sevcik Shifting Studies, Sevcik Trill Studies. Fiorello - 36 Etudes and Caprices, Kreutzer - 42 Etudes. Repertoire: J. S. Bach, Beethoven, Mozart, Haydn, De Beriot.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNC. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Schradieck School of Technic, Sevcik Shifting Studies, Sevcik Trill Studies. Fiorello - 36 Etudes and Caprices, Kreutzer - 42 Etudes, Rode 24 Etudes and Caprices. Rovelli 12 Caprices. Repertoire: J. S. Bach, Beethoven, Vivaldi, Mozart, Bruch, Saint-Saens, Mendelssohn, Vieuxtemps, Tartini-Kreilser, Wieniawski.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VND. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Schradieck School of Technic, Sevcik Shifting Studies, Sevcik Trill Studies. Fiorello - 36 Etudes and Caprices, Kreutzer - 42 Etudes, Rode 24 Etudes and Caprices. Rovelli 12 Caprices. Repertoire: J. S. Bach, Beethoven, Vivaldi, Mozart, Bruch, Saint-Saens, Mendelssohn, Vieuxtemps, Tartini-Kreilser, Wieniawski.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNF. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Dont 42 Caprices, Gavinies 24 Matinees, Vieuxtemps 12 Studies. Repertoire: J. S. Bach, Beethoven, Brahms, Vaughan Williams, Ravel, Sarasate, Sibelius, Vieuxtemps, Shostakovich.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNG. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Galamian Contemporary Violin Technique. Paganini 24 Caprices, Wieniawski Ecole Moderne. Repertoire: J. S. Bach, Beethoven, Ysaye, Franck, Faure, Paganini, Brahms, Bartok.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNH. Violin. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Flesch Scale System, Galamian Contemporary Violin Technique. Paganini 24 Caprices, Wieniawski Ecole Moderne. Repertoire: J. S. Bach, Beethoven, Ysaye, Franck, Faure, Paganini, Brahms, Bartok.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNK. Violin. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIP VNL. Violin. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNN. Violin. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNO. Violin. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNP. Violin. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNQ. Violin. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MIP VNR. Violin. 1-4 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

Intensive English Program (IEP)

IEP 1. Level Undetermined. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 11. RW Level Undetermined. 0 Credit Hours.

Reading and Writing class for students whose English level has not been determined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEP 111. Level I - Written Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 112. Level I - Oral Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 113. Level I Workshop. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 114. Level I - Reading. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 12. OC Level Undetermined. 0 Credit Hours.

Oral Communication class for students whose English level has not been determined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEP 121. Level II - Written Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 122. Level II - Oral Communications. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 123. Level I & II Workshop. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 124. Level II Reading. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 131. Level III Written Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 132. Level III - Oral Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 133. Level III Workshop. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 134. Level III Reading. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 141. Level IV - Reading / Writing. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 142. Level IV - Oral Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 151. Level V - Reading / Writing. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 152. Level V - Oral Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 153. Level IV/V - Selected Topics. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 154. LEVEL IV/V Selected Topics. 0 Credit Hours.

Components: LEC.

Grading: GRD.

IEP 155. ST-UM Transition. 0 Credit Hours.

This course will provide orientation, skills, assistance and support for IEP/UM students as they transition to a full load of credit courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEP 161. Core I. 0 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IEP 162. Core II. 0 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Interdisciplinary Studies (IDS)

IDS 699. Directed Study. 1-6 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

IDS 825. Master Study. 1-6 Credit Hours.**Components:** THI.**Grading:** GRD.**Typically Offered:** Spring & Summer.**IDS 830. Pre-Candidacy Dissertation Research. 1-12 Credit Hours.**

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of IDS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall & Spring.**IDS 840. Post-Candidacy Dissertation. 1-6 Credit Hours.****Components:** THI.**Grading:** SUS.**Typically Offered:** Fall, Spring, & Summer.**IDS 850. Research and Residence. 1-6 Credit Hours.**

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall.

International Studies (INS)

INS 101. Global Perspectives. 3 Credit Hours.

Introduces students to the study of international relations focusing on the continuing threat of national and ethnic conflict; terrorism; environmental and health concerns; globalization; economic interdependence, and poverty. Students are provided an overview of the evolution of international affairs in the modern era and are introduced to the various scholarly approaches for an understanding of international affairs.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 102. Global Economics. 3 Credit Hours.**

The international economy. This course develops the analytical tools underlying "the economic way of thinking" and applies them to two main topics: the environment and international trade.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 104. Global Perspectives Discussion Section. 0 Credit Hours.****Components:** DIS.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 105. Global Perspectives Discussion Section 2. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 201. Globalization and Change in World Politics. 3 Credit Hours.**

The academic and public policy debates regarding the multiple impacts of the globalization of the world economy on the politics of nation-states and on the dynamics of the international system itself.

Prerequisite: INS 101.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 202. INS Methodology. 3 Credit Hours.**

The approaches, methods and techniques used for designing and conducting international studies research.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**INS 210. INS Topics. 3 Credit Hours.**

Special topics taken at other institutions with no direct equivalents.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 310. Advanced Topics in INS. 3 Credit Hours.**

Prerequisite: POL 202 or POL 203.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 311. Advanced Topics in INS II. 3 Credit Hours.**

Prerequisite: POL 202 or POL 203.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 319. Empire: Global Legacies. 3 Credit Hours.**

A review of the key features of the Roman, Chinese, Russian, Ottoman, Spanish, and British empires and their global legacies. Different perspectives and conceptualizations on empires. Major characteristics of the empires studied and their enduring resonances in specific regions and globally.

Prerequisite: INS 101.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 320. Global Economics II. 3 Credit Hours.**

Macroeconomics and its application to the study of the international economy. Measurement of income and level of development; determinants of economic growth; inflation and unemployment; open economy macroeconomics.

Prerequisite: INS 102 or ECO 211 or ECO 212.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 321. Global Political Economy. 3 Credit Hours.**

The implications of the globalization of trade, production, finance, and culture on equity, social welfare and the quality of democratic institutions and practices in both the Global North and the Global South.

Prerequisite: INS 102 or ECO 211 or ECO 212.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

INS 322. Economics of Development and the Environment. 3 Credit Hours.

Structural changes that accompany economic growth that impact the environment and sustainable development.

Prerequisite: INS 102 or ECO 211 or ECO 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 324. The History of Zionism. 3 Credit Hours.

The religious, cultural, historical, political and social underpinnings of the development of Zionism that led to the creation of the State of Israel.

Through readings, analysis of speeches and essays, exploration of films and the internet, the class will move through time from the origins of the Zionist idea to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 325. Israel: The Making of a State. 3 Credit Hours.

An introduction to the creation of the State of Israel in its historical context, emphasizing the period of 1935-55: the struggle for Israel's establishment, the making of the state and the early challenges Israel faced. The class will use documents, texts, testimony, poetry, music and film.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 330. Introduction of Comparative Studies. 3 Credit Hours.

Introduces students to the comparative method and to the theories and concepts required to analyze political transformation of states, societies, economies and culture in a globalization world.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 335. Democratization. 3 Credit Hours.

A comparative overview of the problems of introducing democratic and market economic institutions into areas where they have not flourished and how to maintain them in established democracies.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 341. Nationalism, Ethnicity and Conflict. 3 Credit Hours.

Examines theories of ethnic and national conflict focusing on contemporary issues throughout the world.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 344. Gender and Politics. 3 Credit Hours.

Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality & reproductive health, gender-based violence, work & the family, and access to education.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 352. Panoramic View of the Middle East. 3 Credit Hours.

The Middle East and a basic understanding of the factors, forces and processes shaping developments in the modern and contemporary history of this important world region.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 367. Foreign Policy Topics. 3 Credit Hours.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 380. Democracy and Globalization in Latin America. 3 Credit Hours.

The global dimensions of Latin American politics, emphasizing democratization and its discontents; human rights; the emergence of transnational civil society; and the impacts of market reforms on development, equity and social inclusion.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 385. Latin American Topics. 3 Credit Hours.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 391. The European Union. 3 Credit Hours.

The course will combine 6 objectives: 1)to investigate the historical development of Europe as a civilization and as an idea through review of some main historical and political factors and ideologies from 1815-present; 2)to survey the main organizations and experiments in European integration before/after World War II; 3)to analyze the historical development of the European communities; 4)to examine major institutions of the European Union; 5)to analyze the main European Union policies and current issues; 6)to reflect upon the future of the nation-state and the idea of a united Europe, the role of transformed ideologies, and the rebirth of nationalism while pondering about future scenarios for European integration.

Prerequisite: INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 394. European Topics. 3 Credit Hours.

Prerequisite: POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 410. INS Advanced Seminar. 3 Credit Hours.

Prerequisite: POL 202 or POL 203.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 411. IR Advanced Seminar. 3 Credit Hours.**

Prerequisite: POL 202 or POL 203.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 415. Independent Study. 1-6 Credit Hours.**

Individualized research done under the guidance of selected faculty member. Depending upon the requirements established by the instructor, the student will be responsible for a research paper corresponding to the number of credits taken.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**INS 418. Honors Thesis. 3 Credit Hours.**

Honors thesis research. This course is required for students seeking magna or summa cum laude and those seeking departmental honors. A thesis committee comprised of three members, two from International Studies and one from the university faculty must be established. The thesis advisor must also be from International Studies.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 419. Honors Thesis II. 3 Credit Hours.**

Honors thesis writing.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 420. Global Trade. 3 Credit Hours.**

Economic principles in global issues such as comparative advantage; specialization and trade; macroeconomics in the open economy; commercial policy; globalization; inequalities, within and among nations; and governance.

Prerequisite: INS 102.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**INS 421. Poverty and the Environment. 3 Credit Hours.**

The processes by which a growing economy creates wealth in the form of goods and services while simultaneously increasing poverty and pollution.

Prerequisite: INS 102.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**INS 430. Comparative Studies Seminar. 3 Credit Hours.**

Prerequisite: POL 202 or POL 203.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 450. History of Economic Thought. 3 Credit Hours.**

A review of the contributions made by some of the most influential authors and schools of thought to the fields of political economy and economics. Examination of the links of ideas, theories, and policy approaches on economic phenomena with moral philosophy and other realms of knowledge. Emphasis is placed on the contributions made by the classics of political economy and their continuities and discontinuities with respect to pre-classical and post-classical ones.

Prerequisite: INS 201 or POL 201.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 460. United Nations Seminar. 3 Credit Hours.**

The organization and functions of the UN, including its structure, network of agencies, and issues in which it is involved. Emphasis is given to reforms, the Millennium Development Goals, and problematic relationships among the UN member states.

Prerequisite: POL 202 or POL 203.

Components: SEM.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 503. Int Relations Topics. 3 Credit Hours.**

Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 504. Int Rel Topics II. 3 Credit Hours.**

Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 509. International Migration and the Health Care System. 3 Credit Hours.**

An exposure to one of the most critical aspects of development globally: the migration-development nexus. The centrality of this issue has in current debates on development. Research and policy-making approaches to different aspects of this nexus. Several countries and regions are covered throughout the semester. Development of research skills through systematic participation in specific projects.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 510. Issues In Ins. 3 Credit Hours.**

Analysis of current issues of international importance.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

INS 515. Independent Study. 1-6 Credit Hours.

Advanced level research done under the guidance of a selected faculty member. This course can be used as one of the two 500-level requirements for International Studies majors.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 518. Global Migration and Development. 3 Credit Hours.

An examination of the nexus between migration and the health care system. Immigrants as professionals in the medical field; immigrants as people in need to health care services. Many countries have relied on immigration to cover critical shortages of professionals while others suffer from the exodus of professionals. The impact of immigration on these systems through an increase in the demand for medical services and other mechanisms. An examination of research and policy approaches to these issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 519. Internship. 1-3 Credit Hours.

A research paper is required for this course. The student works with a selected faculty member who determines the length and scope of the project. The Student is responsible for finding the internship position.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 520. Microeconomics for INS. 3 Credit Hours.

Microeconomics for students of international studies. Topics will include rationality, market failure and comparative advantage.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 521. INT'L ECON TOPICS II (International Economic System Topics). 3 Credit Hours.

Selected topics in International Economics. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 522. Latin American Political Economy. 3 Credit Hours.

Latin American political economy including analysis of market reform and integration of the region into the world economy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 524. Intl Econ Topics. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 530. Comparative Analysis. 3 Credit Hours.

Advanced overview of the comparative method. Required for students specializing in Comparative Studies at the graduate level.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 532. Globalization and Human Rights. 3 Credit Hours.

The integration of markets has many concerned for the political and economic rights of the common citizen. This course examines The effect of globalization on the human rights standards throughout the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 533. Transnational Social Movements. 3 Credit Hours.

Focuses on global civic activism and contentious politics, with particular attention to transnational non-state actors - NGOs, social movements, environmental protection, and the emergence of a global civil society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 534. Military, State and Society. 3 Credit Hours.

The role of the military in state formation; questions of military rule, civilian control, and social structures in contemporary world politics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 536. Comparative Political Regimes. 3 Credit Hours.

Literature concerned with the transition from authoritarianism to democracy in various parts of the world.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 537. Comparative Political Economy. 3 Credit Hours.

Compares how domestic politics and macroeconomic policies interact with globalization. Case studies include welfare states in the U.S. and Europe, East Asian development, post communist transitions and market restructuring in Latin America and Africa.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 540. National Security. 3 Credit Hours.

The central issues concerning European security since World War II, with emphasis on the period since the end of the cold war.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 542. Drug-Trafficking in the Americas. 3 Credit Hours.

The political economy of the U.S.-Latin American drug trade in the 20th Century along with the dynamics of the U.S.-led war on drugs through the first years of the Twenty First Century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 543. National Security and Foreign Policy. 3 Credit Hours.

Explores alternative conceptualizations of "security" and the new challenges to U.S. national security that have emerged in the Post-Cold War era.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

INS 551. Regional Topics II. 3 Credit Hours.

Selected topics in International Business. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 560. US Foreign Policy. 3 Credit Hours.

The leading approaches to the analysis of American foreign policy. Particular emphasis will be placed on the post-Cold War period and the new challenges to U.S. foreign policy of the 21st century.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 561. Negotiation and Bargaining. 3 Credit Hours.

Examines the nature of diplomatic negotiation through readings and discussion of international negotiation and through the case method, selecting several cases of high-level policy issues in which the United States has been a principal actor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 562. International Peace and Conflict Resolution. 3 Credit Hours.

The major sources of conflict, and what resources are available for making and keeping the peace? This class introduces students to the most fundamental concerns of the field of International Relations (IR), and especially of its sub-field IPCR.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 563. International Organizations. 3 Credit Hours.

The role, function, and impact on states of international governmental and non-governmental organizations in critical areas like peace and security, human rights, economic development, and environmental degradation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 564. International Law. 3 Credit Hours.

How international law affects the conduct of states. Issues include jurisdiction, diplomatic immunity, the use of armed force, peaceful dispute settlement among states, human rights, and the International Criminal Court.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 565. The World Before European Domination. 3 Credit Hours.

The historical roots of the contemporary international system. Its objective is to question the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

INS 566. US-Latin American Relations. 3 Credit Hours.

Political, economic and strategic aspects of U.S.-Latin American relations; the historical experience and contemporary issues, including the influence of extra-regional parties such as Europe and China.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 570. Globalization and Health. 3 Credit Hours.

Globalization and its benefits and threats to public health; the relationship between global economic, political, social, cultural, environmental and technological changes and their impact on human health.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 571. International Development and Human Welfare. 3 Credit Hours.

Health and development links; macroeconomic policies and their impact on social equity; poverty and structural inequities; and other key issues that influence human development.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 572. Global Health Policy and Ethics. 3 Credit Hours.

National, regional and global health policies with special consideration to ethical and human rights issues; policies and the moral considerations that shape public health policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 573. Disasters, Terrorism and Global Public Health. 3 Credit Hours.

The historical processes and present trends of disasters, terrorism, humanitarian emergencies and their impact on human health, safety and security.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 580. Latin American Comparative Politics. 3 Credit Hours.

The major intellectual debates shaping the field of comparative politics including: (1) development, (2) military politics, (3) democratization and (4) the emergence of new social movements.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 581. Politics and Ideology in Latin America. 3 Credit Hours.

The roles played by both "class" and the "new social movements" in the emergence of new modes of political representation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 584. Latin American Thought. 3 Credit Hours.

The evolution of Latin American thought through political and intellectual history; the classical writings of the main "pensadores", and a comparative analysis of contemporary ideological trends.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 586. Brazil in Transition. 3 Credit Hours.

The social, economic, cultural transformations shaping Brazilian politics. In addition to visiting Rio de Janeiro and Salvador, there will be seminars with Brazilian academics and social and political activists.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 590. EURO-LATIN AMER REL (European-Latin American Relations). 3 Credit Hours.

This course deals primarily with five main themes: shared history between Europe and Latin America; mutual transfer of ideas (ideologies and political thought), perceptions (images and stereotypes), people (voluntary and slavery), and goods (trade and investment); foreign policies of main European states and the European Community toward Latin America; an analysis of some specific country cases (Spain, especially) and issues (regional integration, among them); and how the above have affected inter-American relations and the hegemonic role of the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 591. The European Union. 3 Credit Hours.

The European Union's history, institutions, policies and contemporary issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 592. European Union and the World. 3 Credit Hours.

The European Union's development, its main institutions and policies followed by an analysis of the main features of the European Union's external relations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 593. European Security. 3 Credit Hours.

Regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy, and related issues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 594. European Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 595. European Social Movements. 3 Credit Hours.

The major social movements active today throughout Europe including those concerned with the environment, agriculture, poverty, racism, defending social democracy, the rights of workers, minorities, and women.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 596. POST-SOVIET TOPICS (Post-Soviet Topics). 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 599. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 601. IR Theory. 3 Credit Hours.

Introduces students to key historic events, themes, concepts, and theories that have animated the practice and scholarship of international relations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 603. Dissertation Proposal. 3 Credit Hours.

A workshop designed to assist doctoral students in the preparation of a proposal for their dissertation research projects.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

INS 604. Int Rel Topics II. 3 Credit Hours.

Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 605. Int Relations Topics. 3 Credit Hours.

Selected topics in International Relations Theory. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 606. Issues In Ins. 3 Credit Hours.

Analysis of current issues of international importance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 607. INT'L ECON TOPICS II (International Economic System Topics). 3 Credit Hours.

Selected topics in International Economics. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 608. Intl Econ Topics. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 609. Globalization and Human Rights. 3 Credit Hours.

The integration of markets has many concerned for the political and economic rights of the common citizen. This course examines The effect of globalization on the human rights standards throughout the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 610. Graduate Seminar in INS. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 611. Int Relatns Meth Ii (International Relations Methodology Ii). 3 Credit Hours.**

Introduces graduate students to issues of research design and research methods in International Relations. The course will focus on three main methodological approaches in political science: qualitative case study, quantitative research and formal modeling. Apart from examining the principles guiding the choice of methods (and the trade offs involved in that choice), the course will examine how these methods have been applied to the study of three major sub-fields of international relations: international political economy, security studies, and international environmental regimes. It also aims to provide the students with basic knowledge on how to apply these methods to their own research.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**INS 612. Graduate Seminar In Qualitative Research Methods. 3 Credit Hours.**

The main goal of this seminar is to enable students to become proficient in qualitative research methods. The seminar covers specific research methods and techniques, their relevance and limitations, their relationships with philosophical perspectives, epistemological and methodological debates, and ethical and practical considerations involved in qualitative research. Ethnographic methods, the use of social network analysis in qualitative research, the logics of inquiry in case study methods, grounded theory, and types of discourse and contents analysis, are amongst the topics covered. This is a hands-on graduate seminar in which the students are encouraged to think creatively on which method(s) could make their research of complex political, social, and cultural phenomena more rigorous and sophisticated by applying methods and techniques learned in class.

Components: SEM.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 613. Transnational Social Movemen. 3 Credit Hours.**

Focuses on global civic activism and contentious politics, with particular attention to transnational non-state actors - NGOs, social movements, environmental protection, and the emergence of a global civil society.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 614. Comparative Political Regimes. 3 Credit Hours.**

Literature concerned with the transition from authoritarianism to democracy in various parts of the world.

Components: SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 616. National Security. 3 Credit Hours.**

The central issues concerning European security since World War II, with emphasis on the period since the end of the cold war.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 617. National Security and Foreign Policy. 3 Credit Hours.**

Explores alternative conceptualizations of "security" and the new challenges to U.S. national security that have emerged in the Post-Cold War era.

Components: LEC.**Grading:** GRD.**Typically Offered:** Summer.**INS 618. Regional Topics II. 3 Credit Hours.**

Selected topics in International Business. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 619. Internship. 1-3 Credit Hours.**

A research paper is required for this course. The student works with a selected faculty member who determines the length and scope of the project. The Student is responsible for finding the internship position.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**INS 620. International Migration and the Health Care System. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**INS 622. Advanced Seminar in International Economics. 3 Credit Hours.**

This is a seminar in International Economics at the graduate level. The first part consists of a rigorous but nontechnical presentation of international trade theory, followed by a discussion of the main arguments for protection and their validity. The third part of the course analyzes the process of globalization; its meaning, measurement and effects. A final brief section is devoted to the determination of exchange rates and the international monetary system.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**INS 627. Negotiation and Bargaining. 3 Credit Hours.**

Examines the nature of diplomatic negotiation through readings and discussion of international negotiation and through the case method, selecting several cases of high-level policy issues in which the United States has been a principal actor.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**INS 628. International Peace and Conflict Resolution. 3 Credit Hours.**

The major sources of conflict, and what resources are available for making and keeping the peace? This class introduces students to the most fundamental concerns of the field of International Relations (IR), and especially of its sub-field IPCR.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

INS 629. International Organizations. 3 Credit Hours.

The role, function, and impact on states of international governmental and non-governmental organizations in critical areas like peace and security, human rights, economic development, and environmental degradation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 630. Advanced Seminar in Comparative Studies. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 637. Comparative Political Economy. 3 Credit Hours.

Compares how domestic politics and macroeconomic policies interact with globalization. Case studies include welfare states in the U.S. and Europe, East Asian development, post communist transitions and market restructuring in Latin America and Africa.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 638. US-Latin American Relations. 3 Credit Hours.

Political, economic and strategic aspects of U.S.-Latin American relations; the historical experience and contemporary issues, including the influence of extra-regional parties such as Europe and China.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 639. Globalization and Health. 3 Credit Hours.

Globalization and its benefits and threats to public health; the relationship between global economic, political, social, cultural, environmental and technological changes and their impact on human health.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 641. Advanced ISC Seminar. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 642. Drug-Trafficking in the Americas. 3 Credit Hours.

The political economy of the U.S.-Latin American drug trade in the 20th Century along with the dynamics of the U.S.-led war on drugs through the first years of the Twenty First Century.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

INS 644. International Development and Human Welfare. 3 Credit Hours.

Health and development links; macroeconomic policies and their impact on social equity; poverty and structural inequities; and other key issues that influence human development.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 645. Disasters, Terrorism and Global Public Health. 3 Credit Hours.

The historical processes and present trends of disasters, terrorism, humanitarian emergencies and their impact on human health, safety and security.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 646. Politics and Ideology in Latin America. 3 Credit Hours.

The roles played by both "class" and the "new social movements" in the emergence of new modes of political representation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 647. Latin American Thought. 3 Credit Hours.

The evolution of Latin American thought through political and intellectual history; the classical writings of the main "pensadores", and a comparative analysis of contemporary ideological trends.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 648. Brazil in Transition. 3 Credit Hours.

The social, economic, cultural transformations shaping Brazilian politics. In addition to visiting Rio de Janeiro and Salvador, there will be seminars with Brazilian academics and social and political activists.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 649. EURO-LATIN AMER REL (European-Latin American Relations). 3 Credit Hours.

This course deals primarily with five main themes: shared history between Europe and Latin America; mutual transfer of ideas (ideologies and political thought), perceptions (images and stereotypes), people (voluntary and slavery), and goods (trade and investment); foreign policies of main European states and the European Community toward Latin America; an analysis of some specific country cases (Spain, especially) and issues (regional integration, among them); and how the above have affected inter-American relations and the hegemonic role of the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 650. Advanced Regional Seminar. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 653. The European Union. 3 Credit Hours.

The European Union's history, institutions, policies and contemporary issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 654. European Union and the World. 3 Credit Hours.

The European Union's development, its main institutions and policies followed by an analysis of the main features of the European Union's external relations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 655. POST-SOVIET TOPICS (Post-Soviet Topics). 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 656. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 657. US Foreign Policy. 3 Credit Hours.

The leading approaches to the analysis of American foreign policy. Particular emphasis will be placed on the post-Cold War period and the new challenges to U.S. foreign policy of the 21st century.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 664. International Law. 3 Credit Hours.

How international law affects the conduct of states. Issues include jurisdiction, diplomatic immunity, the use of armed force, peaceful dispute settlement among states, human rights, and the International Criminal Court.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

INS 665. The World Before European Domination. 3 Credit Hours.

The historical roots of the contemporary international system. Its objective is to question the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

INS 672. Global Health Policy and Ethics. 3 Credit Hours.

National, regional and global health policies with special consideration to ethical and human rights issues; policies and the moral considerations that shape public health policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

INS 693. European Security. 3 Credit Hours.

Regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy, and related issues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

INS 694. European Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

INS 699. Readings in International Studies. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

INS 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in INS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

INS 830. Doctoral Dissertation. 1-12 Credit Hours.

A total of 12 hours of INS 730 is required of all candidates for the Ph.D. Not more than 12 dissertation credits may be taken during the Fall or Spring semesters, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

INS 840. Post-candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of INS 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

INS 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Italian (ITA)

ITA 101. Elementary Italian I. 3 Credit Hours.

Drill in pronunciation, grammatical principles, reading and translation, oral and written exercises. Normally closed to students who have completed two years of high school Italian. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ITA 102. Elementary Italian II. 3 Credit Hours.

Continuation of ITA 101. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

ITA 200. Discussion and Debates about Contemporary Italian Society. 3 Credit Hours.

Through recent movies, discussions, and formal debates, students will improve their spoken Italian while gaining understanding of contemporary society in Italy.

Prerequisite: ITA 211.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

ITA 201. Intermediate Italian I. 3 Credit Hours.

Integrated grammar review. Diverse selection of readings: stories, plays, essays, interviews. Practice in speaking and in writing. Class conducted in Italian.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 202. Intermediate Italian II. 3 Credit Hours.

This course uses different genres of texts (portraits, descriptions, short stories, film reviews, magazines) to explore different ways of writing and to prepare students for 300-level work. Structured in a workshop format, the course also develops conversational skills. Class conducted in Italian. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 301. Interpreting Literary And Cultural Texts In Italian. 3 Credit Hours.

Tools for the interpretation and analysis of Italian literary and cultural materials. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to native speakers formally educated in Italian.

Prerequisite: ITA 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 310. Topics in Italian Studies in Translation. 3 Credit Hours.

Intensive study, in English translation, of a topic, theme, author, period, or literary movement. May be repeated when the topic varies. Writing Credit. Prerequisite: ENG 106 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 312. Italian Civilization. 3 Credit Hours.

The intellectual life of Italy, political and social institution arts, letters, and sciences. Collateral readings and reports.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 314. Topics In Early Modern Italian Literature In Translation. 3 Credit Hours.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 315. Topics In Gender And Sexuality In Translation. 3 Credit Hours.

This course presents issues dealing with gender and sexuality in Italy in a variety of chronological settings, using the appropriate sources for the topic (e.g., films, newsprint and TV ads, novels). This course does not fulfill the foreign language requirement.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 316. Topics In 18Th-And 19Th Century Italian Literature In Translation. 3 Credit Hours.

An introduction to one or more aspects of Italian literature of the 18th and 19th centuries in translation: e.g., the role of opera in Italian culture; the literature of the Italian Risorgimento; the historical novel. This course does not fulfill the foreign language requirement.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 317. Topics In 20Th Century Italian Literature In Translation. 3 Credit Hours.

An introduction to one or more aspects of Italian literature of the 20th century in translation: e.g., the experience of war, the child narrator in Calvino and Ammaniti, the experimental novels of the 1960s and '70s. This course does not fulfill the foreign language requirement.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 319. Travels Italy. 3 Credit Hours.

Develops an understanding of Italy's contemporary image in the world by, first, presenting some of the earlier representations of Italy and Italians from Dante, through the Renaissance and Baroque periods, to the present; and second, by looking at the various cultures coming into contact with the Italian one. It attempts to come to grips with notions of representation, ethnicity, ethnocentrism, and stereotypes. Taught in English and does not fulfill CAS language requirement.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 321. Special Topics in Italian Literature. 3 Credit Hours.

Introduction to one or more aspects of Italian literature of the Middle Ages in translation: e.g., Dante, the *Stil novo*, the literature of the Black Plague.

Prerequisite: ITA 212 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 330. Topics In Gender And Sexuality In Italian Culture. 3 Credit Hours.

Issues dealing with gender and sexuality in Italy in a variety of chronological settings, using the appropriate sources for the topic (e.g., films, newsprint and TV ads, novels). Taught in Italian.

Prerequisite: ITA 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 363. Introduction to Medieval and Renaissance Italian Literature. 3 Credit Hours.

Culture and literature in Italian vernacular from its earliest document through the Renaissance. May be used to fulfill humanities literature requirement. Writing credit.

Prerequisite: ITA 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 364. Introduction to 17th-19th Century Italian Literature. 3 Credit Hours.

Italian culture and literature from the Baroque to the nineteenth century. May be used to fulfill humanities literature requirement. Writing credit.

Prerequisite: ITA 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 365. Introduction to 20th Century Italian Literature. 3 Credit Hours.

Italian culture and literature of the twentieth century. May be used to fulfill humanities literature requirement. Writing credit.

Prerequisite: ITA 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 394. Internship. 1-3 Credit Hours.

On-site experience in an Italian-speaking cultural, business, or not-for-profit organization. Normally 50 internship hours are required per credit earned (the host will supply documentary evidence of hours worked).

Permission of a faculty member in ITA required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

ITA 395. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 396. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 397. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 398. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 399. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

ITA 400. Creative Writing in Italian. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 432. Italian for Business and for Business Travelers. 3 Credit Hours.

This course will allow non-native speakers of Italian communicate with native Italian speakers in a business environment by providing students with the basic vocabulary and professional expressions that are most often used in the business arena. Target business areas will be addressed through specific exercises, individual presentations, pair and group work, class discussion, preparing a Portfolio and a Final written Project, while working with authentic materials.

Prerequisite: ITA 212. Requisite: Course is closed to Native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 592. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

ITA 593. Directed Readings. 1-3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**ITA 625. Italian for Graduate Research. 0 Credit Hours.**

Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**ITA 691. Directed Readings. 1-3 Credit Hours.****Components:** THI.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

Japanese (JPN)

JPN 101. Elementary Japanese I. 3 Credit Hours.

Introduction to modern Japanese: pronunciation, grammar, conversation, and the elements of the writing system. Closed to native speakers.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**JPN 102. Elementary Japanese II. 3 Credit Hours.**

Continuation of JPN 101. Introduction to modern Japanese: pronunciation, grammar, conversation, and the elements of the writing system. Closed to native speakers.

Prerequisite: JPN 101 or equivalent.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**JPN 201. Intermediate Japanese I. 3 Credit Hours.**

Continuation of JPN 102. Grammar, composition and readings in modern Japanese, which will introduce students to aspects of Japanese customs, history and culture. Closed to native speakers.

Prerequisite: JPN 102 or equivalent.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**JPN 202. Intermediate Japanese II. 3 Credit Hours.**

Continuation of JPN 201. Grammar, dialogues, and readings, designed to integrate listening, comprehension, speaking, reading and writing skills. Discussion of the Japanese culture, history, and customs. Closed to native speakers.

Prerequisite: JPN 201 or equivalent.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**JPN 203. Advanced Japanese I. 3 Credit Hours.**

JPN 203 (Advanced Japanese I) is a continuation of JPN 202. This course will solidify and advance students' grammatical knowledge and will improve their application skills in all four areas: speaking, listening, reading, and writing, dealing with various topics in Japanese at an advanced level. In addition to improving their language abilities, students will also be exposed to different areas of Japanese culture.

Prerequisite: JPN 202.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**JPN 210. Introduction to Japanese Culture. 3 Credit Hours.**

Prerequisite: JPN 102.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

Journalism and Media Management (JMM)

JMM 102. Understanding Media And Content In The Digital Age. 3 Credit Hours.

This course examines how traditional and new media industries are economically structured and how various media content influences audiences and culture. Historical, technological, and regulatory issues related to the different media platforms will also be discussed from a comparative perspective.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**JMM 106. Visual Design. 3 Credit Hours.**

This course is an introduction to the principles of design, typography, color theory, usability and interactivity as they apply to the layout and design of content for print and digital media.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**JMM 108. Writing For The Digital Age. 3 Credit Hours.**

This course provides students with an understanding of writing styles appropriate for communicating in the digital age, with particular emphasis on grammar, spelling, syntax and clarity. It provides a solid foundation for further practice and specialization in various types of multimedia communication.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**JMM 206. Special Topics In Journalism And Media Management I. 3 Credit Hours.**

This course subject matter varies according to announced special topics. See class schedule for details.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

JMM 208. Fundamentals Of Newsgathering. 3 Credit Hours.

Skill development in gathering facts and other material for, and in preparation of, news stories in a variety of genres across platforms. Focus on gathering information from multiple sources, analyzing and organizing information for dissemination, and presenting the most pertinent facts clearly and cohesively to multiple media outlets. Prerequisites: JMM 111 or JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 210. Writing About the Arts. 3 Credit Hours.

The aim of JMM 210 is to help you develop skills in writing and reporting about entertainment and the arts.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 221. Introduction to Documentary Photography. 3 Credit Hours.

Course is designed to develop skills in visual storytelling. Students will learn to produce images and recognize what makes good photographs in terms of content, composition, and technical quality.

Prerequisite: JMM 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 233. Television Performance. 3 Credit Hours.

Introduction to communication concepts and skills involved in on-camera duties such as anchoring, interviewing and live reporting.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 235. Radio Production and Performance. 3 Credit Hours.

Introduction to equipment and procedures of radio. Production of radio programs and formats, editing, announcing, sequencing program elements, and designing program formulas are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 245. Introduction to Electronic Media Production. 3 Credit Hours.

Introduction to the theory, process, and procedure of electronic media production. Lecture and laboratory are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 285. Applied Statistics for Journalism and Media Management. 3 Credit Hours.

This course provides students an introduction to descriptive and bivariate inferential statistics to better understand and use media research and analysis. Computer applications are included.

Prerequisite: MTH 101. or Requisite: Qualified AP or AB Score or Placement Exam Administered by the Math Department.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 300. Journalism Practicum. 1-3 Credit Hours.

Prescribed study and supervised work with faculty and staff of the student news paper or related news media. Students receive first-hand knowledge and experience in a working news environment.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 301. Media Research And Analysis. 3 Credit Hours.

Survey of qualitative and quantitative research methods used to collect and analyze data on media audiences. Course also covers metrics used by media industries. Practice in conducting small-scale audience measurement is included.

Prerequisite: JMM 102. Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 302. Electronic Media Law. 3 Credit Hours.

Course provides analysis of laws and other forces that influence broadcasting, cable, and online media operations. Examines the application of the First Amendment to media operations with a focus on press law.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 303. Communication Law And Policy. 3 Credit Hours.

A study of First Amendment law and theories concerning libel, privacy, copyright, advertising, corporate communications, reporter privilege, free-press/fair trial, pornography, access to government information, broadcasting and new communication technologies. Discussion of international perspectives on media regulation

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 305. Legal Issues In Media Management. 3 Credit Hours.

Examination of the legal environment affecting contemporary media businesses including broadcasting, advertising, public relations, web-based media, and print publications. Focus on U.S. law, with introduction of international and comparative perspectives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 306. Special Topics In Journalism And Media Management II. 3 Credit Hours.

This course subject matter varies according to announced special topics. See class schedule for details.

Requisite: Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 307. Mobile Journalism. 3 Credit Hours.

This course provides an introduction to the fundamental procedures in the production and development of mobile storytelling.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 309. Data Journalism. 3 Credit Hours.

This course teaches data analysis and interactive deployment of the World Wide Web and other digital platforms. Students will learn to analyze data for journalistic work and will be expected to create and deploy database-driven applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 313. Media Sales. 3 Credit Hours.

Operation of sales departments within media outlets. Course includes the preparation and delivery of sales presentations as well as the use of audience reports.

Prerequisite: JMM 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 314. Media Programming. 3 Credit Hours.

Course covers categories and sources for selecting program materials used in radio, television, cable television, and other program services. Strategies employed in devising program schedules and understanding audience behaviors are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 317. Broadcast Journalism. 3 Credit Hours.

Preparation of materials for presentation through the broadcast/cable media with emphasis on news writing for oral presentation by studio anchors and field reporters. Course examines issues facing the profession of broadcast journalism, radio, and TV reporting techniques and news program formats.

Prerequisite: JMM 245.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 319. History of Journalism. 3 Credit Hours.

The development and impact of American journalism.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 331. Information Graphics and Visualization. 3 Credit Hours.

Introduction to informal graphic procedures and practices as they pertain to print and online media. Layout and design typography, mechanical production techniques, and production vocabulary will be an integral part of this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 333. Social Media. 3 Credit Hours.

Examination of best practices for use of social media for gathering, disseminating, and promoting information.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 341. Web Design. 3 Credit Hours.

This course covers the basic aspects of interaction design and web development, focusing on production processes. It provides an overview of web design concepts including usability, accessibility, information architecture, basic animation, and graphic design; all discussed in the context of the web environment. This course further offers an introduction to fundamental and emerging web trends.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 345. Intermediate Electronic Media Production. 3 Credit Hours.

Planning and execution of complex field, studio, and multimedia production in a variety of lengths and formats. High level skills in television control room situations and non-linear editing will be used to produce audio, video, and online content.

Prerequisite: JMM 245.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 361. Advanced Documentary Photography. 3 Credit Hours.

Advanced Documentary Photography is a class designed to improve the visual storytelling news gathering, and photographic technical skills introduced in the introductory course.

Prerequisite: JMM 221.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 381. Newspaper Editing and Layout. 3 Credit Hours.

Introduction to electronic editing and development of skills in copy editing, headline writing, picture editing, and newspaper layout.

Prerequisite: JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 382. Publication Planning and Editing. 3 Credit Hours.

Introduction to editing and design, with emphasis on the development of skills in editing copy and photos, writing headlines, news judgment and designing print publications and websites.

Prerequisites: JMM 216 or JMM 208, JMM 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 401. Editorial Interpretation of Contemporary Events. 3 Credit Hours.

Critical examination of fundamental issues in public life. Preparation of editorials and interpretive articles for mass media are included.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 402. Strategic Media Management. 3 Credit Hours.

This course focuses on strategy analysis, formulation, implementation, and evaluation in managing media enterprises. Media cases are used to apply and discuss strategies.

Prerequisites: JMM 403 or JMM 435. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 403. Media Economics. 3 Credit Hours.

Economic concepts, practices, and issues as they relate to the mass media industry.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 406. Special Topics In Journalism And Media Management III. 3 Credit Hours.

This course subject matter varies according to announced special topics. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 407. Media Entrepreneurship. 3 Credit Hours.

Students generate comprehensive business plans for a proposed media enterprise. Organizational, financial, and marketing aspects of starting a media business are discussed.

Requisite: Senior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 408. International Electronic Media Systems. 3 Credit Hours.

Seminar on world broadcasting systems and trans-national communication services. Discussion of contemporary issues involving electronic media systems worldwide.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 409. Advanced Feature Design. 3 Credit Hours.

Advanced newspaper, magazine, and electronic design. Students will develop the skills necessary to produce strong visual packages combining type, photography, artwork, and white space. The course will cover advanced design and traditional reproduction techniques for art and copywriting as well as on-line presentations.

Prerequisites: JMM 106 or STC 202, STC 203.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 414. Evolution and Impact of Television Content: The American Sitcom. 3 Credit Hours.

The seminar will examine how social, economic and political factors impacted the development and evolution of the content of sitcoms, as well as the impact such content had on American society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 417. Advanced Broadcast Journalism. 3 Credit Hours.

This capstone course concentrates on gathering and preparing news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural TV elements, writing, producing and performing for on-air presentation. Lecture and laboratory are included.

Prerequisites: JMM 245, JMM 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 419. Interactive Storytelling. 3 Credit Hours.

This course explores how storytelling is reinventing itself utilizing the new digital communication tools available. It will cover linear and non-linear storytelling techniques and production processes.

Prerequisites: JMM 106, JMM 245, JMM 341. Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 422. Programming For Interactivity. 3 Credit Hours.

This course is a multimedia class that will teach the fundamental programming skills required to create compelling online multimedia stories. Programming taught in this class caters specifically for non-programmers who want to learn how to present their work online in an interactive manner.

Prerequisite: JMM 341.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 427. Television Newscast. 3 Credit Hours.

Studio anchoring, newscast producing, and field reporting for news and public affairs programming.

Prerequisite: JMM 417.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 434. Media Distribution for Film and Television. 3 Credit Hours.

This course covers the various aspects of the distribution process for films and television programs through conventional and emerging channels.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 435. Media Technology. 3 Credit Hours.

This course examines the deployment, use, and impact of communication technologies in various media contexts from an economic, regulatory, and social perspective.

Prerequisite: JMM 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 442. Online Journalism. 3 Credit Hours.

A study of the issues, skills and practices related to the online presentation of news and information in a convergent media environment.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 444. Public Affairs Reporting. 3 Credit Hours.

Emphasis on reporting, writing and analysis about institutions, issues and actions of local government, and their effects on society.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 445. Advanced Electronic Media Production. 3 Credit Hours.

The integration of the producer's role and the structure of program design as they relate to day-to-day production operations. Lecture and laboratory are included.

Prerequisite: JMM 345.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 446. Travel Writing. 3 Credit Hours.

A study of the major types and styles of travel news and features stories for newspapers, magazines, newsletters, and websites.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 447. In-depth Journalism and Media Convergence. 3 Credit Hours.

A capstone experience that requires students to use effectively their full range of journalistic knowledge, newsgathering, and writing skills to prepare news and information for different media platforms.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 461. Seminar in News Ethics and Problems. 3 Credit Hours.

Ethical, practical, and professional problems of news communicators in society.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 495. Internship In Journalism And Media Management. 1-3 Credit Hours.

Prescribed study and supervised work with professionals in Journalism and Media Management.

Requisite: Sophomore Status, cumulative GPA of 2.5, and Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 499. Projects and Directed Research. 1-3 Credit Hours.

Individual study. No more than three credits may be counted toward a Communication major or minor.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 510. Comparative Media Systems. 3 Credit Hours.

This course deals with issues in international news gathering and distribution, giving special attention to Latin America and the Caribbean. The class takes a comparative approach, looking at media systems in the United States and other nations.

Requisite: Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 511. Global Media. 3 Credit Hours.

An analysis of issues and practices surrounding globalization, regionalization, and global/local as they relate to media industries, journalism, and communication.

Requisite: Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 513. Computer-Assisted Reporting. 3 Credit Hours.

Use of computer applications for newsgathering with emphasis on the World Wide Web, commercial online services, and database tools.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 515. Reporting and the Internet. 3 Credit Hours.

Overview of uses of online computer services for newsgathering and distribution with emphasis on the Internet.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 517. Television News Reporting. 3 Credit Hours.

Gathering and preparation of news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural elements, writing, producing and performing for on-air presentation.

Prerequisites: JMM 245, JMM 317.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 521. Seminar in Visual Storytelling. 3 Credit Hours.

An advanced seminar class designed to enhance the knowledge and practice of the visual storytelling narrative. This seminar stresses the importance of converging media, still images, video, and sound. Particular emphasis will be placed upon the creation of a multimedia portfolio.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 522. Advance Infographics And Data Visualization. 3 Credit Hours.

This course is an introduction to the visual display of information in digital and interactive media, with a special focus on the encoding of data by means of statistical charts, maps, and diagrams.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 523. Sports Reporting. 3 Credit Hours.

An analysis of sports journalism that will develop students' skills in sports reporting and sports writing. Discussions range across the entire field of sports reporting, including broadcasting, but the greatest emphasis is concentrated on sports reporting and writing for newspapers and magazines.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 527. Television News Producing. 3 Credit Hours.

Studio anchoring, newscast producing and field reporting for news and public affairs programming. Live field reporting and field and studio interviewing techniques are covered.

Prerequisites: JMM 417 or JMM 517.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 531. Database Journalism. 3 Credit Hours.

This course teaches data analysis and interactive deployment of data of the World Wide Web and other digital platforms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 533. Social Media For Journalists. 3 Credit Hours.

Examination of best practices for use of social media for gathering, disseminating, and promoting information.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 537. The Business Of Modern Journalism. 3 Credit Hours.

Provides an examination of the evolving business models for legacy news organizations as well as discussion of entrepreneurial opportunities for news content in new media and digital platforms.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 541. Advanced Audio Video Narratives. 3 Credit Hours.

This course examines uses of audio and video to communicate journalism. Students learn to investigate, gather content, and produce documentary stories primarily for online distribution.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 544. Feature Writing. 3 Credit Hours.

Analyzing and writing feature articles for magazines, newspapers, and other news media.

Prerequisites: JMM 216 or JMM 208.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 547. Magazine Planning. 3 Credit Hours.

This course is a magazine planning class where students will create a 32-page print/digital cross-platform niche publication from scratch. It will be based on a business model creating a design and content for a specific audience.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 550. 3D Design and Graphics. 3 Credit Hours.

This course focuses on the use of 3D Design software for communication and how to integrate with other print and digital technologies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 551. Advanced Programming. 3 Credit Hours.

This course explores the role of the programmer as journalist. Students will perform the basic tasks of journalism from a programmatic perspective including: gathering, distilling and presenting information. Students will learn how to gather information from public databases and government websites. They will learn how to automate processes for filtering information and learn how to present this information in a visual and interactive news report. Students will also learn how to combine multiple sources of information, to personalize information for the end reader, and account for the relevant permutations of the data. Students will learn to build and query databases as well as mine and visually present the information using programming languages such as PHP and Python. Rapid development frameworks such as Django, Zendand, Symfony will also be covered in the class.

Components: LEC.

Grading: SUS.

Typically Offered: Summer.

JMM 560. Team Multimedia Project. 1-3 Credit Hours.

Students will work in a team to produce a documentary multimedia project in conjunction with one or more partner universities. Students will study the genre of documentary multimedia storytelling, research their assigned topic(s), content-gather, edit, wireframe, design and program the project and produce it on multiple platforms depending on the topic and intended audience. Students will use audio, photographic, video, infographic and text reporting tools in producing the project. They will also study methodologies for evaluating multimedia and beta test the site using established research methodologies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JMM 592. Special Topics In Journalism And Media Management. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Requisite: Junior, Senior, and Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 599. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. Course may be repeated to a maximum of six credits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 601. Editorial Interpretation of Contemporary Events. 3 Credit Hours.

Critical examination of fundamental issues in public life. Preparation of editorials and interpretive articles for mass media are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 605. News Technologies.. 3 Credit Hours.

This course emphasizes how television, digital, and multimedia technologies contribute to the storytelling process. Understanding of production theories and news processes will be gained through hands on work with television and multimedia projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 606. Multimedia Design. 3 Credit Hours.

This is a project-based course in multimedia design, with emphasis on visual concepts and graphics development. Students will be learning about the various software packages to design and integrate interaction into their projects. Topics covered include preparing existing content for multimedia journalism, animation, layout for interactive media, typography, photography and usability.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 607. Broadcast Journalism. 3 Credit Hours.

Advanced instruction in techniques of news writing and field reporting, including conducting research for stories, preparing complete field packages for newscasts, filing live remotes, and conducting interviews.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 608. Long-Form Public Affairs Programming. 3 Credit Hours.

Development and production of longer form news, information magazine, and documentary style programming.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JMM 609. Internship In Journalism And Media Management. 1-3 Credit Hours.

Prescribed study and supervised work with professionals in newspapers, magazines, web sites or related news media.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 610. Comparative Media Systems. 3 Credit Hours.

This course deals with issues in international news gathering and distribution, giving special attention to Latin America and the Caribbean. The class takes a comparative approach, looking at media systems in the United States and other nations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 611. Newswriting and Reporting Seminar. 3 Credit Hours.

Development of newswriting and reporting skills for news media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 612. History of Journalism Seminar. 3 Credit Hours.

The development and impact of journalism in America traced through industry leaders and events.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 613. Computer-Assisted Reporting. 3 Credit Hours.

Use of computer applications for newsgathering with emphasis on the World Wide Web, commercial online services, and database tools.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 614. Media Law and Ethics Seminar. 3 Credit Hours.

A survey of legal and ethical issues concerning First Amendment theories and practices regarding defamation, privacy, freedom of information, free press vs. fair trial, reporter privilege, access to media, intellectual property, obscenity, broadcasting, and new media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 615. Writing and Reporting Across Platforms. 3 Credit Hours.

An introduction to professional operating practices in multimedia journalism with emphasis on news writing and news production skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 617. Television News Reporting. 3 Credit Hours.

Gathering and preparation of news stories for presentation in news programs. Includes field reporting, editing, preparation of visual and aural elements, writing, producing and performing for on-air presentation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 618. International Journalism. 3 Credit Hours.

News gathering, transmission, and distribution outside the United States, with emphasis on Latin America.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 619. Interactive Storytelling. 3 Credit Hours.

Digitization allows us to merge several forms of media that were not connected in the past. This course is intended as an exploration of how storytelling is re-inventing itself utilizing the new digital communication tools available to us today. This course will cover linear and non-linear storytelling techniques and production processes.

Prerequisites: JMM 628, JMM 622, JMM 630, CIM 690. Or Requisite:

Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 620. Reporting and the Internet. 3 Credit Hours.

Overview of uses of online computer services for newsgathering and distribution with emphasis on the Internet.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 621. Global Media. 3 Credit Hours.

An analysis of issues and practices surrounding globalization, regionalization, and global/local as they relate to media industries, journalism, and communication.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 622. Infographics And Data Visualization. 3 Credit Hours.

This course is an introduction to the visual display of information in digital and interactive media, with a special focus on the encoding of data by means of statistical charts, maps, and diagrams.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

JMM 623. Sports Reporting. 3 Credit Hours.

An analysis of sports journalism that will develop students' skills in sports reporting and sports writing. Discussions range across the entire field of sports reporting, including broadcasting, but the greatest emphasis is concentrated on sports reporting and writing for newspapers and magazines.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 624. Seminar in Editing and Design for Print and Websites. 3 Credit Hours.

Theory and practice in news media copy editing, layout, and design.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 625. Advanced Newsgathering and Writing Seminar. 3 Credit Hours.

Refining news writing and reporting skills for the media.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 626. Specialized Writing and Reporting Seminar. 3 Credit Hours.

Techniques in writing and reporting about specialized and complex subjects for news media.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 627. Television News Producing. 3 Credit Hours.

Studio anchoring, newscast producing and field reporting for news and public affairs programming. Live field reporting and field and studio interviewing techniques are covered.

Components: LAB.

Grading: GRD.

JMM 628. Seminar in Visual Storytelling. 3 Credit Hours.

An advanced seminar class designed to enhance the knowledge and practice of the visual storytelling narrative. This seminar stresses the importance of converging media, still images, video, and sound. Particular emphasis will be placed upon the creation of a multimedia portfolio.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

JMM 630. Programming for Interactivity. 3 Credit Hours.

This course is a multimedia class that will teach the fundamental programming skills required to create compelling online multimedia stories.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 631. Database Journalism. 3 Credit Hours.

This course teaches data analysis and interactive deployment of data of the World Wide Web and other digital platforms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 633. Social Media. 3 Credit Hours.

Examination of best practices for use of social media for gathering, disseminating and promoting news.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 634. Media Distribution. 3 Credit Hours.

This course covers the various aspects of the distribution process for films and television programs through conventional and emerging channels.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 635. The Broadcasting, Cable, and Electronic Media Industry. 3 Credit Hours.

Examination of broadcasting, cable, and related electronic media from a business perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 637. The Business Of Modern Journalism. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JMM 641. Advanced Audio Video Narratives. 3 Credit Hours.

This course examines uses of audio and video to communicate journalism. Students learn to investigate, gather content, and produce documentary stories primarily for online distribution.

Prerequisite: JMM 628. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 644. Feature Writing. 3 Credit Hours.

Analyzing and writing feature articles for magazines, newspapers, and other news media.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 646. Travel Writing. 3 Credit Hours.

A study of the major types and styles of travel news and features stories for newspapers, magazines, newsletters, and websites.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 647. Magazine Planning. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 649. Team Multimedia Project. 1-3 Credit Hours.

Students will work in a team to produce a documentary multimedia project in conjunction with one or more partner universities. Students will study the genre of documentary multimedia storytelling, research their assigned topic(s), content-gather, edit, wireframe, design and program the project and produce it on multiple platforms depending on the topic and intended audience. Students will use audio, photographic, video, infographic and text reporting tools in producing the project. They will also study methodologies for evaluating multimedia and beta test the site using established research methodologies.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JMM 650. 3D Design and Graphics. 3 Credit Hours.

This course focuses on the use of 3D Design software for communication and how to integrate with other print and digital technologies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JMM 651. Advanced Programming. 3 Credit Hours.

This course explores the role of the programmer as journalist. Students will perform the basic tasks of journalism from a programmatic perspective including: gathering, distilling and presenting information. Students will learn how to gather information from public databases and government websites. They will learn how to automate processes for filtering information and learn how to present this information in a visual and interactive news report. Students will also learn how to combine multiple sources of information, to personalize information for the end reader, and account for the relevant permutations of the data. Students will learn to build and query databases as well as mine and visually present the information using programming languages such as PHP and Python. Rapid development frameworks such as Django, Zend and Symfony will also be covered in the class.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

JMM 653. Practicum In Producing News. 1-3 Credit Hours.

The mechanics of planning and executing professional style newscasts and/or long-form television news program.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 654. Writing for Publication. 1-3 Credit Hours.

This course focuses on writing principles and practices of the news media. It is designed to give the student exposure and practical experience in writing for the print media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 655. Media Technology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 692. Special Topics In Journalism And Media Management. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 695. Special Topics in Journalism. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: IND.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JMM 696. Special Topics in Visual Journalism. 1-6 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JMM 699. Advanced Projects and Directed Research. 1-6 Credit Hours.

Individual study. Course may be repeated to a maximum of six credits.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 715. Multimedia Project. 1-6 Credit Hours.

Students, in consultation with program faculty, will complete a final project that reflects in-depth knowledge and analysis of a subject and professional competence in multimedia storytelling. Course may be repeated to a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

JMM 725. Journalism Internship. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Judaic Studies (JUS)

JUS 200. Isreal Origins Culture and Society. 3 Credit Hours.

This course will review the emergence of modern Israel from the inception of Zionism to the present. It will include the structure of the old and new Yishuv, immigrations to Eretz Yisrael, British rule in Palestine, relationships with the great powers, sociological associations and cleavages, Israel-Diaspora relations, American Jewry and Israel, and religion and state.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

JUS 205. Icheic Service Corps Internship. 3 Credit Hours.

Interns will gain meaningful experiences that will offer them an opportunity to become involved in service-oriented activities that give them a deep insight and unique understanding of the historical significance of the Holocaust while providing valuable services to the survivors of Nazi atrocities.

Components: DIS.

Grading: CNC.

Typically Offered: Fall.

JUS 206. ICHEIC Service Corps Internship. 3 Credit Hours.

Interns will gain meaningful experiences that will offer them an opportunity to become involved in service-oriented activities that give them a deep insight and unique understanding of the historical significance of the Holocaust while providing valuable services to the survivors of Nazi atrocities.

Components: SEM.

Grading: CNC.

Typically Offered: Spring.

JUS 231. Jewish Civilization: Society, Culture, and Religion. 3 Credit Hours.

Introduction to Jewish civilization from Abraham to present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 250. The Holocaust Through Film, Memoir and Testimony. 3 Credit Hours.

The purpose of the course is to introduce students to the history of the Holocaust through classroom dialogue, film, and literature analysis. Involving students in major ethical and moral issues raised in the study of the Holocaust by encouraging students to think critically, explore choices, and make decisions based on a code of conduct that reflects a commitment to humanity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 301. Studies In Judaica. 3 Credit Hours.

Special topics offering at the 300-level for students pursuing a major/minor in Judaic Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 314. The Rise of Judaism. 3 Credit Hours.

The history and literature of early Judaism, covering the period from the fall of Jerusalem in 587/586 BCE to the beginnings of rabbinic Judaism and the formation of the Mishnah (ca.200 CE).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JUS 324. The History of Zionism. 3 Credit Hours.

The religious, cultural, historical, political and social underpinnings of the development of Zionism that fed to the creation of the State of Israel. Through readings, analysis of speeches and essays, exploration of films and the internet, the class will move through time from the origins of the Zionist idea to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 325. Israel: The Making of a State. 3 Credit Hours.

An introduction to the creation of the State of Israel in its historical context, emphasizing the period of 1935-55: the struggle for Israel's establishment, the making of the state and the early challenges Israel faced. The class will use documents, texts, testimony, poetry, music and film.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 338. History of the Holocaust. 3 Credit Hours.

Focus on the roots, events and results of the Nazis nearly successful annihilation of Jewish men, women, and children living under the Swastika. We will study Hitler's political aims, his Aryan superiority mythology, his domestic and foreign policies, and his conquests. We will also investigate how Germans, admired for their culture, became instruments of mass murder. Also included in this survey are the heroism of Jewish resisters and gentile rescuers who stood in direct opposition to the silence of the Christian churches and inactivity of the nearly all nations in the face of the Jewish disaster.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

JUS 352. Panoramic View of the Middle East. 3 Credit Hours.

The course is designed to provide a comprehensive introduction to the Middle East and a basic understanding of factors, forces, and processes shaping developments in the modern and contemporary history of this important world region.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JUS 360. Hollywood and Popular Culture: The American Jewish Experience. 3 Credit Hours.

The image of the Jew and the Jewish experience in American Cinema. Prerequisite: JUS 231 or HIS 102.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 375. Religion and Democracy in Israel. 3 Credit Hours.

Israel's evolution as a nation and a society by focusing on how religion impacts ethnicity, culture, and democracy.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 380. Archeology of Palestine. 3 Credit Hours.

Survey of the major archaeological excavations and surveys of Palestine, how this is used to interpret biblical narrative and give context to the emergence of Judaism and Christianity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

JUS 401. Studies in Judaica. 1-3 Credit Hours.

Designed to enable students interested in some phase of Judaic Studies to study extensively in that field of interest.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 410. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 411. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

JUS 421. Internship in Judaic Studies. 1-3 Credit Hours.

Prescribed study and supervised work with practitioners in Judaic services.

Components: DIS.

Grading: CNC.

Typically Offered: Fall & Spring.

JUS 498. Senior Thesis. 3 Credit Hours.

Partial requirement for Departmental Honors in Judaic Studies. Thesis to be a documented essay in any area of Judaic Studies written under the direction of a member of the faculty.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

JUS 499. Senior Thesis. 3 Credit Hours.

Partial requirement for Departmental Honors in Judaic Studies. Thesis to be a documented essay in any area of Judaic Studies written under the direction of a member of the faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Keyboard Performance (MKP)

MKP 0R1. Organ. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique and Pedal Technique. Repertoire: Gleason, Method of Organ Playing: Compositions for Manuals, Studies and Compositions for Manuals and Pedal; selected chorale preludes and smaller-scale preludes and fugues by Bach, Buxtehude, Brahms, and others; basics of hymn playing.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 0R3. Organ. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Pedal Scales, Broken Chords, Advanced Exercises. Repertoire: Selected compositions by Bach and representative Baroque, Classical, Romantic, and Modern composers. Hymn playing and organ accompanying techniques.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 0R5. Organ. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 0R6. Organ. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 0R7. Organ. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 111. Non-Major Class Piano I. 1 Credit Hour.

This course is designed for the adult beginner who has an interest in playing keyboard instruments for pleasure. Students with no previous musical or keyboard experience learn the fundamentals of music theory and apply them to playing the keyboard at the beginning level.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 112. Non-Major Class Piano II. 1 Credit Hour.

Designed for the adult beginner who has an interest in playing keyboard instruments for pleasure, this course builds on the concepts introduced in MKP 111. Students continue to learn the fundamentals of music theory and apply them to playing the keyboard.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 140. Keyboard Studies I. 1 Credit Hour.

Major and minor five finger patterns, beginning repertoire, major scales and arpeggios, basic chord progressions, for types of triads, dominant seventh chords, beginning sight reading, harmonization, transposition, and improvisation skills.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MKP 141. Keyboard Studies II. 1 Credit Hour.

Minor scales and arpeggios, modal scales, five types of seventh chords and inversions, and more extensive chord progressions. Study of repertoire and the development of sight-reading, harmonization, transposition, and improvisation skills are continued.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MKP 185. Musical Theatre Accompanying. 1 Credit Hour.

A class designed to improve the skills of pianists with a particular interest in musical theatre piano accompaniment. Students will study in a classroom setting.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 186. Vocal Accompanying I. 1 Credit Hour.

Pianists will attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 187. Vocal Accompanying II. 1 Credit Hour.

Pianists attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 189. Accompanying, Level I. 1 Credit Hour.

Development of sightreading skills and score preparation.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 190. Accompanying, Level II. 1 Credit Hour.

Progressive development of individual vocal/instrumental and ensemble accompanying, sightreading, score reading, and improvising from a lead sheet.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 191. Accompanying, Level III. 1 Credit Hour.

Progressive development of all types of accompaniment skills including; clef and score reading, transposition; possible recital, opera theater, choral ensemble, and/or orchestral accompanying.

Prerequisite: MKP 190.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 220. Computers, Keyboards, And Music. 2 Credit Hours.

An introduction to basic computing skills for the musician that explores computers, keyboards, and other MIDI- (Musical Instrument Digital Interface) related instruments as tools for the musician. Topics include electronic keyboards, computer hardware and software, MIDI sequencing, computer-assisted musical notation, and teaching strategies using new technologies. Students gain hands-on experience while completing projects in each of the above areas.

Prerequisite: MKP 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 240. Keyboard Studies III. 2 Credit Hours.

Dominant seventh arpeggios, secondary dominants, and work more extensively with chord progressions. Students also learn Theme and Variation form, Sonata form, and characteristics of the musical style periods. Study of repertoire and the development of sight-reading, harmonization, and the improvisation skills are continued. Transposition of instrumental music to concert pitch, and beginning choral and instrumental score reading are introduced. Students will continue playing major and minor scales at an increased level of difficulty.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MKP 241. Keyboard Studies IV. 2 Credit Hours.

Diminished seventh arpeggios, augmented, and Neapolitan sixth chords, Three-Part Rondo forms, extended chord structures, and a variety of chord Progressions that modulate. Study of repertoire and the development of sight-reading, harmonization, transposition, and improvisation skills are continued. Choral and instrumental score reading, modal scales, and major and minor scales are performed at an increased level of difficulty.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MKP 399. Junior Recital. 1 Credit Hour.

A public recital of one half-hour or more. Course is required of all performance majors.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 493. Special Projects In Keyboard Performance. 1-3 Credit Hours.

Supervised readings and other activities in specific areas of Keyboard Performance.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 494. Special Topics In Keyboard Performance. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

MKP 499. Senior Recital. 1 Credit Hour.

A public recital of one hour or more. Course is required of all performance majors.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 547. Keyboard Pedagogy. 3 Credit Hours.

Methods and materials for teaching keyboard instruments with a focus on private lesson instruction. Topics include teacher profile, general teaching considerations, the business of teaching, the beginning student, second- and third-year students, teaching materials, and an introduction to new technology in piano teaching.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 548. Intermediate to Advanced Repertoire. 3 Credit Hours.

A class dedicated to a survey and discussion of a wide range of teaching materials including teaching exercises, etudes, and performance literature?both well known and under appreciated. Topics include reference literature and web resources, piece assigning considerations and leveling, and detailed discussion of selected materials with specific teaching and remedial strategies. Annotated bibliography with MIDI-file attachments of incipits to be submitted at the end of the semester for a grade.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKP 549. Keyboard Pedagogy II:Keyboard Pedagogy Diagnostics. 3 Credit Hours.

1st class of each week: round-table discussion of private teaching strategies using video taped performance excerpts of students at various levels. 2nd class of each week: a focus on a wide range of teaching repertoire covering intermediate to advanced levels with an emphasis on problem prevention and solving.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 550. Keyboard Pedagogy III: Pracice Strategies. 3 Credit Hours.

Focus on practice strategy at the keyboard using Philip Johnston's Practice Revolution as a springboard for discussion. Topics also include recent findings and leading researchers in cognitive neuroscience and "brain-based learning," as well as resources available for musician wellness and injury prevention.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 589. Keyboard Accompanying Program in Salzburg, Austria. 0 Credit Hours.

Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive coaching in piano and accompanying from Dr. Posnak and other internationally acclaimed guest artists. Piano students study piano (2 cr.) and accompanying (1 cr.).

Requisite: Frost School of Music.

Components: LEC.

Grading: AUD.

Typically Offered: Spring.

MKP 593. Special Projects In Keyboard Performance. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Keyboard Performance.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 594. Special Topics In Music Theory Or Composition. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 6. Piano Forum. 0 Credit Hours.

A non-credit performance class for all piano majors and principals.

Majors are required to perform once each semester with the approval of the applied teacher .

Requisite: Frost School of Music.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 612. Seminar in Romantic Performance. 1 Credit Hour.

This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work. Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 647. Keyboard Pedagogy. 3 Credit Hours.

Methods and materials for teaching keyboard instruments with a focus on private lesson instruction. Topics include teacher profile, general teaching considerations, the business of teaching, the beginning student, second- and third-year students, teaching materials, and an introduction to new technology in piano teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 648. Intermediate to Advanced Repertoire. 3 Credit Hours.

A class dedicated to a survey and discussion of a wide range of teaching materials including teaching exercises, etudes, and performance literature both well known and under appreciated. Topics include reference literature and web resources, piece assigning considerations and leveling, and detailed discussion of selected materials with specific teaching and remedial strategies. Annotated bibliography with MIDI-file attachments of incipits to be submitted at the end of the semester for a grade.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKP 649. Keyboard Pedagogy II: Keyboard Pedagogy Diagnostics. 3 Credit Hours.

1st class of each week: round-table discussion of private teaching strategies using video taped performance excerpts of students at various levels. 2nd class of each week: a focus on a wide range of teaching repertoire covering intermediate to advanced levels with an emphasis on problem prevention and solvin

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 650. Keyboard Pedagogy III: Pracice Strategies. 3 Credit Hours.

Focus on practice strategy at the keyboard using Philip Johnston's Practice Revolution as a springboard for discussion. Topics also include recent findings and leading researchers in cognitive neuroscience and "brain-based learning," as well as resources available for musician wellness and injury prevention.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 689. Keyboard Accompanying Program in Salzburg, Austria. 0 Credit Hours.

Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive coaching in piano and accompanying from Dr. Posnak and other internationally acclaimed guest artists. Piano students study piano (2 cr.) and accompanying (1 cr.).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKP 693. Special Projects In Keyboard Performance. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Keyboard Performance

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 694. Special Topics In Music Theory Or Composition. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 710. Seminar in Baroque Performance. 1 Credit Hour.

This course is designed as a performance class for graduate DMA piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work. Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MKP 711. Seminar in Classical Performance. 1 Credit Hour.

This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work. Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKP 712. Seminar in Romantic Performance. 1 Credit Hour.

This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 713. Seminar in Contemporary Music. 1 Credit Hour.

This course is designed as a performance class for graduate piano majors. Class members will be responsible for presentation of major compositions representative of the period. Research will be required for each presentation concentrating on interpretation, stylistic requirements of the period and the historical context of the composers and work. Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MKP 747. Seminar in Keyboard Pedagogy. 3 Credit Hours.

Focus on college-level teaching and professional development for a pianist. Topics include group piano teaching materials and strategies, syllabi and exam-objective rubric creation, pedagogy curriculum building, pedagogy text survey, administrative duties overview, preparation for the job market including job search and interview process, and C. V. building avenues such as publication, workshop/lecture presentation, editing teaching repertoire, and training in music technology. Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKP 750. Keyboard Pedagogy Research Seminar. 1 Credit Hour.

Research, reading and writing in keyboard pedagogy on topics either historical or current. An in-depth research or project on a topic as approved by KPED faculty culminates in a written paper with annotated bibliography. Course may be repeated for credit.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 780. Keyboard Pedagogy Internship. 1 Credit Hour.

The student team-teaches a piano class or a private student with an instructor. The Program Director observes and critiques the student, and the student videotapes lessons and offers critiques of their own teaching following a guideline.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 785. Musical Theatre Accompanying. 1 Credit Hour.

A class designed to improve the skills of pianists with a particular interest in musical theatre piano accompaniment. Students will study in a classroom setting.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 786. Vocal Accompanying I. 1 Credit Hour.

Pianists attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

MKP 787. Vocal Accompanying II. 1 Credit Hour.

Pianists attend seminars where the principles of accompanying classical and musical theatre singers are addressed. Students are assigned to accompany applied voice lessons and ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 788. Graduate Seminar in Accompanying. 1 Credit Hour.

Study and performance of major vocal and chamber music literature as related to the accompanist and chamber musician. Course may be repeated for credit.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 789. Accompanying, Level I. 1 Credit Hour.

Development of sightreading skills and score preparation.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 790. Accompanying, Level II. 1 Credit Hour.

Progressive development of individual vocal/instrumental and ensemble accompanying, sightreading, score reading, and improvising from a lead sheet.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 791. Accompanying, Level III. 1 Credit Hour.

Progressive development of all types of accompaniment skills including clef and score reading, transposition, possible recital, opera theater, choral ensemble, and/or orchestral accompanying.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP 793. Special Projects In Keyboard Performance. 1-3 Credit Hours.

Projects in any phase of keyboard performance in which the student is interested and qualified to work.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 794. Special Topics In Keyboard Performance. 1-3 Credit Hours.

Projects in any phase of keyboard performance in which the student is interested and qualified to work.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP 811. Master's Recital Paper. 1-3 Credit Hours.

The student working on his/her master's recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MKP 812. Master's Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the master's recital.

Requisite: Frost School of Music.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MKP 813. Master's Pedagogy Project. 1-3 Credit Hours.

The student working on his/her master's pedagogy project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MKP 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MKP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MKP 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MKP 731 may be taken in a regular semester, nor more than six in a summer session.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MKP 832. Doctoral Recital. 1-2 Credit Hours.

Required of all candidates for the D.M.A.

Requisite: Frost School of Music.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MKP 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MKP HC1. Harpsichord. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HC3. Harpsichord. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HC5. Harpsichord. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HC6. Harpsichord. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HC7. Harpsichord. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCB. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCC. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCD. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCF. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCG. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCH. Harpsichord. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCK. Harpsichord. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP HCL. Harpsichord. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCN. Harpsichord. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCO. Harpsichord. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCP. Harpsichord. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCQ. Harpsichord. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP HCR. Harpsichord. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORB. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique and Pedal

Technique. Repertoire: Gleason, Method of Organ Playing: Compositions for Manuals, Studies and Compositions for Manuals and Pedal; selected chorale preludes and smaller-scale preludes and fugues by Bach, Buxtehude, Brahms, and others; basics of hymn playing.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORC. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique, Pedal Exercises and Scales. Repertoire: Gleason, Method of Organ Playing: selected Compositions for Manuals and Pedals; intermediate-level works by Bach, Mendelssohn, Franck, and others; Additional hymn playing techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORD. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Manual Technique, Pedal Exercises and Scales. Repertoire: Gleason, Method of Organ Playing: selected Compositions for Manuals and Pedals; intermediate-level works by Bach, Mendelssohn, Franck, and others; Additional hymn playing techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORF. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Gleason, Method of Organ Playing: selected exercises from Pedal Scales, Broken Chords, Advanced Exercises. Repertoire: Selected compositions by Bach and

representative Baroque, Classical, Romantic, and Modern composers. Hymn playing and organ accompanying techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORG. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Nilson, *A System of Technical Studies in Pedal Playing for the Organ*; selected exercises.

Repertoire: Selected works by composers from all style periods, with an emphasis on the French Romantic and Modern French schools.

Advanced service-playing techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORH. Organ. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Nilson, *A System of Technical Studies in Pedal Playing for the Organ*; selected exercises.

Repertoire: Selected works by composers from all style periods, with an emphasis on the French Romantic and Modern French schools.

Advanced service-playing techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORK. Organ. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP ORL. Organ. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORN. Organ. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORO. Organ. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORP. Organ. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORQ. Organ. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP ORR. Organ. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI1. Piano. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI3. Piano. 2 Credit Hours.

1-hour lesson for students enrolled for 2-credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Junior Recital as required. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI5. Piano. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI6. Piano. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PI7. Piano. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIB. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIC. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PID. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: To show a comprehensive foundation in basic/advanced keyboard skills. Repertoire:

Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIF. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Junior Recital as required. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIG. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Senior Recital as required. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIH. Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Complete Senior Recital as required. Repertoire: Appropriate repertoire as required.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIK. Piano. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKP PIL. Piano. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIN. Piano. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIO. Piano. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIP. Piano. 1-4 Credit Hours.

xPrerequisite: Doctoral level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MKP PIQ. Piano. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

MKP PIR. Piano. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

Kinesiology (KIN)

KIN 100. Leadership, Management, and Ethics in Sports. 3 Credit Hours.

Students will gain an understanding of skills and philosophies of leadership, management, and ethic necessary for a position in the sport industry.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 105. Introduction to Athletic Training and Sports Medicine. 3 Credit Hours.

In this practical, hands-on course, the students will learn to identify basic sport injuries that afflict the major joints of the body, and review basic methods to treat these injuries. The student will also learn how nutrition, improper biomechanics, and poor training can all impact sport performance. Plus, participants will be given the opportunity to learn and practice techniques or procedures (such as athletic taping or bracing) that may be useful in minimizing the incidence of injury.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 110. Explorations in Sports Medicine. 3 Credit Hours.

This class will consist of an introduction to the field of Sports Medicine and Exercise Science. Basic information relevant to appropriate exercise prescription, proper nutritional habits, implications on health, longevity and performance will be addressed. Hands-on practical experiences will supplement theoretical concepts learned in the classroom setting.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 137. Introduction To The Theory, Application, And Practice Of Yoga. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 140. Introduction to Athletic Training. 2 Credit Hours.

The application of athletic training practices in selected clinical education settings. The student must complete 150 hours of documented clinical educational hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize emergency procedures, first aid, and protective equipment. Successful completion of the retention process and formal admittance into the clinical portion of the Athletic Training Program.

Corequisite: KIN 141. Prerequisite: Athletic Training, Pre-Athletic Training, and Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 141. Introduction to Athletic Training Lab. 1 Credit Hour.

Introduction to clinical athletic training for the first year athletic training major. Hands on experience for the entry level athletic training student. Students will be required to complete a competencies check list with a passing grade. Clinical hours in the athletic training room will give the student the opportunity to use the knowledge, skills, and techniques learned in this course. The student must complete 70 clinical hours which are required for the application process to the Athletic Training Education Program. Student must be additionally enrolled in ESS 140. Fee \$65.00 required for Lab.

Corequisite: KIN 140. Prerequisite: ATHT, PAT Majors only and a Sophomore Status.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 145. Responding to Emergencies. 2 Credit Hours.

Students will become familiar with accident, injury, and illness situations, techniques for immediate first aid, and legal parameters involved when administering emergency care. Certification in adult CPR will be obtained. A \$40 lab fee will be required for this class.

Prerequisite: ATHT Majors only and Sophomore Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 150. General Nutrition for Health and Performance. 3 Credit Hours.

Fundamentals and theories of nutrition with a specific focus on nutrition for both sports and fitness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 155. Biological Bases for Physical Activity and Health. 3 Credit Hours.

This course serves as an introduction to the field of exercise physiology. Students will learn the biological need for physical activity, discuss specific mechanisms on how physical activity reduces disease risk and understand the relationship between physical activity and chronic diseases such as coronary heart disease, obesity, diabetes, cancer, aging and mental health.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 184. Athletic and Sport Injuries. 3 Credit Hours.

Athletic injuries in sports that occur over the principal joints in the body and the inclusion of anatomical structures that are frequently damaged. Operational treatments and rehabilitation program after surgery.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 200. Survey of Sports Administration. 3 Credit Hours.

Students will examine the employment opportunities and skills needed in professional, collegiate, and amateur sports as well as the health and fitness industry.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 201. Introduction to Sport Administration. 3 Credit Hours.

Basic overview of the fields of sport management. Majors must receive a grade of B- or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 202. Applied Nutrition for Health and Performance. 3 Credit Hours.

The study of nutrition, diet analysis, biochemical processes in energy metabolism, nutrition and health problems, and nutrition as it relates to physical performance. The class will have 3 sections: 1) nutritional links to chronic disease; 2) nutrition before, during and after exercise bout; and 3) nutritional supplements for health and performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 203. Introduction to Gaming and Casino Management. 3 Credit Hours.

The course will focus on the management of gaming and casino operations. Gambling has emerged as a major segment of the sport industry, comprising 10% of sport expenditures and injecting over \$20B annually into the economy. Students will be exposed to the managerial requirements and organizational structures of various gaming operations. They will also learn about the history of the gaming industry and its impact on the South Florida and the Caribbean economy. The course will provide an introductory level of knowledge regarding the managerial nuances which make working within the industry unique to the traditional sport business environments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 206. Sport Facilities and Event Management. 3 Credit Hours.

This course is an overview of the policy and procedures necessary to organize and develop sport events and facilities. In depth review of all programs, functions and procedures necessary for the operation of events and facilities are examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 210. Foundations in Athletic Training. 2 Credit Hours.

Introduction to Sports Medicine/Athletic Training with emphasis on study of the sports medicine team, legal concerns, nutrition, and pre-participation physicals. Course will discuss the basic principles of injury prevention including the role of conditioning, equipment, and protective padding. Additionally, students will be introduced to the study of etiology and mechanisms of injury, pathology, and recognition of clinical signs and symptoms of athletic injury. The student must complete 50 clinical observation hours, which are required for the retention process of the Athletic Training Education Program. Prerequisites: Must have sophomore status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 211. Introduction to Campus Recreation. 3 Credit Hours.

This course is an introductory course and provides a broad overview of campus recreation. It will include information on how to plan, and execute programs such as intramurals, club sports and fitness and wellness. Risk management will be stressed in every aspect in the field along with other important topics such as sponsorships, budgeting, and evaluating programs and employees. Students will gain an understanding of what campus recreation is and its importance to a healthy lifestyle on campus.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 212. Elements of Sports Psychology. 3.00 Credit Hours.

Introduction to the field of sport and exercise psychology by examination of psychological theories and research related to sport and exercise behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 221. Biochemistry And Skeletal Muscle. 3 Credit Hours.

This course will offer an overview of the biochemistry pertaining to neuroendocrine responses, nutrition, and neuromuscular function; as well as the physiological and biochemical plasticity within skeletal muscle associated with various interventions, diseases, injuries, and aging. Majors must receive a grade of B- or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 222. Exercise Physiology Laboratory: Neuromuscular. 2 Credit Hours.

This course examines the nature of data collection in exercise physiology. Students will receive information on collection theory and its application to the measurement of a number of physiological systems during exercise. The course is designed to establish a clear linkage between the chronic and acute changes that occur during exercise and the laboratory methods that are used to assess those changes. Co-requisite: KIN 221.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 230. Medical Terminology and Documentation. 1 Credit Hour.

Terminology, note writing, and documentation techniques in sports medicine. A treatment cycle model will be introduced.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 232. Basic Human Physiology. 3 Credit Hours.

This course presents a general overview of the major systems of the human organism with an examination of how they function in the human body. Majors must receive a grade of B- or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 233. Basic Anatomy Lab. 2 Credit Hours.

This course presents a general overview of the anatomy of the major body systems, such as the skeletal, muscular, cardiovascular, nervous, digestive, respiratory and reproductive systems as well as the integumentary system and special senses.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 234. Functional Human Anatomy. 3 Credit Hours.

The study of human anatomy specifically for the sports medicine practitioner

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 235. Personal and Community Health. 3 Credit Hours.

Overview of current strategies and practices for healthy living, including health maintenance and disease prevention.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 245. Kinesiology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 250. Orthopedic Assessment: Lower Extremity. 3 Credit Hours.

Common types of orthopedic/sports dysfunctions to lower extremity will be discussed. Injuries will be discussed from the following viewpoints: etiology and mechanism of injury, pathology, recognition and valuation techniques, protocols, and prevention. Co-requisite: Ess 251. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course.

Corequisite: KIN 251. Requisite: Athletic Training.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 251. Orthopedic Assessment: Lower Extremity Lab. 1 Credit Hour.

Techniques used to evaluate orthopedic and sports injuries occurring to the lower extremity. The student must complete 100 clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize lower extremity orthopedic assessment, goniometry, manual muscle testing techniques, and gait evaluations. Students must be additionally enrolled in ESS 250.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 257. Research Experience in Exercise Physiology. 3 Credit Hours.

This course provides students the opportunity to be immersed in the research process within the discipline of exercise physiology. This includes the entire research process starting with conceptualization of the study and proceeding through research design, implementation (assessment and equipment use), data handling, statistical analysis, and culminating in preparation of manuscripts or presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 260. Orthopedic Assessment: Upper Extremity. 3 Credit Hours.

Common types of orthopedic/sports dysfunctions to the upper extremity will be discussed. Injuries will be discussed from the following viewpoints: etiology and mechanism of injury, pathology, recognition and evaluation techniques, protocols, and prevention. Co-requisite: ESS 261. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course.

Corequisite: KIN 261. Prerequisite: Athletic Training.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 261. Orthopedic Assessment: Upper Extremity Lab. 1 Credit Hour.

Techniques used to evaluate orthopedic and sports injuries occurring to the upper extremity. The student must complete 100 clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize upper extremity orthopedic assessment, goniometry, and manual muscle testing techniques. Students must be additionally enrolled in ESS 260.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 264. General Medical Conditions Evaluation. 1 Credit Hour.

This class is the study of the clinical signs and symptoms of General Medical conditions that will present to the Certified Athletic Trainer. Emphasis will be placed on the techniques and instrumentation used for performing appropriate evaluation procedures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 297. Practicum in Sport Administration. 1-3 Credit Hours.

A comprehensive program of observation and supervised experience for one semester under the direction of a professional in the sports field. Supervised by Sport Administration program Internship Director. Course only open to Sport Administration Majors & Minors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 301. Athletic Injuries & Sport First Aid. 3 Credit Hours.

Course will help coaches, camp counselors, teachers, personal trainers, and athletes of all levels to fulfill the role of being a competent first responder to athletic injuries and illnesses. Upon completion of this course, students will have knowledge of basic sport first aid skills, anatomy and sport injury terminology, and knowledge of specific athletic injuries and illnesses. These will include head injuries, sudden illnesses, weather-related problems, upper and lower body musculoskeletal injuries, respiratory emergencies and illnesses, and internal injuries. Students will also learn basic hands-on skills such as splinting, taping, and bracing as it relates to preventing and treating athletic injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 302. Sport Marketing. 3 Credit Hours.

This course is designed as a marketing course that deals exclusively with Sport Marketing. Students are expected to develop comprehensive marketing and sponsorship plans. This course will require moderate to heavy computer knowledge. This course is designed to maximize the practical applications of marketing theory to the sport business environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 306. Essential Leadership in Sports and the Professions. 3 Credit Hours.

A variety of leadership and management skills will be examined, including communication, problem solving, conflict management, group dynamics, and leadership theory. Practical application to sport and allied professions will be included. Self-assessment opportunities and exercises will be utilized. Open to majors only. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 308. Ethical Decision Making in Sport and the Professions. 3 Credit Hours.

This course will examine ethical dilemmas in decision-making and other contemporary issues in sports management and campus and community environment. Real and hypothetical situations will be utilized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 310. Adolescent Growth and Maturation. 3 Credit Hours.

This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes that impact physical performance. Additionally, students will learn the basis of training pediatric populations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 321. Introduction to Systemic Exercise Physiology. 3 Credit Hours.

The structure, function, and training of the cardiorespiratory system. Special emphasis on structural changes in the systems with exercise and their influence on cardiovascular performance, body composition, exercise efficiency and health.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 322. Exercise Physiology Laboratory: Cardiorespiratory. 2 Credit Hours.

This course concentrates on collection of cardiorespiratory data. In addition, the application of these data to exercise prescription for specific athletic and non-athletic populations will be covered. Corequisite: ESS 321.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 330. Medical Terminology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 340. Strength and Conditioning. 3 Credit Hours.

Introduction to Sport Specific Strength Training. Students will learn the practice of Olympic Weight Lifting and related exercise techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 344. Gross Anatomy For Kinesiology And Sport Sciences. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 345. Kinesiology. 3 Credit Hours.

Study of the structure and function of the skeletal, joint, and muscular systems. Emphasis is placed on the mechanics of the movement of the human body and its relationship to sport and physical performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 365. Principles of Exercise Prescription: Cardiovascular. 3 Credit Hours.

This class is the study of the theory and principles behind the development of exercise programs. Students will learn how to accurately evaluate and develop individual exercise prescription based upon sound scientific research. Exercise prescriptions will be developed in accordance with the guidelines set forth by the National Strength and Conditioning Association and the American College of Sports Medicine. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 366. Exercise Physiology Laboratory: Assessment. 3 Credit Hours.

This lab course is designed to complement the ESS 365 lecture course (Principles of Exercise Prescription): Cardiovascular. Students will apply practical field assessments for body composition, aerobic capacity, muscular fitness, and joint range of motion, and will employ exercise strategies to improve each of the assessed fitness components. Students will also prescribe exercises to improve performance-based fitness, such as coordination, balance, agility, speed and power while learning proper exercise training techniques. Must be a declared Exercise Physiology (EXPH) major and receive a grade of "C" or better to satisfy requirements.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 399. Neuromuscular Basis For Training. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 401. Legal Aspects of Sport. 3 Credit Hours.

This course will focus on legal issues applicable to sport administration, including tort law, risk management, negligence, and constitutional law. Relevant legal cases and concepts will be incorporated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 402. Sport Sponsorship and Promotion. 1-3 Credit Hours.

This course is designed to provide a detailed examination of the relationship between sport and corporate sponsorship. Topics covered will include the theoretical premise of sponsorship, alignment marketing, strategic communication through sponsorship, determining the value of sponsorship, and evaluation of sponsorship activities. Perspectives from the property offering a sponsorship and from the organization functioning as the sponsor will be considered.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 403. Sport Information Management. 3 Credit Hours.

This course centers upon the development of those skills that are necessary for Sport Information Directors. Specifically, these traditionally include marketing, media, promotion, and public relations. This course hopes to provide detailed knowledge to allow the student to participate in these activities in a professional manner.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 405. Finance and Budget in Sport Administration. 3 Credit Hours.

This course seeks to develop those financial skills necessary to understand a wide variety of financial concepts that impact sport managers. Such topics would include but not be limited to: Sport franchise value/valuations; economic impact of sport; risk-return models; financial statement analysis, and budgeting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 410. Problems and Issues in Sport Administration. 3 Credit Hours.

This course is designed as a seminar course. Topical issues in high school, collegiate and professional sport are presented and discussed in detail. A number of student-centered activities are introduced to aid in the development of the student.

Requisites: SPAD Majors and Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 412. Psychophysiology. 3 Credit Hours.

The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular system, and the pulmonary system. Students will be able to understand and interpret terminology and research literature published in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 415. Evidence Based Sports Medicine. 3 Credit Hours.

This course will introduce the student to clinical epidemiology and the evaluation of the efficacy of prevention, diagnostic, and treatment strategies in athletic training and sport medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 416. Research Methods in Exercise Physiology. 3 Credit Hours.

This course will introduce the student to clinical epidemiology and the evaluation of the efficacy of prevention, diagnostic, and treatment strategies in exercise physiology and related professions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 421. Advanced Systemic Exercise Physiology. 3 Credit Hours.

This course examines the short and long term physical responses to exercise and provides a general overview of the field of exercise physiology with reference to the latest trends in modern physiological research.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 435. Clinical Biomechanics for Sport Medicine Professionals.. 3 Credit Hours.

A lecture course stressing the biomechanics of joints and pathomechanics of orthopedic injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 443. Clinical Athletic Training Lab I. 2 Credit Hours.

The application of athletic training practices in selected clinical education settings. The student must complete 150 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize emergency procedures, first aid, and protective equipment. Prerequisite: Successful completion of the retention process and formal admittance into the clinical portion of the Athletic Training Program.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 444. Clinical Athletic Training Lab II. 2 Credit Hours.

The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize general medical conditions, nutritional issues, psychosocial intervention, and injury prevention and risk management. Prerequisite: A grade of "B" or better in KIN 443 (Formally ESS 443).

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 455. Clinical Athletic Training Lab III. 2 Credit Hours.

The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hours, which apply toward graduation requirement of 1000 hours. Clinical education hours will emphasize acute care of injuries and illnesses, lower extremity orthopedic assessment, and risk management and injury prevention. Prerequisite: A grade of "B" or better in KIN 443 and KIN 444 (formally ESS 443 and ESS 444).

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 456. Clinical Athletic Training Lab IV. 2 Credit Hours.

The application of athletic training practices in selected clinical and educational settings. The student must complete 150 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Clinical education hours will emphasize upper extremity orthopedic assessment, conditioning and rehabilitation, and therapeutic and therapeutic modalities. Prerequisite: A grade of "B" or better in KIN 443, KIN 444, KIN 455 (formally ESS 443, ESS 444, ESS 455).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 457. Practicum in Kinesiology and Sport Sciences. 1-3 Credit Hours.

A comprehensive program of observation and supervised experience under the direction of a professional in the field for one semester. Supervised by University faculty. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 458. Practicum in Kinesiology and Sport Sciences. 3 Credit Hours.

A comprehensive program of supervised experience conducted under the direction of a professional in the field. Must culminate in research or hands-on experience conducted in the exercise science field.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 461. Therapeutic Modalities. 2 Credit Hours.

Students will acquire the theoretical knowledge necessary for the clinical application of therapeutic modalities. Principles of electrophysics and biophysics, specific physiological effects and therapeutic indications and contraindications associated with cyotherapy, paraffin, ultrasound, electrotherapeutic and hydrotherapeutic modalities, intermittent compression, message, and other contemporary modalities will be discussed. Prerequisite: Open only to ATHT majors. Must have completed KIN 140 and 141 and earned a grade of B or better for both courses, Corequisite: KIN 462 (Formally ESS 140 and 141 and ESS 462). Corequisite: KIN 462. Requisite: Athletic Training.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 462. Therapeutic Modalities Laboratory. 1 Credit Hour.

"This laboratory will help students apply the techniques and clinical skills related to the application of therapeutic modalities. Clinical education hours will give the student the opportunity to use the knowledge, skills, and techniques learned in this course. Students must complete 50 hours of documented clinical education hours, which apply toward the graduation requirement of 1000 hours. Students must be additionally enrolled in KIN 461 (Formally ESS 461).

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 463. Therapeutic Rehabilitation. 2 Credit Hours.

"Students will acquire the theoretical knowledge for the clinical application of a rehabilitation program, physical examination, principles of therapeutic exercise, open and closed chain exercise, muscle reeducation, and special therapeutic techniques such as aquatic therapy. Prerequisite: Open only to ATHT majors. Student must be additionally enrolled in KIN 464."

Corequisite: KIN 464. Requisite: Athletic Training.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 464. Therapeutic Rehabilitation Laboratory. 1 Credit Hour.

This laboratory will place emphasis on the techniques and clinical skills relating to the rehabilitation of athletic injuries. Clinical education hours in a therapeutic rehabilitation facility will give the students the opportunity to use the knowledge, skills, and techniques learned in this course. The student must complete 100 hours of documented clinical education hours, which apply toward the clinical education requirement for graduation. Students must be additionally enrolled in KIN 463 (Formally ESS 463).

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 465. Pharmacology. 2 Credit Hours.

Introduction to the basic principles of pharmaceutical intervention and the implications for rehabilitation as related to the Certified Athletic Trainer.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 470. Administrative Aspects of Athletic Training. 2 Credit Hours.

Basic concepts of legal liability, budget, financial management, inventory control, facilities design and maintenance will be addressed. Additionally, the student will discuss the day to day supervision, scheduling and general administration of the athletic training room. Open only to ATHT majors. Must have completed KIN 140 and 141 and earned a grade of B or better for both courses (Formally ESS 140 and ESS 141).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 473. Sports Governance. 3 Credit Hours.

This course provides the students with an examination of the governing organizations of sport at the youth, secondary, intercollegiate, professional, international, sport specific and olympic levels. In addition, policy development in sport management will be explored.

Components: LEC.

Grading: GRD.

KIN 476. Seminar in Athletic training. 2 Credit Hours.

Topics in Athletic Training with discussions covering the NATA competencies and objectives in written and oral practical formats.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

KIN 477. Advanced Nutrition for Health and Fitness. 3 Credit Hours.

This course is an in-depth study of nutritional concerns of today's athlete. From dehydration to classic carbohydrate loading and from the Female Athlete Triad to ergogenic aids in sports, this course provides state of the art information on the latest nutritional issues for the exercising individual and for the athlete.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 488. Gross Anatomy. 3 Credit Hours.

The essentials of Myology, Osteology, and Arthrology. Major nerves and arteries are also dissected. Many of the dissection areas are injury sites in sports such as the knee, shoulder, elbow, neck, and spinal nerves.

There is a laboratory fee requirement for this course (\$100.00).

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 490. Special Topics In Kinesiology And Sports Sciences. 1-3 Credit Hours.

This course is designed for students wishing to focus on a specific area of study within the umbrella of the field of Kinesiology. Students will be given supervision and support in a direction relevant to their needs and interests in a structured setting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 495. Individual Study. 1-3 Credit Hours.

The Application for Admission to Advanced Individual Study Form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 496. Individual Study. 1-3 Credit Hours.

The Application for Admission to Advanced Individual Study Form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 497. Internship in Sport Administration. 1-9 Credit Hours.

KIN 497: Internship in Sport Administration Filed Experience that requires the student to participate in the work environment (Formally ESS 497).

Requisites: SPAD Majors and Senior Status.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

KIN 498. Seminar in Sport Administration. 3 Credit Hours.

Professional seminar to accompany internship in sport administration. Students will be required to interact with other internship students and supervisors on a regular basis and additionally, students will be required to submit comprehensive reports regarding their internship experiences. This course is a designated Upper Level Communication Requirement; Advanced written, digital and/or oral communication proficiencies will be emphasized in this course.

Requisites: SPAD Majors and Senior Status.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

KIN 502. Sport Sponsorship and Promotion. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 503. ADVANCED SPORT INFORMATION MANAGEMENT. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 515. Nutrition Diet and Exercise. 3 Credit Hours.

Students will learn the latest concepts in weight management, physical fitness, and healthy eating. They will be able to understand the complex interplay of carbohydrates, protein, fat, water, fiber, vitamins, and minerals in the nourishment of their body and overall well-being. They will also examine serious health issues such as the use/misuse of anabolic steroids, weight control, and eating disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 520. Cellular Exercise Physiology. 3 Credit Hours.

The course examines Bioenergetics and Muscular Physiology in training and detraining. Topics include the energy systems and their functional application during exercise, muscle structure and function, cellular and sub-cellular modifications of organelles and contractile mechanisms as result of training and physiological bases of training techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 521. Advanced Systemic Exercise Physiology. 3 Credit Hours.

The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular and the pulmonary systems. Students will be able to understand and interpret terminology and research literature published in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 522. Basic Statistics in Kinesiology and Sport Sciences. 3 Credit Hours.

Introduction to basic statistical techniques commonly used in the Exercise and Sport Sciences. Designed as a prerequisite for KIN 646 (Formally ESS 646).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 523. Athletic Training Techniques - Assessment. 3 Credit Hours.

This course will introduce the basic concepts related to injury evaluation. With this information, and with the development of basic skills, the student should be able to form an impression of the nature of most musculoskeletal injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 524. Athletic Training Techniques - Rehabilitation. 3 Credit Hours.

This course will introduce theoretical concepts that must be understood in order to be able to rehabilitate a musculoskeletal injury. Regarding actual rehabilitation techniques, the emphasis will be on therapeutic exercise with only a brief introduction to therapeutic modalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 525. Advanced Kinesiology. 3 Credit Hours.

In-depth study of the human skeletal and muscular systems with a focus on the mechanics of movement as related to physical activity, sports, and athletics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 527. Community and Global Nutrition. 3 Credit Hours.

This course is designed to provide an overview of nutritional issues & related aspects of infectious and chronic disease impacting the health and performance of athletes, individuals & groups domestically & globally. Economic and environmental issues which impact nutritional status and deficiency in the Western societies & third world countries will be addressed. An international and cultural perspective on food, eating behaviors and customs will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 530. Laboratory Techniques in Functional Evaluation of Skeletal Muscle. 3 Credit Hours.

This course examines the theories of data collection and collection techniques used to evaluate musculo-skeletal and neuromuscular function. The application of both computerized and non-computerized collection systems for performance evaluation is covered. The course is also designed to establish a clear linkage between the acute and chronic musculo-skeletal and neuromuscular changes that occur during exercise and the laboratory methods used to assess those changes. Collection theory, musculoskeletal and neuromuscular function, methods of strength evaluation, anaerobic power testing, electromyography, and a number of other functional parameters will be discussed.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 531. Laboratory Experiences in Systemic Exercise Physiology. 3 Credit Hours.

This course provides a laboratory assessment of physiological principles and theories learned in the classroom setting. Focus will be on systemic application to exercise as an acute or chronic stressor. Corequisite: ESS 521.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 532. Sports Injuries: Prevention and Treatment. 3 Credit Hours.

Prevention, diagnosis, treatment and rehabilitation of sports injuries. Anatomical and Kinesiological application to sports injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 534. Integrative & Functional Nutrition. 3 Credit Hours.

This course will discuss integrative and functional medicine and how it emerged. This course will analyze the healthcare models that include personalized care and the whole-person perspective. In this course we will discuss various factors that influence disease including diet and nutrition, stress, activity level, pharmaceuticals and environmental pollutants. Alternative approaches to treatment will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 535. Clinical Biomechanics for Sport Medicine Professionals. 3 Credit Hours.

A lecture course stressing biomechanics of joints and pathomechanics of orthopedic injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 536. Strength and Conditioning I. 3 Credit Hours.

This course serves as the practical/technical foundation for major compound movements and Olympic lifts. It also provides comprehension of movement specific dynamic warm-ups, advanced stretching techniques, methods for identifying movement compensations and underlying issues as well as evaluating Olympic techniques. Due to the practical nature of the course, all the sections of this course are held in the Hecht Athletic Center (HAC).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 537. Strength and Conditioning II. 3 Credit Hours.

This course is the continuation of Strength and Conditioning I (KIN 536). It provides more advanced Olympic weightlifting techniques and ballistic training, alongside a continued focus on corrective exercises to ensure a reduced risk of injury. The course also provides an introduction to exercise programming including specialized training techniques for athletic development. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center (HAC).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 538. Nutrition during the Lifecycle. 3 Credit Hours.

This course is designed to examine the changes in nutrition requirements during the life cycle, particularly as related to growth, development and aging. Psychosocial, cultural, and economic issues related to food intake at various life stages will be reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 539. Dietary Supplements And Human Performance. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 540. Exercise Psychobiology. 3 Credit Hours.

This course is designed primarily for graduate level Exercise and Sport science students who are interested in the biochemical basis of personality as affected by exercise and sport. The course involves interdisciplinary integration and comprehensive reviews of ancient and current literature dealing with exercise, stress, emotional, personality, immune system function and neuroendocrine function.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 541. Neurophysiology in Exercise Science. 3 Credit Hours.

Examination of the functions of the central, peripheral, and autonomic nervous systems in regulating exercise homeostasis and the structural and functional modifications to the systems through training. NOTE: This course is a writing intensive course. This means that all examinations and papers include a critical evaluation of the student's ability to convey information using the written word.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 542. STRENGTH AND CONDITIONING. 3 Credit Hours.

A comprehensive overview of strength and conditioning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 543. Professional Training and Counseling for Integrative Health. 3 Credit Hours.

Students will learn the integrative health care model, theories, behavior change models, approaches & techniques used in nutritional counseling to help athletes, individuals and groups implement and sustain behaviors, lifestyles, and attitudes to achieve optimal health. Lecture & personal application will allow for the development of skills in each of these areas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 545. Special Sport Populations. 3 Credit Hours.

This course presents an in-depth examination of chronic conditions and medical problems commonly observed in athletes. Students will learn about the etiology of the medical condition, how exercise affects the condition, and the most recent therapeutic treatments prescribed for the condition.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 546. Elite Conditioning I. 3 Credit Hours.

Elite Conditioning I provides an introduction to evaluation techniques catered specifically to the athletic population including tests for strength, power, speed, agility, balance and stability. The course also provides instruction on how to apply these evaluations to their respective sports/positions. These evaluation techniques provide data that students will use in the process of corrective exercise prescription. Students are taught how to implement corrective strategies to improve athletic performance. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center(HAC).

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 547. Elite Conditioning II. 3 Credit Hours.

Elite Conditioning II is the continuation of Elite Conditioning I (KIN 546). This course provides students with an understanding of the design and implementation of periodized conditioning programs for athletes based on the testing, evaluation, and applications to specific sports learned in Elite Conditioning I. The course focuses on speed agility and quickness for sports. It also includes practical implementation of ballistic, plyometric, speed, and conditioning drills emphasizing evidence based methods and training techniques. Due to the practical nature of the course, all sections of this course are held in Hecht Athletic Center(HAC).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 549. Nutrition Assessment and Lab. 3 Credit Hours.

Application of the principles of normal and therapeutic nutrition, nutrition assessment, evaluation and intervention as related to sports performance and the management and treatment of disease states. Laboratories will allow for the development of skills in each of these areas.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 550. Nutrition Biochemistry. 3 Credit Hours.

To learn the fundamental biochemical structure and pathways governing nutrient intake and utilization. Students will learn how major forms of nutrients (macronutrients, vitamins, minerals and trace elements) are processed and utilized by different organs with a particular emphasis on muscle metabolism. Students will also learn how to relate their newly acquired knowledge to health and disease outcomes with focus on lifestyle disease related to metabolism such as diabetes and obesity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 555. Medical Nutrition Therapy. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 556. GLOBALIZATION OF SPORT. 3 Credit Hours.

This course will address the intertwined relationship between globalization, sport, and development from a critical global perspective. This course highlights the extent to which contemporary sport cultures are the result of an interplay between local and global forces. We will explore the international character of professional and amateur sports including international competitions, league expansions beyond national boundaries, and the movement of athletes. Course topics include international sport organization, international competition, sport governance, international dispute resolution, international sports law, and new media.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 557. Diagnostic Imaging Techniques In Sports Medicine. 3 Credit Hours.

This course is designed as an elective for undergraduate KIN students or graduate students. The basic physics of radiological imaging will be covered including radiology, fluoroscopy, CT scan, ultrasound, MRI, and nuclear medicine including image archiving. Normal anatomy will be compared to the corresponding radiographic anatomy. Common sports injuries will be evaluated by multiple radiographic modalities and will be correlated with the clinical condition. Discussion will include bony pathology as well as soft tissues such as ligaments, tendons, and menisci.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 561. Facility Management. 3 Credit Hours.

Facility management provides students with an understanding of fitness entrepreneurship, giving students a comprehensive understanding of the, laws, regulations, polices, and work involved in setting up a fitness facility such as a gym, wellness center, or athletic training center. Students are responsible for developing a viable sports or fitness complex including all aspects of administrative and facility management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 562. Fiscal Management in Sport Administration. 3 Credit Hours.

Fiscal management as related to athletic sports administration, recreation and leisure sports administration, and physical education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 563. Facilities and Event Management. 3 Credit Hours.

This course is designed to introduce students to principles and practices of planning, funding and managing facilities associated with sports participation including professional sport venues, college sports, parks, recreational sport and health/fitness clubs. Students will gain an understanding of promoting, marketing, and maintaining sport facilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 564. Principles of Sport Marketing. 3 Credit Hours.

This course will focus on the vast world of sports marketing. The basic principles of marketing and marketing management will be introduced and integrated with application of these principles to sport and sports-related organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 565. Legal Aspects of Sports and Exercise Science. 3 Credit Hours.

Legal liability, personal injury, negligence and other related legal aspects of sports and exercise science.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 566. Organization and Administration of Sports Programs. 3 Credit Hours.

Administrative and organizational procedures and problems specific to athletic administration, recreation and leisure sports administration, and physical education.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

KIN 567. Elements of Sports Psychology. 3 Credit Hours.

Introduction to the study of sport and exercise psychology including theory, current research and practical application.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 568. Developmental Sports Psychology. 3 Credit Hours.

Examination of the concept of sport psychology which includes but is not limited to performance, enhancement, student performance and academic application.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 569. The Foundations of Exercise Prescription. 3 Credit Hours.

Students will learn various assessments of Health and Wellness, and discover how to most effectively prescribe exercise strategies to treat the diagnosed needs of an individual.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 570. Advanced Programming. 3 Credit Hours.

Advance programming allows students to dissect sports by movement, metabolism and limitation. The course investigates current trends and evidenced based applications of specific training techniques for optimal sport performance. Students will perform complete sports analysis and develop periodized programs for major sports.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 571. Sport Industry in South Florida. 3 Credit Hours.

This course will examine the various sport based organizations/events that are part of the sport industry in South Florida. Study of these organizations/events will include (a) products/services produced, (b) organizational structure, (c) economic impact on the local community, (d) key management personnel, (e) physical facilities, and (f) internship/employment opportunities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 572. Creative Approaches to Problem Solving and Conflict Management. 3 Credit Hours.

This hands-on course will examine the concepts of problem solving and conflict management from both personal and organizational perspectives. Students will have the opportunity to study in-depth both of these concepts (and the relationship between them) through a combination of lecture, theory, individual and group activities, readings, practical exercises, and self-assessment tools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 574. Ethical Decision Making in Sports and the Professions. 3 Credit Hours.

This course will examine ethical decision-making in a variety of environments with an emphasis on sport professions. Real and hypothetical situations will be utilized, and the course will combine theory with practical application. The case method in sport ethics will be incorporated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 575. Essential Leadership in Sport and the Professions. 3 Credit Hours.

This course will examine the concept of leadership as it pertains to sports and other professions. Various leadership and management skills will be included with a focus on practical applications in a work environment. Theory and self-assessment strategies will be incorporated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 576. Practical Approach to Motivation and Ethical Decision Making. 1-3 Credit Hours.

A critical study of practical problems of professionals in Exercise and Sport Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 577. Advanced Nutrition for Health and Fitness. 3 Credit Hours.

This course presents an in-depth study of the nutritional concerns of today's Recreational and competitive athlete. Topics include dehydration, classic carbohydrate loading, protein needs, ergogenic aids, and more. State-of-the-art research in the field is provided. This is also a writing intensive course. Thus, writing skills will represent an integral part of one's grade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 578. Pharmacology for Allied Health Professionals. 3 Credit Hours.

The study of drug families and drugs in common use across spectra of age, illness, disease, and disability. Students will understand body systems treated with current pharmaceuticals over-the-counter (OTC) medications, and nutraceuticals. Actions, key adverse effects, and influences on individuals undergoing physical activity will be emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 579. Principles of Exercise Assessment: Cardiovascular. 3 Credit Hours.

This course presents a comprehensive overview of the physical, physiological and metabolic responses of the human body to exercise testing and training both in health and disease. The successful student will gain an understanding of the process involved in prescribing safe and effective therapeutic exercise in healthy individuals as well as patients with heart and lung disease, diabetes and obesity. An overview of environmental and legal considerations in the prescriptive process will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 580. Principles of exercise Prescription: Neuromuscular. 3 Credit Hours.

An examination of the scientific bases of modern training techniques designed to optimize performance, their functional application and potential impact on performance in sport and everyday activity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 581. Development and Maturation of Athletes.. 3 Credit Hours.

This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes as it impacts physical performance. Additionally, students will learn the bases of pediatric exercise physiology in order to understand the concepts of motor development, strength, aerobic and anaerobic performance in the pediatric population.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 584. Neurological Mechanisms of Metabolism and Weight Regulation. 3 Credit Hours.

The focus of this course is on the integrative neurophysiological functions that regulate and influence obesity, metabolic disease, and inflammation. Students will be able to understand the role that chronic inflammation plays in the pathology of disease. A combination of lecture, critical reading, and group discussion will be utilized to explore the underlying basis for metabolic abnormalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 585. Advanced Topics in Kinesiology and Sport Sciences. 3 Credit Hours.

This course will provide a synthesis of essential concepts in specialty subjects relevant to one's field of interest.

Components: THI.

Grading: GRD.

Typically Offered: Spring & Summer.

KIN 586. Exercise Prescription/Assessment Laboratory. 3 Credit Hours.

This course presents an overview of the laboratory techniques used to assess cardiovascular endurance and general fitness, pulmonary function and anaerobias observed during competition.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 587. Laboratory Experience in Sports Nutrition. 3 Credit Hours.

This laboratory class provides case study analyses and computerized nutrient analysis systems designed to evaluate nutrition and hydration needs of the recreational and competitive athlete. From urinalysis and blood work to body composition and computerized nutrient data base systems, this laboratory provides a clinical approach to evaluating the nutrition status of the exercising individual. Corequisite: ESS 577.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 588. Advanced Gross Anatomy In Kinesiology And Sport Sciences. 3 Credit Hours.

Human dissection of the major muscles, arteries and nerves of the body. Course is held at the University of Miami, Medical Campus, cadaver laboratory. Special consideration is given to injury sites in sports such as the knee, shoulder, elbow, neck and spinal areas. Students are required to pay a \$100 laboratory fee for the class. This course is to be taken by undergraduate Athletic Training majors and for the 5- year Sports Medicine with a Concentration in Athletic Training program students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 589. Directed Readings in Kinesiology and Sport Sciences. 3 Credit Hours.

Directed Readings focusing on research and contemporary trends in the field.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 590. Special Topics in Kinesiology and Sport Sciences. 1-3 Credit Hours.

This course is designed for students wishing to focus on a specific area of study within the umbrella of the Kinesiology and Sport Sciences curriculum. Students will be given supervision and support in a direction relevant to their needs and interests in a structured setting.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 595. Research Honors Project. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 596. Research Honors Project. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 597. Research Honors Project - Thesis Writing. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 598. Research Honors Project - Seminar. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 599. Advanced Programming for Endurance Athletes. 3 Credit Hours.

This course provides students with training techniques to improve aerobic capacity, endurance, and lactate threshold for optimal performance. Students will review evidenced based principles of sports nutrition, strategies to ensure proper hydration, thermoregulation, and fuel (substrate) availability during prolonged exercise as well as develop programs for competitive sports including triathlon, marathon, and cycling.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 601. Organization and Administration of Sports Programs. 3 Credit Hours.

Administrative and organizational procedures and problems specific to athletic administration, recreation and leisure sports administration, and physical education.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

KIN 602. Fiscal Management in Sport Administration FISCAL MGT SPTS AD. 3 Credit Hours.

Fiscal management as related to athletic sports administration, recreation and leisure sports administration, and physical education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 603. Principles of Sport Marketing. 3 Credit Hours.

This course will focus on the vast world of sports marketing. The basic principles of marketing and marketing management will be introduced and integrated with application of these principles to sport and sports-related organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 604. Essential Leadership in Sport and the Professions. 3 Credit Hours.

This course will examine the concept of leadership as it pertains to sports and other professions. Various leadership and management skills will be included with a focus on practical applications in a work environment. Theory and self-assessment strategies will be incorporated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 605. Sport Sponsorship and Promotion. 1-3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Summer.**KIN 606. Ethical Decision Making in Sports and the Professions. 3 Credit Hours.**

This course will examine ethical decision-making in a variety of environments with an emphasis on sport professions. Real and hypothetical situations will be utilized, and the course will combine theory with practical application. The case method in sport ethics will be incorporated.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**KIN 607. Legal Aspects of Sports and Exercise Science. 3 Credit Hours.**

Legal liability, personal injury, negligence and other related legal aspects of sports and exercise science.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**KIN 608. GLOBALIZATION OF SPORT. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**KIN 609. ADVANCED SPORT INFORMATION MANAGEMENT. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**KIN 610. Facilities and Event Management. 3 Credit Hours.**

This course is designed to introduce students to principles and practices of planning, funding and managing facilities associated with sports participation including professional sport venues, college sports, parks, recreational sport and health/fitness clubs. Students will gain an understanding of promoting, marketing, and maintaining sport facilities.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**KIN 611. Field Experience in Sport Administration I. 1-9 Credit Hours.**

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: PRA.**Grading:** GRD.**Typically Offered:** Fall.**KIN 612. Field Experience In Sport Administration II. 1-3 Credit Hours.**

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: SEM.**Grading:** GRD.**Typically Offered:** Fall & Summer.**KIN 613. Field Experience in Sport Administration III. 1-3 Credit Hours.**

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: PRA.**Grading:** GRD.**Typically Offered:** Summer.**KIN 615. Practical Approach to Motivation and Ethical Decision Making. 1-3 Credit Hours.**

A critical study of practical problems of professionals in Exercise and Sport Sciences.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**KIN 616. Advanced Sport Governance. 3 Credit Hours.**

This course provides the student with an examination of the governing organizations of sport at the youth, secondary, intercollegiate, professional, international, sport specific and Olympic levels. In addition, policy development in sport management will be explored.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring & Summer.**KIN 617. Creative Approaches to Problem Solving and Conflict Management. 3 Credit Hours.**

This hands-on course will examine the concepts of problem solving and conflict management from both personal and organizational perspectives. Students will have the opportunity to study in-depth both of these concepts (and the relationship between them) through a combination of lecture, theory, individual and group activities, readings, practical exercises, and self-assessment tools.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**KIN 620. Contemporary Issues in Kinesiology and Sport Sciences. 1-3 Credit Hours.**

Problem identification, investigation, analysis, and problem solving approaches in Kinesiology and Sport Sciences.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**KIN 621. Advanced Systemic Exercise Physiology. 3 Credit Hours.**

The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular and the pulmonary systems. Students will be able to understand and interpret terminology and research literature published in the field.

Components: DIS.**Grading:** GRD.**Typically Offered:** Fall.**KIN 623. Food Science and Management Principles. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.

KIN 624. Athletic Training Techniques - Rehabilitation. 3 Credit Hours.

This course will introduce theoretical concepts that must be understood in order to be able to rehabilitate a musculoskeletal injury. Regarding actual rehabilitation techniques, the emphasis will be on therapeutic exercise with only a brief introduction to therapeutic modalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 625. Advanced Kinesiology. 3 Credit Hours.

In-depth study of the human skeletal and muscular systems with a focus on the mechanics of movement as related to physical activity, sports, and athletics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 626. Nutrition Diet and Exercise. 3 Credit Hours.

Students will learn the latest concepts in weight management, physical fitness, and healthy eating. They will be able to understand the complex interplay of carbohydrates, protein, fat, water, fiber, vitamins, and minerals in the nourishment of their body and overall well-being. They will also examine serious health issues such as the use/misuse of anabolic steroids, weight control, and eating disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

KIN 627. Community and Global Nutrition. 3 Credit Hours.

This course is designed to provide an overview of nutritional issues & related aspects of infectious and chronic disease impacting the health and performance of athletes, individuals & groups domestically & globally. Economic and environmental issues which impact nutritional status and deficiency in the Western societies & third world countries will be addressed. An international and cultural perspective on food, eating behaviors and customs will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 628. Basic Statistics in Kinesiology and Sport Sciences. 3 Credit Hours.

Introduction to basic statistical techniques commonly used in the Exercise and Sport Sciences. Designed as a prerequisite for KIN 646 (Formally ESS 646).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 630. Cellular Exercise Physiology. 3 Credit Hours.

The course examines Bioenergetics and Muscular Physiology in training and detraining. Topics include the energy systems and their functional application during exercise, muscle structure and function, cellular and sub-cellular modifications of organelles and contractile mechanisms as result of training and physiological bases of training techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 631. Laboratory Techniques in Functional Evaluation of Skeletal Muscle. 3 Credit Hours.

This course examines the theories of data collection and collection techniques used to evaluate musculo-skeletal and neuromuscular function. The application of both computerized and non-computerized collection systems for performance evaluation is covered. The course is also designed to establish a clear linkage between the acute and chronic musculo-skeletal and neuromuscular changes that occur during exercise and the laboratory methods used to assess those changes. Collection theory, musculoskeletal and neuromuscular function, methods of strength evaluation, anaerobic power testing, electromyography, and a number of other functional parameters will be discussed.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 632. Sports Injuries: Prevention and Treatment. 3 Credit Hours.

Prevention, diagnosis, treatment and rehabilitation of sports injuries. Anatomical and Kinesiological application to sports injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 634. Integrative & Functional Nutrition. 3 Credit Hours.

This course will discuss integrative and functional medicine and how it emerged. This course will analyze the healthcare models that include personalized care and the whole-person perspective. In this course we will discuss various factors that influence disease including diet and nutrition, stress, activity level, pharmaceuticals and environmental pollutants. Alternative approaches to treatment will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 635. Clinical Biomechanics for Sport Medicine Professionals. 3 Credit Hours.

A lecture course stressing biomechanics of joints and pathomechanics of orthopedic injuries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

KIN 636. Strength and Conditioning I. 3 Credit Hours.

This course serves as the practical/technical foundation for major compound movements and Olympic lifts. It also provides comprehension of movement specific dynamic warm-ups, advanced stretching techniques, methods for identifying movement compensations and underlying issues as well as evaluating Olympic techniques. Due to the practical nature of the course, all the sections of this course are held in the Hecht Athletic Center (HAC).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 637. Strength and Conditioning II. 3 Credit Hours.

This course is the continuation of Strength and Conditioning I (KIN 536). It provides more advanced Olympic weightlifting techniques and ballistic training, alongside a continued focus on corrective exercises to ensure a reduced risk of injury. The course also provides an introduction to exercise programming including specialized training techniques for athletic development. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center (HAC).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 638. Nutrition during the Lifecycle. 3 Credit Hours.

This course is designed to examine the changes in nutrition requirements during the life cycle, particularly as related to growth, development and aging. Psychosocial, cultural, and economic issues related to food intake at various life stages will be reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 639. Dietary Supplements And Human Performance. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 640. Exercise Psychobiology. 3 Credit Hours.

This course is designed primarily for graduate level Exercise and Sport science students who are interested in the biochemical basis of personality as affected by exercise and sport. The course involves interdisciplinary integration and comprehensive reviews of ancient and current literature dealing with exercise, stress, emotional, personality, immune system function and neuroendocrine function.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 641. Neurophysiology in Exercise Science. 3 Credit Hours.

Examination of the functions of the central, peripheral, and autonomic nervous systems in regulating exercise homeostasis and the structural and functional modifications to the systems through training. NOTE: This course is a writing intensive course. This means that all examinations and papers include a critical evaluation of the student's ability to convey information using the written word.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 642. STRENGTH AND CONDITIONING. 3 Credit Hours.

A comprehensive overview of strength and conditioning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 643. Professional Training and Counseling for Integrative Health. 3 Credit Hours.

Students will learn the integrative health care model, theories, behavior change models, approaches & techniques used in nutritional counseling to help athletes, individuals and groups implement and sustain behaviors, lifestyles, and attitudes to achieve optimal health. Lecture & personal application will allow for the development of skills in each of these areas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 645. Special Sport Populations. 3 Credit Hours.

This course presents an in-depth examination of chronic conditions and medical problems commonly observed in athletes. Students will learn about the etiology of the medical condition, how exercise affects the condition, and the most recent therapeutic treatments prescribed for the condition.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 646. Elite Conditioning I. 3 Credit Hours.

Elite Conditioning I provides an introduction to evaluation techniques catered specifically to the athletic population including tests for strength, power, speed, agility, balance and stability. The course also provides instruction on how to apply these evaluations to their respective sports/positions. These evaluation techniques provide data that students will use in the process of corrective exercise prescription. Students are taught how to implement corrective strategies to improve athletic performance. Due to the practical nature of the course, all sections of this course are held in the Hecht Athletic Center(HAC).

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 647. Elite Conditioning II. 3 Credit Hours.

Elite Conditioning II is the continuation of Elite Conditioning I (KIN 546). This course provides students with an understanding of the design and implementation of periodized conditioning programs for athletes based on the testing, evaluation, and applications to specific sports learned in Elite Conditioning I. The course focuses on speed agility and quickness for sports. It also includes practical implementation of ballistic, plyometric, speed, and conditioning drills emphasizing evidence based methods and training techniques. Due to the practical nature of the course, all sections of this course are held in Hecht Athletic Center(HAC).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 649. Nutrition Assessment and Lab. 3 Credit Hours.

Application of the principles of normal and therapeutic nutrition, nutrition assessment, evaluation and intervention as related to sports performance and the management and treatment of disease states. Laboratories will allow for the development of skills in each of these areas.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 650. Nutrition Biochemistry. 3 Credit Hours.

To learn the fundamental biochemical structure and pathways governing nutrient intake and utilization. Students will learn how major forms of nutrients (macronutrients, vitamins, minerals and trace elements) are processed and utilized by different organs with a particular emphasis on muscle metabolism. Students will also learn how to relate their newly acquired knowledge to health and disease outcomes with focus on lifestyle disease related to metabolism such as diabetes and obesity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 655. Medical Nutrition Therapy. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 657. Diagnostic Imaging Techniques In Sports Medicine. 3 Credit Hours.

This course is designed as an elective for undergraduate KIN students or graduate students. The basic physics of radiological imaging will be covered including radiology, fluoroscopy, CT scan, ultrasound, MRI, and nuclear medicine including image archiving. Normal anatomy will be compared to the corresponding radiographic anatomy. Common sports injuries will be evaluated by multiple radiographic modalities and will be correlated with the clinical condition. Discussion will include bony pathology as well as soft tissues such as ligaments, tendons, and menisci.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 661. Facility Management. 3 Credit Hours.

Facility management provides students with an understanding of fitness entrepreneurship, giving students a comprehensive understanding of the, laws, regulations, policies, and work involved in setting up a fitness facility such as a gym, wellness center, or athletic training center. Students are responsible for developing a viable sports or fitness complex including all aspects of administrative and facility management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 662. Fitness Facility Management II. 3 Credit Hours.

Fiscal management as related to athletic sports administration, recreation and leisure sports administration, and physical education. Corequisite: KIN 661.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 667. Elements of Sports Psychology. 3 Credit Hours.

Introduction to the study of sport and exercise psychology including theory, current research and practical application.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 668. Developmental Sports Psychology. 3 Credit Hours.

Examination of the concept of sport psychology which includes but is not limited to performance, enhancement, student performance and academic application.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 669. The Foundations of Exercise Prescription. 3 Credit Hours.

Students will learn various assessments of Health and Wellness, and discover how to most effectively prescribe exercise strategies to treat the diagnosed needs of an individual.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 670. Advanced Programming. 3 Credit Hours.

Advanced programming allows students to dissect sports by movement, metabolism and limitation. The course investigates current trends and evidenced based applications of specific training techniques for optimal sport performance. Students will perform complete sports analysis and develop periodized programs for major sports.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 671. Sport Industry in South Florida. 3 Credit Hours.

This course will examine the various sport based organizations/events that are part of the sport industry in South Florida. Study of these organizations/events will include (a) products/services produced, (b) organizational structure, (c) economic impact on the local community, (d) key management personnel, (e) physical facilities, and (f) internship/employment opportunities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 673. Advanced Sport Governance. 3 Credit Hours.

This course provides the student with an examination of the governing organizations of sport at the youth, secondary, intercollegiate, professional, international, sport specific and Olympic levels. In addition, policy development in sport management will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

KIN 677. Advanced Nutrition for Health and Fitness. 3 Credit Hours.

This course presents an in-depth study of the nutritional concerns of today's Recreational and competitive athlete. Topics include dehydration, classic carbohydrate loading, protein needs, ergogenic aids, and more. State-of-the-art research in the field is provided. This is also a writing intensive course. Thus, writing skills will represent an integral part of one's grade.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 678. Pharmacology for Allied Health Professionals. 3 Credit Hours.

The study of drug families and drugs in common use across spectra of age, illness, disease, and disability. Students will understand body systems treated with current pharmaceuticals over-the-counter (OTC) medications, and nutraceuticals. Actions, key adverse effects, and influences on individuals undergoing physical activity will be emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 679. Principles of Exercise Assessment: Cardiovascular. 3 Credit Hours.

This course presents a comprehensive overview of the physical, physiological and metabolic responses of the human body to exercise testing and training both in health and disease. The successful student will gain an understanding of the process involved in prescribing safe and effective therapeutic exercise in healthy individuals as well as patients with heart and lung disease, diabetes and obesity. An overview of environmental and legal considerations in the prescriptive process will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 680. Principles of exercise Prescription: Neuromuscular. 3 Credit Hours.

An examination of the scientific bases of modern training techniques designed to optimize performance, their functional application and potential impact on performance in sport and everyday activity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 681. Development and Maturation of Athletes.. 3 Credit Hours.

This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes as it impacts physical performance. Additionally, students will learn the bases of pediatric exercise physiology in order to understand the concepts of motor development, strength, aerobic and anaerobic performance in the pediatric population.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 684. Obesity, Metabolic Disease, and Inflammation. 3 Credit Hours.

The focus of this course is on the integrative neurophysiological functions that regulate and influence obesity, metabolic disease, and inflammation. Students will be able to understand the role that chronic inflammation plays in the pathology of disease. A combination of lecture, critical reading, and group discussion will be utilized to explore the underlying basis for metabolic abnormalities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 685. Advanced Topics in Kinesiology and Sport Sciences. 3 Credit Hours.

This course will provide a synthesis of essential concepts in specialty subjects relevant to one's field of interest.

Components: THI.

Grading: GRD.

Typically Offered: Spring & Summer.

KIN 686. Exercise Prescription/Assessment Laboratory. 3 Credit Hours.

This course presents an overview of the laboratory techniques used to assess cardiovascular endurance and general fitness, pulmonary function and anaerobias observed during competition.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

KIN 687. Laboratory Experience in Sports Nutrition. 3 Credit Hours.

This laboratory class provides case study analyses and computerized nutrient analysis systems designed to evaluate nutrition and hydration needs of the recreational and competitive athlete. From urinalysis and blood work to body composition and computerized nutrient data base systems, this laboratory provides a clinical approach to evaluating the nutrition status of the exercising individual. Corequisite: ESS 577.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 688. Advanced Gross Anatomy In Kinesiology And Sport Sciences. 3 Credit Hours.

Human dissection of the major muscles, arteries and nerves of the body. Course is held at the University of Miami, Medical Campus, cadaver laboratory. Special consideration is given to injury sites in sports such as the knee, shoulder, elbow, neck and spinal areas. Students are required to pay a \$100 laboratory fee for the class. This course is to be taken by undergraduate Athletic Training majors and for the 5- year Sports Medicine with a Concentration in Athletic Training program students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 689. Directed Readings in Kinesiology and Sport Sciences. 3 Credit Hours.

Directed Readings focusing on research and contemporary trends in the field.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 690. Strength And Conditioning Independent Study/Project. 3 Credit Hours.

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 698. Professional Training & Counseling For Integrative Health. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 699. Advanced Programming for Endurance Athletes. 3 Credit Hours.

This course provides students with training techniques to improve aerobic capacity, endurance, and lactate threshold for optimal performance. Students will review evidenced based principles of sports nutrition, strategies to ensure proper hydration, thermoregulation, and fuel (substrate) availability during prolonged exercise as well as develop programs for competitive sports including triathlon, marathon, and cycling.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 702. Athletics in the United States. 3 Credit Hours.

An Assessment of athletics in the United States. Focus on historical perspectives, contemporary issues, interface with international athletics, and future trends.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 704. Recreation in the United States. 3 Credit Hours.

An assessment of recreation and leisure in the United States. Focus on past, present, and future trends, problems, and issues.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

KIN 710. Advanced Adolescent Growth and Maturation. 3 Credit Hours.

This course is an in-depth study of pediatric exercise physiology with special emphasis on growth, maturation, physical activity, and performance. Topics include a comprehensive summary of biological growth and maturation, processes that impact physical performance. Additionally, students will learn the basis of training pediatric populations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 712. Applied Sport Psychophysiology. 3 Credit Hours.

The study of the physiological effects of acute vs. chronic training on homeostatic function, musculoskeletal systems, energy system function, cardiovascular system, and the pulmonary system. Students will be able to understand and interpret terminology and research literature published in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 715. Evidence-Based Sports Medicine. 3 Credit Hours.

Introduction to clinical epidemiology and the evaluation of the efficacy of prevention, diagnostic, and treatment strategies or orthopedic injuries in sports medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 716. Advanced Rehabilitation Techniques in Sports Medicine. 3 Credit Hours.

This is an advanced athletic training course designed to enhance the athletic trainer's ability to plan and implement a comprehensive sports injury rehabilitation program based on the sequential events of musculoskeletal tissue healing. Discussion focuses on the development of a conceptual model for sports injury rehabilitation which incorporates rehabilitation phases, intervention goals, and progression criteria.

Application of the problem-oriented approach to the management of athletic injuries is a predominant theme throughout this course

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 717. Advanced Evaluation Techniques in Sports Medicine. 3 Credit Hours.

A lecture/lab course stressing clinical techniques involved in the use of posture evaluation, back evaluation, advanced orthopedic evaluation, and gait analysis, in conjunction with the scientific foundations of physiology and biomechanical principles associated with advanced evaluation techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 720. Practicum in Athletic Training. 3 Credit Hours.

Field experience at the athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as a certified athletic trainer and as an clinical instructor.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

KIN 721. Independent Study I. 1 Credit Hour.

This course is an advanced study of a particular theme or topic in the athletic training field such as students, research topic, and current issues of relevance to certified trainers and other professionals in the sports health care profession. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

KIN 722. Practicum in Athletic Training 2. 3 Credit Hours.

Field experience at that athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as certified athletic trainer and a clinical instructor as well.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

KIN 723. Independent Study 2. 1 Credit Hour.

This course is an advanced study of a particular theme or topic in the athletic training field such as students' research topic, current issues of relevance to certified athletic trainers and other professionals in the sports health care professions. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

KIN 724. Practicum in Athletic Training III. 3 Credit Hours.

Field experience at the athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as a certified athletic trainer and clinical instructor as well.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 725. Independent Study III. 1 Credit Hour.

This course is an advanced study of a particular theme or topic in the athletic training field such as students' research topic, current issues of relevance to certified athletic trainers and other professionals in the sports health care professions. Students will prepare for class discussion by reviewing assigned readings from professional journals and other pertinent sources. Class sessions will consist of lectures, laboratories, and discussion sessions.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 726. Practicum in Athletic Training IV. 3 Credit Hours.

Field experience at the athletic training setting through working with collegiate athletes to expose students to the role and function of athletic training as a certified athletic trainer and clinical instructor as well.

Components: PRA.

Grading: GRD.

Typically Offered: Spring.

KIN 727. Pract in Nutrition. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 735. Methods in Biomechanical Analysis. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 740. Neurophysiology in Exercise Science. 3 Credit Hours.

Examination of the functions of the central, peripheral, and autonomic nervous systems in regulating exercise homeostasis and the structural and functional modifications to the systems through training. NOTE: This course is a writing intensive course. This means that all examinations and papers include a critical evaluation of the student's ability to convey information using the written word.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 741. Aging: Physiological Changes and Their Implications of Training. 3 Credit Hours.

The physiological changes that occur due to aging and their impact on fall prevention, independence and the application of prophylactic exercise prescriptions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 742. Fundamentals of Cardiology. 3 Credit Hours.

This course represents an in-depth review and evaluation of the field of cardiology. Students must understand the etiology of coronary artery diseases, assessment techniques in the evaluation of cardiac pathologies, the latest risk factors, and most recent trends in treatment and rehabilitation. Phase I through Phase IV review of Cardiac Rehabilitation will be fully examined.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 743. Laboratory Experiences in Cardiac Rehabilitation. 3 Credit Hours.

This class provides hands-on clinical experiences in preparation of patient for testing, assessment of pre-existing medical conditions and risk factors as well as appropriate procedures for stress testing. Student will, in addition, have the opportunity to view Thallium stress tests, echocardiography and cardiac surgical procedures such as angioplasty and bypass surgery.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 744. Interpretation Of The Ecg. 3 Credit Hours.

This class will provide information of the electrophysiology of the heart, medicines used to improve heart function, and critical examination of waveform analyses in interpreting the electrocardiogram. Prerequisite: KIN 642 (Formally ES S 642) or permission of the instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 746. Research Methods in Kinesiology and Sport Sciences. 3 Credit Hours.

This Course reviews the approach and research methods used to evaluate quantitative research questions in the field of Kinesiology and Sport Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 747. Analytic Methods in Kinesiology and Sport Sciences. 3 Credit Hours.

Methods of analyzing research data in Kinesiology and Sport Sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 755. Exercise Biochemistry. 3 Credit Hours.

This course presents an in-depth examination of the biochemical basis of exercise. Topics include carbohydrate and lipid metabolism at rest and during exercise, integration of metabolism, the use of stable isotopes in the characterization of substrate kinetics, and metabolic bases of fatigue. Both the instructor and the students will incorporate current peer-reviewed research in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 781. Issues Specific to Women's Health. 3 Credit Hours.

This course focuses upon clinical health issues relevant to women. Students will acquire a body of knowledge concerning the specific biological and physiological changes women experience from birth to maturity, and from the pre- to post menopausal state. Women will learn significant issues related to women's health and be able to make more educated decisions regarding their health and treatment options.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 782. Psychosocial Issues in Women's Health. 3 Credit Hours.

This course covers a broad perspective of women and their self-esteem, their femininity, and their role in family household. Attention will be paid to the historical, cultural, and anthropological development of women and their role in society. The influence of gender will explore several areas which include a) pregnancy, b) menopause, c) menstrual cycle, d) stress and career vs. family, e) depression, and f) body image.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

KIN 783. Sports Medicine for the Female Athlete. 3 Credit Hours.

This course focuses upon the physiological effects of exercise on the female athlete as it relates to her performance and health. Physiological differences between male and female will be examined as it impacts the women's performance capabilities and potential. Gender specific problems regarding the exercising female will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

KIN 784. Advance Neurological Mechanisms of Metabolism and Weight Regulation. 3 Credit Hours.

This course is designed to evaluate dieting, rebound effect, set point theory, brown fat, and adaptive thermogenesis, as they relate to the etiology of obesity. The course will cover a step-by-step approach in the recognition, and management of the overweight patient. The course will also examine adipocyte morphology and the health implications of being overweight and obese. Students will examine the impact of both diet and exercise on long-term weight management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 791. Practicum in Kinesiology and Sport Sciences/Master's students. 1 Credit Hour.

The course presents graduate students with the theoretical and practical tools necessary for expanding their critical thinking and argumentative skills in order to present their scientific research results in an evaluative, logical and analytical manner. The course consists of weekly presentations of related literature, results, and findings on various Master's projects.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 792. Optional Internship-Strength and Conditioning. 1 Credit Hour.

This 1 credit internship allows students to pursue professional internships in the field of strength and conditioning/fitness entrepreneurship. Students will be provided with contact information and a number of opportunities by Dr. Biagioli relative to their interests.

Components: SEM.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 793. Research Colloquium.. 1-3 Credit Hours.

This course presents graduate students with the theoretical and practical tools necessary for presenting their scientific research in an organized, logical, and analytical manner.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 794. Advanced Individual Study. 1-3 Credit Hours.

The Application for Admission to Individual Study Form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 795. Graduate/Clinical Field Experience in Kinesiology and Sport Sciences. 3 Credit Hours.

Practical experience not ordinarily available through coursework sequences. Placement in a variety of settings, clinics, public and private voluntary agencies and schools. Supervised by a faculty member of the department.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 799. Special Project. 1-3 Credit Hours.

This course represents the capstone course in a student's field and should represent a culmination of all information learned in class.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in ESS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

KIN 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 830. Pre-Candidacy to Dissertation Research. 1-10 Credit Hours.

Admission to doctoral program. Requires approval of advisor and department chair.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 835. Practicum. 1-2 Credit Hours.

The course presents graduate students with the theoretical and practical tools necessary for expanding their critical thinking and argumentative skills in order to present their scientific research results in an evaluative, logical and analytical manner. The course consists of weekly presentations of related literature, results, and findings on various Doctoral projects.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

KIN 840. Post-Candidacy Dissertation Research. 1-12 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

KIN 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the PH.D. Student, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate school.

Components: PRA.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Latin (LAT)

LAT 101. Elementary Latin I. 3 Credit Hours.

Elementary vocabulary, grammar and reading.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 102. Elementary Latin II. 3 Credit Hours.

Continuation of LAT 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 201. Intermediate Latin I. 3 Credit Hours.

Translation and grammatical analysis of selected texts from Latin authors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 202. Intermediate Latin II. 3 Credit Hours.

Introduction to reading Latin poetry. Students will read selections from the Aeneid, with emphasis on Virgil's language and meter, as well as the ancient epic tradition. Latin 202 prepares students for 300- and 400-level Latin poetry courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 203. Ovid's Metamorphoses. 3 Credit Hours.

Readings in Latin from Ovid's Metamorphoses, including Apollo and Daphne, Echo and Narcissus, Midas and more.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 301. Catullus. 3 Credit Hours.

An advanced Latin course on the works of the Roman poet Catullus. Students will read almost all of the poems in the Catullan corpus, and be introduced to the related secondary literature, covering topics such as ancient sexuality, invective and obscenity, the figure of the mistress in Latin love poetry, the arrangement of poems within a poetic book, meter, and the textual tradition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 302. Petronius. 3 Credit Hours.

An advanced Latin prose reading course on Petronius' Satyricon, a mysterious and fragmented novel dating from the time of the decadent emperor Nero. Trimalchio's Dinner-Party, the central section of the work, forms the focus of the course. It is an account of a dinner hosted by a wealthy ex-slave, and can be read as a critique of the excesses of the Neronian age.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 311. Cicero: Orations. 3 Credit Hours.

Readings from the speeches of Cicero, with an emphasis on syntax, vocabulary, rhetorical theory and practice, and the historical situation of the speeches.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 321. Vergil. 3 Credit Hours.

An advanced reading course in the poems of Vergil.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 322. Martial Epigrams. 3 Credit Hours.

Examines selected works of the first-century CE poet Martial, the acknowledged master of the verse epigram, considering his writing both as poetry (within the Greek and Roman traditions) and as social and political commentary.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 323. Seneca. 3 Credit Hours.

Examines in Latin select writings of the Roman philosopher and statesman Lucius Annaeus Seneca.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 401. Special Topics in Latin Literature. 3 Credit Hours.

Prerequisite: LAT 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 402. Special Topics in Latin Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle). Analogous to REL 404-409 courses. [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 403. Special Topics in Latin Literature. 3 Credit Hours.

This course will address a specific author, topic, or text (appearing as a subtitle) Analogous to REL 404-409 courses. [this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 404. Special Projects in the Literature & Culture of Ancient Rome. 3 Credit Hours.

[This course will address a specific project in Classics (appearing as a subtitle) Analogous to REL 407-409 this will vary each time the course is offered]

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 406. Special Projects in the Literature and Culture of Ancient Rome. 3 Credit Hours.

This course will address a specific project in Classics (appearing as a subtitle). Analogous to REL 407-409.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 407. Supervised Reading in Classical Latin. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 408. Supervised Reading in Classical Latin. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 409. Supervised Reading in Classical Latin. 3 Credit Hours.

Variable subject matter determined by instructor and student. Analogous to REL 401-403.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 411. Horace. 3 Credit Hours.

Readings in the odes, epodes, satires and epistles of Horace.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 421. Roman Epic. 3 Credit Hours.

Studies from Roman epic poetry of Lucretius and Virgil to Lucan and Statius.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 422. Lucretius. 3 Credit Hours.

Detailed treatment of the Latin philosophical poet Lucretius and his lone surviving poem, *De rerum natura*.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 431. Livy. 3 Credit Hours.

Readings from the Roman historian Livy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAT 491. Directed Readings. 1-3 Credit Hours.

Content to be determined by faculty member and registering student(s).

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAT 625. Elementary Latin for Graduate Research. 0 Credit Hours.

Grammatical structures, verb tenses, and word families necessary for reading texts with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAT 691. Directed Reading in Latin for Graduate Students. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Latin American Studies (LAS)

LAS 101. Introduction to Latin American and Caribbean Studies. 3 Credit Hours.

Course will focus on culture, economy, geography, history, politics, and society of Latin America and the Caribbean, as well as on the ways in which scholars have studied the region. LAS101 replaces LAS201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 110. Students in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 111. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 112. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 113. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 114. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 115. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 200. Introduction To Latina/O Studies. 3 Credit Hours.

Do all Americans who descend from Spanish-speaking countries have something in common? By what label—Hispanic, Latino, Chicano—should descendants from Latin America or the Caribbean identify? Are Latinos a race, an ethnic group, or neither? This course addresses these concerns while analyzing the competing and complementary theoretical perspectives on the “Latinization” of the United States. Our readings, discussions and assignments will explore how multifaceted groups of people have met the various political, social, cultural and economic complexities of U.S. Society.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 211. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 212. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 213. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 214. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 215. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 290. Andean Societies. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 291. Peruvian History and Culture. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 301. Interdisciplinary Topics in Latin American and Caribbean Studies. 3 Credit Hours.

Topics vary, Interdisciplinary focus may be thematic (e.g.: revolutions, new social movements, women's rights, Latin Americanism, testimonio, culture industries, etc.) or regional/national (e.g.: Andean Studies, Southern Cone Studies, Caribbean Studies, Mexican Studies, etc.)

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 302. Interdisciplinary Topics in Latin American and Caribbean Studies-Travel Course. 3 Credit Hours.

Topics vary, Interdisciplinary focus is thematic and regional (i.e. tourism in Yucatan; civil society in Chile, civil society in Haiti, cultural policy in the Caribbean, environmental policy in Panama.). Course involves travel during Spring Break and it has a program fee.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 311. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 312. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 313. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 314. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 315. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 320. Special Topics in Latin American and Caribbean Environment. 3 Credit Hours.

Topics vary. Interdisciplinary focus on policies and impact on globalization on the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 321. Latin American Environmental Issues. 3 Credit Hours.

A comprehensive course on Latin American and Caribbean environmental issues in their political, economic, and social dimensions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

LAS 330. Special Topics in Latin American and Caribbean Religions. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional (eg: Liberation Theology, Latin American and Latino Religions, Caribbean Religions.)

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 340. Special Topics in Latin American and Caribbean Economics. 3 Credit Hours.

Topics vary. Focus may be thematic or regional, but will address issues in Latin American and Caribbean Economics and Economic Development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 350. Special Topics in Latin American and Caribbean Art and Culture. 3 Credit Hours.

Topics vary. Focus may be thematic or regional, but will address issues in Latin American and Caribbean Art and Culture.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 360. Special Topics in Latin American and Caribbean Politics. 3 Credit Hours.

Topics Vary. Interdisciplinary focus may be thematic or regional (eg: democracy, new social movements, globalization, politics and society.)

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 362. Drug Trafficking In Latin America And The Caribbean. 3 Credit Hours.

This course introduces students to the study of drug trafficking in Latin America and the Caribbean and its relationship with organized crime, understanding both as important aspects in the dynamics of globalization, international relations, and domestic politics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 370. Special Topics in Latin American and Caribbean Media and Communications. 3 Credit Hours.

Topics vary. Focus may be thematic or regional, but will address issues in Latin American and Caribbean Media and Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 410. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 411. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 412. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 413. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 414. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 415. Studies in Latin America and the Caribbean. 1-3 Credit Hours.

Latin American and Caribbean Studies Courses taken at other institutions with no direct equivalent.

Components: LEC.

Grading: GRD.

LAS 491. Debates On Current Issues In Latin American And Caribbean Studies. 3 Credit Hours.

Content may vary from semester to semester. This is an upper level course to allow debate and discussion on current issues and events affecting Latin America, the Caribbean and Latino communities in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 494. Independent Study in Latin American and Caribbean Studies. 1-3 Credit Hours.

Independent study leading to a thesis, original piece of research, or creative project on a Latin American or Caribbean subject.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 495. SENIOR HONORS THESIS I. 3 Credit Hours.

This course pairs students with a faculty mentor to set and guide a research agenda in preparation for writing the senior honors thesis. Students will study advanced topics in Latin American and Caribbean Studies, according to faculty interests.

Prerequisite: LAS 101.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 496. SENIOR HONORS THESIS II. 3 Credit Hours.

This course pairs students with a faculty mentor to guide the writing process for the senior honors thesis. Students will study advanced topics in Latin American and Caribbean Studies, according to faculty interests.

Prerequisite: LAS 101.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 501. Interdisciplinary In Latin American And Caribbean. 3 Credit Hours.

Interdisciplinary methods and politics of Latin American and Caribbean area Studies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

LAS 502. Research Design in Latin American Studies. 3 Credit Hours.

Interdisciplinary research methods and skills in Latin American and Caribbean studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 503. Program Seminar in Latin American Studies and Caribbean Studies. 3 Credit Hours.

Content of course will vary by semester.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 504. Interdisciplinary Topics in Latin American and Caribbean Studies - Travel Course.. 3 Credit Hours.

Topics vary. Interdisciplinary focus is thematic and regional (e.g.: tourism in Yucatan; civil society in Chile, Haiti-Dominican Republic relations, cultural policy in the Caribbean, environmental policy in Panama.) Course involves travel during Spring Break and it has a program fee.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 505. Internship in Latin American and Caribbean Studies. 1-3 Credit Hours.

On-site experience in business, governmental organization, or non-profit organization dealing with Latin America and/or the Caribbean.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 506. Civic Engagement In Latin America. 1-3 Credit Hours.

On site experience in a civic engagement project in Latin America or the Caribbean.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 520. Interdisciplinary Topics in Latin American and Caribbean Environments. 3 Credit Hours.

Topics vary. Interdisciplinary focus on policies and impact of globalization on the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 521. Latin American Environmental Issues. 3 Credit Hours.

A comprehensive course on Latin American and Caribbean environmental issues in their full political, economic, and social dimensions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

LAS 530. Special Topics in Latin American and Caribbean Religions. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional (eg: Liberation Theology, Latin American and Latino Religions, Caribbean Religions), but will address Latin American and Caribbean Religion.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 540. Special Topics in Latin American and Caribbean Media and Communication. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional (eg: global media, Spanish- or Portuguese-language television or radio, social media) but will address Latin American and Caribbean Media and Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 550. Special Topics in Latin American and Caribbean Art and Culture. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional, but will address Latin American and Caribbean Art & Culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 560. Special Topics in Latin American and Caribbean Politics. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional (eg: democracy, new social movements, globalization, politics and society), but will address Latin American and Caribbean Politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 580. Special Topics in Latin American and Caribbean History. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or regional, but will address the history of political, social and economic development in Latin America and the Caribbean.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 591. Debates On Current Issues In Latin American And Caribbean Studies. 3 Credit Hours.

Content may vary from semester to semester. This is a graduate course to allow debate and discussion on current issues and events affecting Latin America, the Caribbean and Latino communities in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 601. Interdisciplinary In Latin American And Caribbean. 3 Credit Hours.

Interdisciplinary methods and politics of Latin American and Caribbean area Studies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

LAS 602. Research Design in Latin American Studies. 3 Credit Hours.

Interdisciplinary research methods and skills in Latin American and Caribbean studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 603. Program Seminar in Latin American Studies and Caribbean Studies. 3 Credit Hours.

Content of course will vary by semester.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 604. Interdisciplinary Topics in Latin American and Caribbean Studies - Travel Course.. 3 Credit Hours.

Topics vary. Interdisciplinary focus is thematic and regional (e.g.: tourism in Yucatan; civil society in Chile, Haiti-Dominican Republic relations, cultural policy in the Caribbean, environmental policy in Panama.) Course involves travel during Spring Break and it has a program fee.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

LAS 605. Internship in Latin American and Caribbean Studies. 1-3 Credit Hours.

On-site experience in business, governmental organization, or non-profit organization dealing with Latin America and/or the Caribbean.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 606. Civic Engagement In Latin America. 1-3 Credit Hours.

On site experience in a civic engagement project in Latin America or the Caribbean.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

LAS 620. Interdisciplinary Topics in Latin American and Caribbean Environments. 3 Credit Hours.

Topics vary. Interdisciplinary focus on policies and impact of globalization on the environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 630. Special Topics in Latin American and Caribbean Religions. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion (eg: Liberation Theology, Latin American and Latino Religions, Caribbean Religions), but will address Latin American and Caribbean Religion.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 640. Special Topics in Latin American and Caribbean Media and Communication. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion (e.g. Global media, Spanish- or Portuguese- language television or radio, social media), but will address Latin American and Caribbean Media and Communication.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 650. Special Topics in Latin American and Caribbean Art and Culture. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion, but will address Latin American and Caribbean Art and Culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 660. Special Topics in Latin American and Caribbean Politics. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion (e.g.: democracy, new social movements, globalization, politics and society), but will address Latin American and Caribbean Politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 680. Special Topics in Latin American and Caribbean History. 3 Credit Hours.

Topics vary. Interdisciplinary focus may be thematic or religion, but will address the history of political, social and economic development in Latin America and the Caribbean

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 691. Debates On Current Issues In Latin American And Caribbean Studies. 3 Credit Hours.

Content may vary from semester to semester. This is a graduate course to allow debate and discussion on current issues and events affecting Latin America, the Caribbean and Latino communities in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

LAS 694. Directed Readings in Latin America and Caribbean. 3 Credit Hours.

Independent Study leading to an original piece of research, or creative project on a Latin American or Caribbean interdisciplinary topic.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 697. Readings for the Comprehensive Exam. 3 Credit Hours.

Readings for M.A. students who are preparing for comprehensive examinations.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 810. Pre-candidacy thesis credits. 3 Credit Hours.

The student working on his/her master's thesis enrolls for credit, not to exceed three, before student has been admitted to candidacy. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

LAS 815. Post-candidacy thesis credits. 3 Credit Hours.

The student working on his/her master's thesis enrolls for credit, not to exceed six, after student has been admitted to candidacy. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

LAS 820. Research in residence.. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in LAS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Management (MGT)

MGT 251. Nature and Foundations of Entrepreneurship. 3 Credit Hours.

This course seeks to understand some of the basic social, legal, cultural, and economic infrastructure that enables and sustains the creation of new enterprises. Although conventional perspectives on entrepreneurship often overlook political or religious activists whose "products" are not "sold" in traditional markets, a more expansive view considers actions that transform ideas into enterprises that generate intellectual, social, cultural, religious, or economic value. Theory, data, and case study will be covered to help students to think both broadly and deeply about what it means - and what it takes - to be an entrepreneur, and what characterizes the entrepreneurial society.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 270. Introduction To Health Sector Organization And Management. 3 Credit Hours.

This course provides a basic understanding of the components of the health care sector and their interrelationships. The role of hospitals, ambulatory care (including physicians), long-term care, mental health care, hospice care, and pharmaceuticals will be examined. The role of government financed (Medicare and Medicaid) and private health insurance in affecting decision making by health care consumers and providers will be examined as well. A historical context will be used.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 302. Human Resource Management. 3 Credit Hours.

Theory and practice of modern personnel management related to the other management functions in the conduct of the enterprise. Attention is focused on the needs of the line executive as well as those intending to pursue a staff career.

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 303. Operations Management. 3 Credit Hours.

Problems and methods of planning the efficient utilization of capital, labor, equipment, and materials. Sales forecasting, production planning, production control, scheduling, routing, dispatching, expediting, materials planning, inventory control, capital budgets, and costing are discussed. The application of quantitative techniques in problem solving and decision making are included as well as case problems.

Prerequisite: MAS 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 304. Organizational Behavior. 3 Credit Hours.

First professional course in management. Concepts of organization, motivation, leadership, dynamics of the group, personality, organizational development strategies, and other behavioral aspects involved in the effective management of an organization are discussed.

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 307. Advanced Organizational Behavior. 3 Credit Hours.

Continuation of MGT 304—primarily for, but not limited to, BMO majors. Through case analysis and other relevant exercises, theories are applied to specific situations in organizational settings.

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 308. Training and Development. 3 Credit Hours.

An examination of key issues in designing training and development programs. Topics include organizational needs analysis, training design and implementation, evaluation techniques, and understanding of how such programs interact with other human resource functions.

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 324. Negotiation Strategies. 3 Credit Hours.

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 349. International Business. 3 Credit Hours.

This course is designed to introduce students to the study of international business. Through discussions and analyses of the unique challenges and opportunities faced by multinational corporations (MNCs) and their managers, students gain an understanding of how to conduct business across different cultural, political, economic, and legal environments, as well as how to function effectively and succeed in MNCs. The course work and usage of teaching methods such as case analyses, experiential learning exercises, and debates seek to help students develop a global mindset and skills for effective global management (e.g., conceptual, analytical, cross-cultural communication, negotiation, and presentation skills).

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 353. Introduction to Entrepreneurship. 3 Credit Hours.

The opportunities for the organization and operation of the small business. Organization, location, financial planning, records, unit costs, merchandising, credits, and personnel are discussed. Opportunities in various other fields are also considered.

Requisite: Must be in the School of Business or have a MGT minor or ENT major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 357. Entrepreneurship Simulation Experience: Inside the Mind of the Entrepreneurial CEO. 3 Credit Hours.

This course provides students with unique entrepreneurial experiences derived from starting and running businesses through computer simulation. Topics include: opportunity and environment assessment for potential businesses; initiation, organization, administration, and launch of the businesses; operation of the businesses in a competitive environment; responsibilities, functioning, and issues of entrepreneurial teams; evaluation, measurement, and competitive ranking of business success.

Requisite: Must be in the School of Business or have a MGT minor or ENT major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 359. Comparative Management. 3 Credit Hours.

Analysis of professional management as affected by the cultural environments in which it operates in major industrial nations. The problems of trans-cultural managers in multinational structures is examined.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 360. Effective Leadership. 3 Credit Hours.

This course covers the key theories, models, and frameworks about the effective leadership of people in organizations. A multimedia approach is taken, using readings, films, lecture, discussion, and case analyses. The emphasis is on building a sound grasp of good practice, and on developing the ability to apply such knowledge to everyday leadership situations.

Prerequisite: MGT 304.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 371. DOING BUSINESS IN LATIN AMERICA. 3 Credit Hours.

This elective examines the key local, regional, and global forces affecting the conduct of business in the main Latin American markets of Mexico, Brazil, Venezuela and Chile. These forces include historical, cultural and demographic factors as well as the fast-changing politics and economics of the region. Students will be introduced to the complex relationships between business and government in LatAm as well as the unique advantages and disadvantages of companies based in the region.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 401. Strategic Management. 3 Credit Hours.

An integrative approach to strategy formulation and implementation, from a domestic and international perspective, is the focus of this core capstone course. All the primary areas of business are emphasized using cases and readings. Course is required of all graduating seniors in Business.

Requisite: School of Business Administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 422. Leading Teams. 3 Credit Hours.

The objectives of this course are to develop interpersonal communication and conflict management skills necessary to work in teams and exercise leadership in teams. Topics include team development, decision making, and managing conflict.

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 428. Compensation and Benefits Design. 3 Credit Hours.

Examines techniques and theories related to the design and management of compensation and benefits programs within organizations.

Compensation includes cash compensation, such as base pay, merit pay, seniority pay, individual, group and organization-wide incentive plans, skills-based pay, and pay-for-knowledge. Benefits include health care plans, pension and profit-sharing plans, life and disability plans, and paid time off.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 445. Supply Chain Modeling and Analysis. 3 Credit Hours.

This course will introduce students to managerial decision problems in modern supply chains, and will develop structured mathematical tools to model and solve these problems. Students will also learn to apply these tools through problem-solving exercises, experiential games, and spreadsheet-based case studies.

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 446. Supply Chain Strategy. 3 Credit Hours.

This course will deal with issues such as inventory management, supply chain design/coordination, revenue management, and sourcing. Each module discusses how a real company practices some aspect of supply chain strategy, and then reviews the concepts behind that practice.

Tools are provided to analyze the concepts, distill their principles, and suggest guidelines for implementation and improvement.

Prerequisite: MGT 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 450. MGT Internship. 1 Credit Hour.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Cannot be used toward major requirements.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 454. Business Planning for Entrepreneurs. 3 Credit Hours.

The basics of starting a business for aspiring entrepreneurs. Topics include sources of capital, market choices, division of the equity pie, choice of distribution channels, choosing an accountant and a legal advisor, preparation of a business plan, and product design. Teams of students develop business plans to start new enterprises.

Requisite: Must be in the School of Business or have a MGT minor or ENT major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGT 455. Entrepreneurial Consulting. 3 Credit Hours.

Students review techniques, methods, and organizational forms of management consultants. Emphasis on small business problems, particularly start-ups, is provided through preparation of consulting reports on written cases, guest speakers, and actual business firms or start-ups.

Requisite: Must be in the School of Business or have a MGT minor or ENT major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 459. International and Multinational Management. 3 Credit Hours.

Foreign environment for overseas operations with a survey involving economics, political, and social constraints. The effects of overseas investments on foreign economies with emphasis on the emerging managerial structures is included.

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 480. Organizational Development and Change. 3 Credit Hours.

Course is intended for students who are interested in learning about how to manage, plan, and implement large-scale change efforts within organizations. Part of the course is devoted to organizational analysis techniques and the remainder addresses behavioral intervention strategies (including survey feedback, technostructural interventions, and team building).

Requisite: Must be in the School of Business or have a MGT minor plan.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 498. Selected Topics. 1-6 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 499. Directed Study. 1-6 Credit Hours.

Individually supervised research projects in selected fields. Approval of supervising professor as to topic and evaluation of project required at time of registration. Only open to undergraduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 600. Managing Responsible Behavior in Organizations. 3 Credit Hours.

For Executive MBA students only. Course covers organizational behavior and utilizes cases and lectures to explore topics such as personality, motivation, leadership, group processes, organizational structure/design, and social responsibility.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 602. Human Resource Management. 3 Credit Hours.

Modern personnel administration: job analysis and design, evaluation and appraisal, recruitment and interviewing, training and development, wages and benefits, and health and safety. Unionization, regulation of wages, hours and working conditions, financial security for workers, job anti-discrimination legislation, and manpower planning is also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 603. Leading Teams. 3 Credit Hours.

The objectives of this course are to develop interpersonal communication and conflict management skills necessary to work in teams and/or exercise leadership in teams. Topics include team development, decision making, and diagnosing team process issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 617. Leading Across Cultures. 2 Credit Hours.

This course examines what constitutes "effective" leadership across cultures. Skills and behaviors that are perceived as effective leadership in one culture are not necessarily those that will be effective in a different culture. By exploring the ways in which specific cultural values and leadership prototypes are seen across different cultures, students will be prepared for cross-cultural adjustment and effective leadership. These skills may be applied to work assignments in a culture that is not their own or to leading diverse followers in their home country. The goal of the course is to help prepare students for leadership in multicultural environments.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 618. Leading Change In Organizations. 2 Credit Hours.

Charles Darwin aptly noted, "It is not the strongest species that survive, not the most intelligent, but the ones who are most responsive to change." The primary goal of this course is to help you learn how to lead and manage the challenges associated with organizational change processes. Together we will identify the opportunities that require change programs; discuss ways to overcome the inevitable obstacles to change; learn how to build successful coalitions to support change efforts; analyze strategies for implementing change; and examine ways to consolidate the results of such efforts to ensure that changes are sustainable over time.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 619. Leading With Power And Influence. 2 Credit Hours.

One of the realities of organizational life is that people continually attempt to control the actions of others and to successfully influence their behavior. This reality leads to a wide array of organizational activities aimed at enhancing one's own or one's group's personal agendas. This course focuses on preparing graduates for the challenges and "realities" they will ultimately face as leaders. Given that most students will eventually be leading the efforts of others, it is essential that they understand how to acquire power and, within ethical bounds, exercise influence.

Prerequisites: MGT 600 or MGT 620 or MGT 651.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 620. Managing Through People. 2 Credit Hours.

This core course in the MBA program introduces students to some of the key behavioral topics necessary to manage oneself and others in organizations. Specifically, the topics covered include individual attributes (personality, perception, motivation, relationship building), group processes (norms, roles, and team basics), leadership views, and organizational culture/change. An understanding of the relationship between each of these areas and organizational outcomes is enhanced through lecture, cases, and interactive exercises.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 621. High Performance Leadership. 2 Credit Hours.

Leadership skills are critical for high performing organizations. Course utilizes lecture, cases, exercises, self-assessments, and contemporary reading materials to present leadership approaches that both motivate and enable employees to perform beyond normal or ordinary expectations. Topics include followership and organizational culture, power, influence, rewards and punishments, path-goal and exchange theories, participation and empowerment, charismatic and transformational leadership, and contingency and cognitive resources theory.

Requisite: Master of Science in Management Studies Students Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 622. High Performance Teams. 2 Credit Hours.

This elective course highlights how to manage and construct effective teams to achieve strategic goals. Team-based organizations have been created to enhance organizational performance. The benefits of effective team leadership are performance beyond expectations and enhancement of learning for employees. Topics covered include team decision-making, team leadership, diversity in teams, conflict resolution, and team creativity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 623. Human Resource Systems. 2 Credit Hours.

Leaders must manage their human resource assets effectively to achieve high performance organizations. Course topics include recruitment and selection of high performance employees, designing performance appraisal systems, implementing policies to satisfy legal issues impacting human resources, and instituting training/development systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 624. Negotiation Strategies. 2-3 Credit Hours.

This course is a skills-based approach to learning the art and science of negotiation. Negotiation is a core management competency; these skills are increasingly necessary for leaders in business, non-profits, small businesses and other organizations. This course will cover preparation, and negotiation skills such as establishing trust and relationship-building. Topics covered include power, persuasion, creativity and problem-solving, ethics and cross-cultural negotiation. Skills and self-insight will be acquired through self-assessment, role-play negotiation exercises and case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 625. Entrepreneurship: Creating New Ventures. 2 Credit Hours.

This is a two-credit course for MBA students (only). The course is designed to help students understand the basic essentials for creating a new venture. Among some of the topics covered will be: preparation of a business plan, securing sources of capital, choosing and creating appropriate distribution channels, and understanding the complexities of selecting a management team. Students will be required to critique and develop business plans as a key evaluation component for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 628. Global Entrepreneurship. 4 Credit Hours.

This seminar-type course is an advanced elective specially designed for graduate students either interested in starting their own firms or developing the skills with which to submit business plans within the corporate world (i.e., corporate entrepreneurship) in today's global, interdependent economy. Students will learn to assess the new venture opportunities that he/she may have considered and choose the one that seems most attractive and viable and develop a unique business model which enhances the plan's viability in the short term, and ensures the development of sustainable advantages in the long term. Each student will draft a comprehensive business plan after working on its functional components (e.g., marketing, finance, human and intellectual capital plans) to be developed throughout nine classes and several individual meetings along the program's academic calendar. At the end, students will present their business plans to a panel of new venture investors who will assess all projects, give individual feedback, and choose the best project(s).

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

MGT 643. Principles of Operations Management. 2 Credit Hours.

Introduction to operations management, forecasting, process analysis, aggregate planning, capacity management, waiting line management, system design, quality management, and inventory management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 645. Principles of Supply Chain Management. 2 Credit Hours.

Course introduces students to the business discipline of Supply Chain Management (SCM) which centers on concepts and techniques that enables firms to better coordinate material and information flows, and non-material activities associated with logistical and marketing processes that occur within and across organizations. Course also discusses concepts and recent influential innovations in SCM (e.g., Cross-Docking, Vendor Managed Inventory (VMI), Third-Party Logistics (3PL), Efficient Consumer Response (ECR), and Quick Response (QR)).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 651. Behavioral and Organizational Systems. 3 Credit Hours.

Exploration of relevant concepts, research findings, and pragmatic implications of the behavioral sciences for the management of complex socio-technical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 653. Operations Management. 3 Credit Hours.

Introduction to major managerial problems and decision processes of operations management. Topics include the design of operations, planning, scheduling, quality control, systems analysis and evaluation, resource allocation, materials requirement planning, and integration of operations management with the other functional areas.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 654. Sel Top In Oper Mgt. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 655. Research Methods. 3 Credit Hours.

Course addresses the fundamentals of research in business including exploratory designs, correlational and multivariate designs, experimental and non-experimental studies, measurement theory, internal and external validity considerations, and ethical requirements in conducting organizational research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 656. Seminar: Organizational Behavior. 3 Credit Hours.

Seminar addresses the current research and theoretical foundations in organizational behavior. Topics include individual attributes, job attitudes, leadership, motivation, and group processes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 658. Strategic Management. 3 Credit Hours.

The formulation and implementation of strategy, from a domestic and international perspective, is explored through cases, readings, and decision simulation. An integration of all the core areas of business is emphasized. This core course is required of all MBA students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 659. Management of Multinational Enterprise. 3 Credit Hours.

Analysis of the management tasks confronting managers operating in the international arena presented from both an environmental and an operational perspective. Alternatives for overall corporate policy and strategy that accommodate global operations is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 660. Leadership and Motivation in Organizations. 3 Credit Hours.

Selected topics pertaining to leadership, motivation, and individual processes are surveyed through selected readings, class discussions, and a guided research project. Students' ability to conceptualize, integrate, and apply diverse approaches to the leadership and motivation of people in organizations is emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 661. Influence, Power and Politics in Organizations. 3 Credit Hours.

One of the basic realities of organizational life is that people continually attempt to control the actions of others and to successfully influence their behavior. This reality leads to a wide array of organizational politics aimed at enhancing one's own or one's group's personal agendas. This course focuses on preparing graduate business students for the challenges and "realities" they will ultimately face as managers. Given that most business students will eventually be leading the efforts of others, it is essential that they understand how to acquire power and exercise power within ethical bounds.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 675. Business Policy and Strategy. 2 Credit Hours.

The objectives of the course are to improve the student's ability to think strategically and to provide an intellectual framework that enhances understanding of the MBA program. The course focuses on relationships among the firm, its strategy, and its environment; why firms choose certain businesses; which business strategies are successful; and how firms can change in response to a dynamic environment. Models for strategic formulation, implementation, and control are developed that facilitate an integrated understanding of the courses that comprise the MBA curriculum. Readings and lectures illustrate strategic management theories and frameworks while case discussions, experiential exercises, and team projects provide opportunities for application.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 677. Corporate Strategy and Organization. 2 Credit Hours.

This capstone course focuses on the perspective and skills of the general manager. Its purpose is to provide practice in diagnosing and identifying realistic solutions to complex strategic and organizational problems.

Course builds on previous coursework by providing an opportunity to integrate various functional areas by providing a total business perspective. Since the course focus is on pragmatic, action-oriented general management skills, the course is taught primarily through the case method and requires both written analyses and case presentations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 679. Merger and Acquisition Strategies. 2.00 Credit Hours.

This course examines the merger and acquisition growth of two sets of actors. First, it focuses on "financial buyers" (hedge funds, leveraged buy-out groups, private equity funds) that acquire with the intention of divesting the asset at a profit in the near or medium term. Second, it focuses on "strategic buyers" (corporations or companies) that acquire with the intention of operating the acquired asset as a stand-alone business or by integrating it into an on-going operation or set of businesses. The course utilizes lectures, case discussions, presentations, and guest speakers to examine issues of strategy formulation and subsequent execution.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

MGT 680. Doing Business In China. 2 Credit Hours.

THIS COURSE EXPLORES VARIOUS BUSINESS AND MANAGEMENT ISSUES FACED BY INTERNATIONAL EXECUTIVES WHO ARE INTERESTED OR ACTIVE IN VARIOUS INDUSTRIES AND MARKETS IN CHINA, AIMING TO IMPROVE THEIR UNDERSTANDING OF THIS LARGEST EMERGING MARKET IN THE WORLD. SEVERAL CASE STUDIES OF BUSINESS ORGANIZATIONS AND INDUSTRIES ARE USED THROUGHOUT THE COURSE. EMPHASIS OF THE COURSE MATERIAL AND CLASS DISCUSSION IS ON CRITICAL THINKING, SOLUTIONS TO PROBLEMS, AND EVALUATING DIFFERENT OPTIONS.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 681. Essentials of Health Care Management and Policy. 3 Credit Hours.

This course develops an understanding of the basic elements of the health services industry in the United States. A systems approach will be used utilizing a historical perspective as a basis and moving on to current and potential future system dynamics. The various components of the health care system will be examined, including physician services, hospital and hospital systems, long-term care providers, mental health services, and pharmaceutical services. Various elements associated with the financing of health services will be examined as well as indemnity insurance, capitation, and the role of managed care and consumer driven health care in theory and practice. The role of government and its impact on our health care system will be explored as well.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 682. Issues in Health Care Administration. 3 Credit Hours.

A seminar on current problems and issues in health care administration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 684. Analysis of Health Care Delivery and Policy. 3 Credit Hours.

This course examines theoretical and operational incentive structures which guide health care consumers, providers and health care organization toward decisions both efficient and inefficient.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MGT 685. Economic Models in Operations and Supply Chain Management. 3 Credit Hours.

In this course we will study the academic literature that is based on analytical models of supply chain and channel management. In particular we will be concerned with models that capture the economics that govern the interaction among the firms in a supply chain/distribution channel. Since this topic is of interest to both the marketing and operations management communities, we will draw upon readings from both areas. One of our objectives will be to identify opportunities for building bridges between these two bodies of knowledge.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 686. Optimization Models For Operations And Supply Chain Management. 3 Credit Hours.

This course is designed primarily for advanced graduate students who are interested in research on supply chain and operations management, focusing on the study of (deterministic) optimization models to support system design, planning, and operational decisions. The course complements other related doctoral courses such as those on economic models for supply chain and operations management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 687. Health Care Organization, Economics, and Ethics. 3 Credit Hours.

Course provides the student insight into organizational and behavioral aspects of the various sectors and agents within the health care industry and understanding of how such aspects in turn affect performance measured in terms of both economic and ethical criteria.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 688. Individual and Interpersonal Processes. 3 Credit Hours.

Basic Overview of many topics relevant to studying individuals and dyads in organizations. Course will introduce students to a variety of topics related to individual and interpersonal differences, processes, and behaviors in organizations. Students will begin to see how to link research designs with a theoretical framework for empirical testing.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 689. Doctoral Seminar in Leadership and Group Processes. 3 Credit Hours.

This seminar examines the theory and research that focuses individual leadership and examines implications for individual and group behaviors as well as bridging the micro-macro divide. You will perform a critical in-depth examination of the primary research literature, focusing on appropriateness of design, analysis, interpretation, contribution and future research directions.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 690. Sustainable Business Operations: Value Creation & Environmental Considerations. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGT 691. International Management. 2 Credit Hours.

Course is designed to provide an overview of management problems and issues for organizations and executives operating internationally. Students learn how multinational enterprises are different, why they behave as they do, and how to apply management principles to problem-solving in such contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 692. Theories in Management and Organization. 3 Credit Hours.

This course provides an in-depth review of major theories in the broad field of management and organization. It covers a multitude of management and organization theories that are derived not only from general management but from economics, sociology, ecology, and the like. The course will use several techniques, including lectures, article presentations and discussions, theory development, research project, and manuscript preparation. By the end of the term, students are expected to understand the central notions of each theory being discussed, comment on various arguments in these theories, improve the skills in applying these theories to their specific research questions, and sharpen their ability to develop theoretical models.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MGT 693. Theories and Research in Global Strategic Management.. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review of major theories, paradigms, and perspectives in global strategy and international business. We'll also explore how to apply existing theories and perspectives to new contextual settings, such as emerging markets and outsourcing. Furthermore, we'll do all this while reading and critiquing the major branches and works within the strategic management and international business literature. The course is intended for doctoral students in business or related fields. There are no formal prerequisites for the course although some basic knowledge of global business is expected.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MGT 694. Ph.D Seminar in Strategic Management. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review of major theories, perspectives, and methods in strategic management. The course is intended for doctoral students in business or related fields.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

MGT 695. Ph.D Seminar in Emerging Market Research. 3 Credit Hours.

This course is designed to provide doctoral students an in-depth review and study of major theories, perspectives, methods, findings, and future research issues in business and management involving emerging economies. It encompasses both macro- (e.g., strategic management, international business, entrepreneurship), and micro- (e.g., culture, human resources management, leadership, and organizational behavior) levels.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MGT 698. Selected Topics. 1-6 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGT 699. Directed Study. 1-6 Credit Hours.

Individually supervised research project in selected field of management. Approval of supervising professor of the topic/scope of work/evaluation is required prior to registration.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGT 825. Comprehensive Test Preparation. 1-3 Credit Hours.

Doctoral students who are preparing for their qualifying examinations may use this course designation. Enrolled students must develop, with the approval of their advisor, a "Plan of Study" for these credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MGT 830. Doctoral Dissertation. 1-12 Credit Hours.

Course is required of all candidates for the Ph.D. The student enrolls for credit as determined by his/her advisor.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Management Science (MAS)

MAS 105. Quantitative Methods in Business I. 3 Credit Hours.

This course provides a background in algebra, linear equations, matrices, quadratic, exponential, and logarithmic functions appropriate for the successful understanding, interpretation, and use of these concepts and their application to business and economics within the Business School curriculum and in career endeavors. The course also provides an introduction to the mathematics of finance, interest rates, discounting of future returns, and linear programming.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 110. Quantitative Applications in Business. 3 Credit Hours.

Review of algebra emphasizing its application to supply and demand functions, market equilibrium, compound interest, and amortization. Differential calculus emphasizing its applications to marginal cost and revenue functions, maximization, taxation in competitive markets, and elasticity of demand are discussed. The application of integral calculus to total cost and profit of demand, to total cost and profit functions, consumer's and producer's surplus, computation of present value, and constrained optimization using partial differentiation are also included. Prerequisites: MTH 107 or equivalent or ALEKS score greater than or equal to 76.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 201. Introduction to Business Statistics. 3 Credit Hours.

Data analysis and presentation, cross tabulations, descriptive statistical measures, probability, sampling, statistical inference, hypothesis testing for one and two populations, covariance and correlation analysis. Utilization of microcomputer statistical packages is also included. Prerequisites: MAS 110 or MTH 130 or MTH 141 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 202. Intermediate Business Statistics. 3 Credit Hours.

Chi-squared goodness of fit tests, and contingency tables, analysis of variance, simple linear regression, multiple regression, time series, forecasting, statistical methods of quality. Utilization of microcomputer statistical packages, case analyses, and presentations are also included. Prerequisites: MAS 201 or MAS 311 or MTH 224 or IEN 311 or PSY 204 or PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 311. Applied Probability and Statistics. 3 Credit Hours.

Descriptive statistics, basic probability, probability distributions, distribution theory, point and interval estimation, and single sample hypothesis testing.

Prerequisites: MTH 162 or MTH 172. Or Corequisites: MTH 162 or MTH 172 including equivalents.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 312. Statistical Methods and Quality Control. 3 Credit Hours.

Two sample hypothesis testing, simple and multiple regression, analysis of variance, design of experiments, and statistical quality control.

Prerequisites: MAS 311 or IEN 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 332. Data Acquisition, Preparation and Visualization. 3 Credit Hours.

Prerequisites: MAS 202 or MAS 312.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 342. Introduction to Optimization and Decision Making. 3 Credit Hours.

Introduction to deterministic mathematical models with applications to business problems. Topics include the methodology of operations research, linear, integer, and dynamic programming, project management, networks, multi-objective optimization and heuristics. Software packages are used for programming applications. Lecture, 3 hours.

Prerequisites: MTH 162 or MTH 172, MAS 201 or MTH 311.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 432. Data Analysis. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 442. Stochastic Models in Operations Research. 3 Credit Hours.

Introduction to probabilistic models and their applications. Topics include inventory theory, stochastic processes (queuing systems, Markov chains), and computer simulation. Lecture, 3 hours.

Prerequisites: MAS 311 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 452. Systems Analysis Methodology and Applications. 3 Credit Hours.

Solution of problems from the general systems point of view. Case studies are used with emphasis on report writing. The preparation of a project proposal and the conduct of the proposed study are also required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 499. Directed Study. 1-3 Credit Hours.

Independent investigation of special problems. Offered by special arrangement only. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 547. Computer Simulation Systems. 3 Credit Hours.

Introduction to discrete-event computer simulation and hands-on development of simulation models. Topics include introduction to queuing theory, input and output analysis, random number generation, and variance reduction techniques. Students practice their modeling skills using commercial state-of-the-art simulation software. Assigned readings of real-life simulation projects complement the material learned in the classroom. Lecture, 3 hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

MAS 548. Data Mining and Knowledge Acquisition. 3 Credit Hours.

This course provides an introduction to the principles and techniques of data mining. Topics covered include the data mining process, data preprocessing, data mining techniques and data mining evaluation. The course will involve a combination of lectures, labs, projects and case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 550. Management Science Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Permission of department chair is required prior to registration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 555. Management Science Honors Research Project.. 3.00 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Management Science.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MAS 595. Topics in Management Science. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 596. Topics in Management Science. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 601. Applied Regression Analysis. 3 Credit Hours.

Theory and practical application of regression modeling and analysis. Computer control language, text editing, data base manipulation, and use of various data scales are covered. Understanding the role and responsibility of a statistician is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 610. Statistical Analysis for Managerial Decision Making. 3 Credit Hours.

Data analysis, probability concepts, distributions, sampling, estimation, hypothesis testing, simple and multiple regression and correlation analysis. Required of all MBA students unless satisfied by a waiver examination or equivalent undergraduate course or courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 611. Principles of Quality Management. 3 Credit Hours.

The definition of quality management, its history, and comparison of various schools of thought. An introduction to the theories of systems, variation, knowledge, and psychology as they relate to quality management. Deming's fourteen points for management are studied through examples and cases.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 612. Advanced Quantitative Analysis. 3 Credit Hours.

The application of probability theory to the formulation and analysis of mathematical models for decision making. Applications are taken from inventory control, forecasting, waiting lines, quality control, production, and operations management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 629. SAS Programming for Business Analytics. 2 Credit Hours.

SAS (Statistical Analysis System) is considered a world leader in business analytics software. This course provides the student with the tools necessary to program in SAS at an intermediate level necessary for data scientists in many Fortune 500 companies in the pharmaceutical, financial, manufacturing and health care industries. The course begins with an introduction to Base SAS software, including the reading, manipulation and transformation of data. Techniques for restructuring data files, merging and concatenating data sets, creating summary reports as well as the utilization of basic statistical procedures will comprise the first half of the course. The middle of the course will focus on intermediate SAS skills for Data Management. The topics include error checking, report generation, date and time processing, PROC SQL, SAS Graph, SAS Macros, and the ODS (Output Delivery System) for production quality output. The last third of the course will include SAS statistical procedures most often utilized by data analysts and covered in the SAS Certified Statistical Business Analyst Credential.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 630. Quality Management in Practice. 3 Credit Hours.

This course presents administrative systems necessary for an organization or an individual to pursue quality management. The course presents a functional model for quality management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 631. Statistics for Managerial Decision Making. 2 Credit Hours.

This course aims to familiarize the student with statistical theory, tools, and methods required for business systems analysis and improvement. Topics include descriptive methods, elementary probability, random variables and the distributions, hypothesis testing, confidence intervals, statistical modeling, and regression.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 632. Management Science Models for Decision Making. 2 Credit Hours.

This course aims to familiarize the student with Management Science tools for business systems analysis and improvement. The coverage includes linear and integer programming models, project management, simulation, queuing, and decision analysis. Some widely used software are illustrated through examples and case studies derived from business applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 633. Introduction to Quality Management. 2 Credit Hours.

Introduction to the major elements of Dr. Deming's theory of management, including Dr. Deming's System of Profound Knowledge and Fourteen Points for Management. Additionally, participants are introduced to "Six Sigma" tools and methods. These tools and methods have been adopted with great success by many of the largest organizations in the world, for example, General Electric, Allied Signal, Dupont, American Express, and J.P. Morgan. Additionally, the course is a prerequisite for the "Six Sigma" Green Belt certification examination. Requisite: Master of Science in Business Analytic Students Only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 634. Administrative Systems for Quality Management. 2 Credit Hours.

This course presents a model to pursue quality management (QM). It features administrative systems and structures necessary for Quality Management. The administrative systems and structures presented in this course are required to sit for the Six Sigma Management "Green Belt" certification examination.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 635. Design of Experiments. 2 Credit Hours.

This course presents tools and methodology useful in conducting experiments that provide valid answers to questions of interest to the experimenter. The course discusses an overall approach to obtaining and analyzing experimental data, the advantages of using structured multi factor experiments to screen for important factors, ways of minimizing the amount of data points needed to obtain desired information, and how to identify values of experimental factors that optimize the value of measured responses. Factorial designs, fractional factorial designs, screening designs, and response surface designs are presented. Emphasis is placed on the knowledge required for proper application of these methods through many examples in business and quality management.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 636. Statistical Process Control and Reliability. 2 Credit Hours.

This course aims to introduce some fundamental concepts of statistical process control and reliability with an emphasis on business applications. The first part of the course focuses on control charts and other tools that are used to monitor and improve business processes. The second part of the course introduces some basic ideas of reliability models and presents methods used in identifying failure modes in products and in business systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 637. Applied Regression Analysis and Forecasting. 2 Credit Hours.

This course aims to familiarize the student with statistical prediction. It covers simple and multiple regression methods as well as time series and forecasting models in business. Instead of theoretical development, the course emphasizes the application of these methods in business systems analysis and improvement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 638. Management Science Consulting. 2 Credit Hours.

The purpose of this course is to enhance students' consulting skills in management science. In addition to skills of modeling and choosing appropriate tools for analysis, these include the communication skills of presenting quantitative and analytical material in business settings. The course is structured around a set of case studies that are based on real applications of management science models and methods discussed in MAS 631 and MAS 632.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 639. Data Acquisition, Preparation And Visualization. 2 Credit Hours.

This course teaches using statistical computing software to get a better understanding of what problems can occur (and what solutions exist) when dealing with a variety of data types and sources. It will also discuss how to address data visualization and how to leverage current methods and software to best communicate with results and decision with stakeholders.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 640. Applied Time Series Analysis and Forecasting. 2 Credit Hours.

Time series data occur when a single experimental unit or process is observed repeatedly over time. Data of this type are common in finance and economics. Statistical methods that assume independence are inappropriate for time series data. This course will provide the students with the basic theory and tools for the statistical analysis and interpretation of time series data. Broadly, the methods may be categorized into time-domain and frequency-domain methods. Time-domain methods develop explicit models for the evolution of a process over time. Frequency-domain methods equivalently model the correlation structure of the time series. Other topics include methods for model-based estimation, model selection, diagnostics, forecasting, and computing as they relate to time series analysis.

Prerequisites: MAS 637 or MAS 601.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAS 641. Operations Research Models in Management. 3 Credit Hours.

The application of Operations Research techniques in Management. Topics include linear programming, PERT/CPM, queuing theory, forecasting, inventory models, statistical quality control, decision theory, and Simulation.

Prerequisites: MAS 631, MAS 632, MAS 637, MAS 639 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 647. Computer Simulation Systems. 3 Credit Hours.

Introduction to discrete-event computer simulation and hands-on development of simulation models. Topics include introduction to queuing theory, input and output analysis, random number generation, and variance reduction techniques. Students practice their modeling skills using commercial state-of-the-art simulation software. Assigned readings of real-life simulation projects complement the material learned in the classroom. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAS 648. Data Mining and Knowledge Acquisition. 3 Credit Hours.

This course provides an introduction to the principles and techniques of data mining. Topics covered include the data mining process, data preprocessing, data mining techniques and data mining evaluation. The course will involve a combination of lectures, labs, projects and case studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 650. Management Science Internship. 1-3 Credit Hours.

Student is individually assigned to operating business firm or other organization to gain insight into management practice in area of career interest. Periodic reports and conferences are required. Permission of department chair is required prior to registration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 663. Project Management and Modeling. 2 Credit Hours.

This course considers the various methods, techniques, and software tools of project management and modeling with special emphasis on real estate projects and development. Topics include: project selection and strategy, risk assessment, conflict and negotiation, budgets, costs, and resource allocation, monitoring and information systems, project control and auditing, and project closure. The course is designed to show the integration of the various roles of owners, developers, builders, architects, and engineers in the project management process.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 680. Spatial Statistics. 3 Credit Hours.

Prerequisite: ECO 520.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAS 691. Topics in Management Science. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 692. Topics in Management Science. 1-3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAS 693. Directed Study in Operations Research. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 695. Directed Study in Operations Research. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 696. Directed Study in Statistics. 1-3 Credit Hours.

Investigation and research in special areas of interest. Offered by special arrangement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 699. Directed Study. 1-3 Credit Hours.

Offered by special arrangement.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 720. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAS 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 725. Continuous Registration--Master's Study. 0 Credit Hours.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAS 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MAS 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MAS 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MAS 850. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

Marine Affairs and Policy (MAF)

MAF 500. Fldwrk Costl Culture. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 501. Political Ecology of Marine Management. 3 Credit Hours.

Course provides a grounding in political ecology as an important theoretical approach to resource policy and management. The social analysis of resource use, social change, and development are discussed. Models of development and concepts of nature relate to resource use and policy formation are also included. Within this framework, ethnicity, class, and the politics of conservation are explored.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 502. Economics of Natural Resources. 3 Credit Hours.

Course brings together the approaches of natural resource and environmental economics to provide a comprehensive overview of the economics of national, international, and global environmental problems. A unifying theme throughout the course is the concept of sustainable development, defined as maximizing the net benefit to economic development while maintaining the services and quality of natural resources over time. Economic reasoning is used to examine the causes and consequences of environmental and resource problems and measures for dealing with them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 504. Fieldwork in Coastal Management. 3 Credit Hours.

The field portion of this course will occur in Bocas del Toro, Panama, on the northwest Caribbean coast of Panama where the University of Miami has been involved in the development of a Coastal Management plan since 2004. The Bocas del Toro Archipelago of over 20 nearshore islands boasts a rich diversity of cultures, as well as high quality coastal environments. The region is currently experiencing rapid tourist growth, as well as residential development projects for foreigners. The cultural and biological diversities of the region, as well as the development pressures they face, provide an excellent opportunity to study the socioeconomic and environmental impacts of tourist development; regional attempts to create land use and coastal plans; conflicts among different uses and users; and various cultural perspectives on the current and evolving situation. The course allows students to develop projects tailored to their interests and skills.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 505. Fieldwork in Coastal Cultures. 3 Credit Hours.

Field course in which the student participates in a social and economic analysis of a coastal culture (i.e., stone crab fishermen in Everglades City, spiny lobster fishermen in Key West, boat builders and commercial divers in the Abacos, Bahamas). Preliminary lectures and reading introduce the theory and method which the student then practices during a week-long field trip.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 506. Advance Fieldwork In Coastal Cultures. 3 Credit Hours.

This ethnographic fieldwork course lets you experience coastal cultures first-hand in Miami and the Keys. Learning the political ecology approach in the field, you keep an in-depth field journal, complimenting entries with photography as visual anthropology. We will be interacting with some of Miami's wealth of ethnic communities, both Latino and Haitian. Tourism has become a mainstay of the Miami and Keys economy. We will examine real estate development and social conservation in relation to commercial and recreational fisheries. We will examine the rivalries and alliances among different interest groups involved in tourism from conservation to development. We will observe human/environmental interactions, as well as interview various interest groups such as tour operators, real estate developers, visitors, store and restaurant owners, and park managers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 510. Environmental Planning and the Environmental Impact Statement. 3 Credit Hours.

Course takes a broad view of environmental planning and analysis while focusing specifically on the preparation of environmental impact statements. Statutory requirements and procedures at the federal level are examined. Judicial opinions are studied that reflect environmental disputes and controversies. The course also considers some of the substantive requirements of environmental impact analyses such as the assessment of physical and biological environment and socioeconomic impacts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 512. Aquaculture Management. 3 Credit Hours.

Course examines the various strategies of resource exploitation and utilization in developing aquaculture projects. Resources include environmental, technological, social, economical, and administrative aspects encountered in commercial aquaculture development. The course covers all stages of planning and development, with emphasis on determining the technical and economic feasibility of aquaculture projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 513. Aquaculture Management II. 3 Credit Hours.

Course is a complement to Aquaculture Management (MAF 512) and examines advanced aquaculture management techniques and strategies with emphasis on commercial operations. Course requires a background in either aquaculture or business. Prerequisite: MAF 512 or permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 514. Field Techniques in Prehistoric Underwater Archaeological Excavation. 3 Credit Hours.

An introduction to specialized techniques of underwater excavation applicable to the excavation of Little Salt Spring (LSS), a prehistoric site owned and operated by Rosenstiel School of Marine and Atmospheric Science. All students participate in a one-week intensive lecture course in the prehistory of Florida and general techniques of underwater excavation. The field course begins after that. All students must be present for all of the field course in order to complete the basic requirements. Activities include daily underwater excavation in depths of 10-30 feet of water, as well as surface support activities relating to diving and the recording and basic conservation of recovered ecofacts and artifacts dating before 9,000 radiocarbon years before present.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MAF 515. Techniques of Marine Archaeological Survey and Recording. 3 Credit Hours.

The location and study of underwater archaeological sites is undergoing fundamental changes because of application of advanced technologies developed for other fields, notably remote sensing, and the general availability of computer power for individual users. This course introduces the student to the latest techniques of survey and recording, focusing on hardware and software that can greatly increase the efficiency of any underwater excavation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 516. Ocean Policy and Development and Analysis. 3 Credit Hours.

Ocean policy development and analysis of issues such as: offshore oil drilling, fisheries resource conflicts, marine mammal protection, ocean dumping and incineration, multiple use conflicts in marine protected areas, pollution from land based sources, and oil spill contingency planning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 517. Legal Environment And Business Planning In Aquaculture. 3 Credit Hours.

This course examines the substantive legal issues concerning Aquaculture and the Coastal Zone. Legal aspects of Aquaculture related to ownership and boundaries in the coastal zone, legal and regulatory constraints, international consideration private and public rights, risks and incentives. Fish and shellfish as personal property and conservation laws affecting the fish farmer.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 518. Coastal Zone Management. 3 Credit Hours.

Development of a framework for formulation and assessment of coastal zone policy. Analysis of issues and conflicts in coastal zone management (CZM), such as: zoning and planning, coastal and beach protection, ecosystem protection, the federal flood insurance program, adaptations to sea level rise, coastal pollution from land-based sources, and tourism impacts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 519. Aquaculture Management III (Fieldwork). 3 Credit Hours.

Students will conduct fieldwork on environmental, technological, social, economical, and administrative aspects encountered in commercial aquaculture operations. This fieldcourse will complement Aquaculture Management I and II. Students will be able to apply most of the topics taught in MAF 512 and MAF 513. They will participate in all stages of the production process, including maturation, spawning, larval husbandry, nursery and growout techniques, as well as harvesting, processing and exporting. Students will visit several large commercial hatcheries, farms and processing plants currently producing processing, packing and exporting shrimp and fish (both marine and freshwater) for US and European and Asian markets.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MAF 520. Environmental Law. 3 Credit Hours.

An introductory course focusing on environmental problems. The study of Regulatory legislation, common law, and administrative law. Topics include toxic substances, air and water pollution, and habitat and species protection.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 525. Fisheries Socioeconomics and Management. 3 Credit Hours.

This course applies microeconomic theory to fisheries resource problems and policies. Economic models with the value of production as their objective, will contrast economists' and biologists' definitions of maximum yield and show why an unregulated fishery will not operate at either level. We will use economic reasoning to examine causes and consequences of fisheries problems and measures for dealing with them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 526. Marine Cultural Resource Management. 3 Credit Hours.

Submerged archaeological sites as exhaustible resources of a country's cultural heritage. Policies and procedures for their protection or mitigation will be surveyed using as examples the statutes and regulations of foreign states, the federal government, and the US states.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 530. Port Operations and Policy. 3 Credit Hours.

The course will include: Introduction to ports; port geography; port operations; port administration; Federal port policy; free ports/free zones; port investment/tariffs; port marketing; Coastal Zone Management and ports; case studies, CZM; fostering economic development; and Port planning and development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 560. Introduction to Marine Geographic Information Systems. 3 Credit Hours.

Marine Geographic Information Systems are emerging as a distinct subset of GIS, due to fundamental differences between terrestrial and underwater spatial information (2-D vs. 3-D, multiresolution, synoptic data collection, time depth (4-D) modeling). Approximately the first half of this course is a brief review of basic GIS, and the second half concentrates on aspects of marine data acquisition and manipulation in the GIS context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 561. Introduction to Marine Geographic Information Systems - Laboratory. 0 Credit Hours.

Introduction to Marine Geographic Information Systems - Laboratory introduces students the basic methods and technology in Marine Geographic Information Systems. The course is taught with hands-on laboratory exercises following the evolution of Marine Geographic Information Systems, from basic cartography to topological and network modeling to internet access and application.

Components: LAB.

Grading: SUS.

Typically Offered: Fall & Summer.

MAF 562. Spatial Analysis: Intermediate Course in Marine GIS. 3 Credit Hours.

Course provides a general survey of available quantitative methods for spatial analysis using Geographic Information Systems (GIS). Although GIS has been widely used for mapping and database management, this course is focused on the functionality of GIS as an effective tool for modeling and analyzing complex spatial relationships. Quantitative methods suitable for analyzing different features types are discussed. Applications for such methods are also presented.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 564. Citizen & Participatory Science. 3 Credit Hours.

The Citizen and Participatory Science course will focus on preparing students for designing and implementing citizen and participatory science projects aimed at addressing questions and problems around specific environmental issues. As social networks grow, open data comes online and mobile technologies proliferate and advance, the opportunity to tap into eager and interested citizens to collect data for research and documentation purposes is quickly rising. This program will look at history of citizen science, which is over 100 years old, and will analyze current and past projects. Students will be exposed to how citizen science projects are designed and implemented and how they can be best leveraged to gain useful data for research. Guest lecturers will be invited for virtual and in-person presentations. A key component of the course will be for students to design a citizen science project using best practices. These projects can provide the baseline for launching real projects with organizations interested in applying citizen science to their work. The course will look at both technology driven projects as well as low-tech projects to expose students to the range of work being done in this rapidly evolving area.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 570. Conservation and Management of Marine Mammals. 3 Credit Hours.

This course emphasizes on the notion that proper conservation and management of large marine vertebrates (i.e., marine mammals, sea turtles, sharks and rays) require the understanding and integration of some important aspects of the (comparative) biology and ecology of these groups of animals with the multifaceted nature (e.g., social, economical, ethical and cultural dimensions) of these concerns.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

MAF 571. Marine Conservation Biology: An Ecosystem-Based Paradigm. 3 Credit Hours.

Until now, fisheries management has used a species-specific approach to conservation, focusing attention on economically important species that people consume. There has been some research on charismatic mega-fauna, particularly whales, seabirds and sea turtles. To this day, fishery biologists are concerned mainly with assessing stocks of commercially harvested species to maintain biomass production, rather than maintaining and restoring biological integrity: species composition, habitat structure and ecosystem function. It is only in the past few years that a new biodiversity-focused, ecosystem-based, multidisciplinary scientific approach to marine conservation has emerged. This new paradigm is known as Marine Conservation Biology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 572. A HISTORY OF SEAFARING. 3 Credit Hours.

Ships and seafarers have had considerable influences on civilization throughout history. The ship typically represents the pinnacle of a society's understanding of many disciplines: astronomy, geography, metallurgy, physics, warfare, et cetera. No other process similarly spread the delights and devastation of the world so effectively. This course studies man's evolutionary relationship with the sea from early civilization through the 20th century. Emphasis will be on archaeological and ethnographical investigations concerning shipwrecks and maritime epicenters supporting maritime culture. This will be a lecture course supported by visual, audible, and hands-on presentations. The final lectures make ample use of online resources. A voluntary and complimentary field trip at sea to Miami's underwater archaeological preserve, Half Moon/Germania, will be offered toward the end of the class.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 573. MARINE CONSERVATION OUTREACH. 3 Credit Hours.

This course will explore the concepts, theories and practices of creating and evaluating effective Marine Conservation Outreach. The course will cover the project life cycle from planning to implementation to evaluating effectiveness

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 574. From Gold to Glory : The Evolving History & Ethics of Exploration. 3 Credit Hours.

This course will address changes in motivation and approaches to exploration with a focus on risk perception, physiological limitations, and social-cultural context, including how past colonial legacy is still influencing perceptions of the current generation of scientists, explorers, and the groups they interact with. Assignments will include critical readings of source materials and case studies of particular expeditions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 576. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 577. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs. Prerequisite: Permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 578. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 579. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 580. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 581. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAF 582. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAF 583. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAF 600. Fieldwork Coastal Culture. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 601. Political Ecology of Marine Management. 3 Credit Hours.

Course provides a grounding in political ecology as an important theoretical approach to resource policy and management. The social analysis of resource use, social change, and development are discussed. Models of development and concepts of nature relate to resource use and policy formation are also included. Within this framework, ethnicity, class, and the politics of conservation are explored.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 602. Economics of Natural Resources. 3 Credit Hours.

Course brings together the approaches of natural resource and environmental economics to provide a comprehensive overview of the economics of national, international, and global environmental problems. A unifying theme throughout the course is the concept of sustainable development, defined as maximizing the net benefit to economic development while maintaining the services and quality of natural resources over time. Economic reasoning is used to examine the causes and consequences of environmental and resource problems and measures for dealing with them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 604. Fieldwork in Coastal Management. 3 Credit Hours.

The field portion of this course will occur in Bocas del Toro, Panama, on the northwest Caribbean coast of Panama where the University of Miami has been involved in the development of a Coastal Management plan since 2004. The Bocas del Toro Archipelago of over 20 nearshore islands boasts a rich diversity of cultures, as well as high quality coastal environments. The region is currently experiencing rapid tourist growth, as well as residential development projects for foreigners. The cultural and biological diversities of the region, as well as the development pressures they face, provide an excellent opportunity to study the socio-economic and environmental impacts of tourist development; regional attempts to create land use and coastal plans; conflicts among different uses and users; and various cultural perspectives on the current and evolving situation. The course allows students to develop projects tailored to their interests and skills.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 605. Fieldwork in Coastal Cultures. 3 Credit Hours.

Field course in which the student participates in a social and economic analysis of a coastal culture (i.e., stone crab fishermen in Everglades City, spiny lobster fishermen in Key West, boat builders and commercial divers in the Abacos, Bahamas). Preliminary lectures and reading introduce the theory and method which the student then practices during a week-long field trip.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 606. Advance Fieldwork In Coastal Cultures. 3 Credit Hours.

This ethnographic fieldwork course lets you experience coastal cultures first-hand in Miami and the Keys. Learning the political ecology approach in the field, you keep an in-depth field journal, complimenting entries with photography as visual anthropology. We will be interacting with some of Miami's wealth of ethnic communities, both Latino and Haitian.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 610. Environmental Planning and the Environmental Impact Statement. 3 Credit Hours.

Course takes a broad view of environmental planning and analysis while focusing specifically on the preparation of environmental impact statements. Statutory requirements and procedures at the federal level are examined. Judicial opinions are studied that reflect environmental disputes and controversies. The course also considers some of the substantive requirements of environmental impact analyses such as the assessment of physical and biological environment and socioeconomic impacts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 612. Aquaculture Management. 3 Credit Hours.

Course examines the various strategies of resource exploitation and utilization in developing aquaculture projects. Resources include environmental, technological, social, economical, and administrative aspects encountered in commercial aquaculture development. The course covers all stages of planning and development, with emphasis on determining the technical and economic feasibility of aquaculture projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 613. Aquaculture Management II. 3 Credit Hours.

Course is a complement to Aquaculture Management (MAF 512) and examines advanced aquaculture management techniques and strategies with emphasis on commercial operations. Course requires a background in either aquaculture or business. Prerequisite: MAF 512 or permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 614. Field Techniques in Prehistoric Underwater Archaeological Excavation. 3 Credit Hours.

An introduction to specialized techniques of underwater excavation applicable to the excavation of Little Salt Spring (LSS), a prehistoric site owned and operated by Rosenstiel School of Marine and Atmospheric Science. All students participate in a one-week intensive lecture course in the prehistory of Florida and general techniques of underwater excavation. The field course begins after that. All students must be present for all of the field course in order to complete the basic requirements. Activities include daily underwater excavation in depths of 10-30 feet of water, as well as surface support activities relating to diving and the recording and basic conservation of recovered ecofacts and artifacts dating before 9,000 radiocarbon years before present.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MAF 615. Techniques of Marine Archaeological Survey and Recording. 3 Credit Hours.

The location and study of underwater archaeological sites is undergoing fundamental changes because of application of advanced technologies developed for other fields, notably remote sensing, and the general availability of computer power for individual users. This course introduces the student to the latest techniques of survey and recording, focusing on hardware and software that can greatly increase the efficiency of any underwater excavation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 616. Ocean Policy and Development and Analysis. 3 Credit Hours.

Ocean policy development and analysis of issues such as: offshore oil drilling, fisheries resource conflicts, marine mammal protection, ocean dumping and incineration, multiple use conflicts in marine protected areas, pollution from land based sources, and oil spill contingency planning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 617. Legal Environment And Business Planning In Aquaculture. 3 Credit Hours.

This course examines the substantive legal issues concerning Aquaculture and the Coastal Zone. Legal aspects of Aquaculture related to ownership and boundaries in the coastal zone, legal and regulatory constraints, international consideration private and public rights, risks and incentives. Fish and shellfish as personal property and conservation laws affecting the fish farmer.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 618. Coastal Zone Management. 3 Credit Hours.

Development of a framework for formulation and assessment of coastal zone policy. Analysis of issues and conflicts in coastal zone management (CZM), such as: zoning and planning, coastal and beach protection, ecosystem protection, the federal flood insurance program, adaptations to sea level rise, coastal pollution from land-based sources, and tourism impacts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 619. Aquaculture Management III (Fieldwork). 3 Credit Hours.

Students will conduct fieldwork on environmental, technological, social, economical, and administrative aspects encountered in commercial aquaculture operations. This fieldcourse will complement Aquaculture Management I and II. Students will be able to apply most of the topics taught in MAF 512 and MAF 513. They will participate in all stages of the production process, including maturation, spawning, larval husbandry, nursery and growout techniques, as well as harvesting, processing and exporting. Students will visit several large commercial hatcheries, farms and processing plants currently producing processing, packing and exporting shrimp and fish (both marine and freshwater) for US and European and Asian markets.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MAF 620. Environmental Law. 3 Credit Hours.

An introductory course focusing on environmental problems. The study of Regulatory legislation, common law, and administrative law. Topics include toxic substances, air and water pollution, and habitat and species protection.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 625. Fisheries Socioeconomics and Management. 3 Credit Hours.

This course applies microeconomic theory to fisheries resource problems and policies. Economic models with the value of production as their objective, will contrast economists' and biologists' definitions of maximum yield and show why an unregulated fishery will not operate at either level. We will use economic reasoning to examine causes and consequences of fisheries problems and measures for dealing with them.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 626. Marine Cultural Resource Management. 3 Credit Hours.

Submerged archaeological sites as exhaustible resources of a country's cultural heritage. Policies and procedures for their protection or mitigation will be surveyed using as examples the statutes and regulations of foreign states, the federal government, and the US states.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 630. Port Operations and Policy. 3 Credit Hours.

The course will include: Introduction to ports; port geography; port operations; port administration; Federal port policy; free ports/free zones; port investment/tariffs; port marketing; Coastal Zone Management and ports; case studies, CZM; fostering economic development; and Port planning and development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 660. Introduction to Marine Geographic Information Systems. 3 Credit Hours.

Marine Geographic Information Systems are emerging as a distinct subset of GIS, due to fundamental differences between terrestrial and underwater spatial information (2-D vs. 3-D, multiresolution, synoptic data collection, time depth (4-D) modeling). Approximately the first half of this course is a brief review of basic GIS, and the second half concentrates on aspects of marine data acquisition and manipulation in the GIS context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 661. Introduction to Marine Geographic Information Systems - Laboratory. 0 Credit Hours.

Introduction to Marine Geographic Information Systems - Laboratory introduces students the basic methods and technology in Marine Geographic Information Systems. The course is taught with hands-on laboratory exercises following the evolution of Marine Geographic Information Systems, from basic cartography to topological and network modeling to internet access and application.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Summer.

MAF 662. Spatial Analysis: Intermediate Course in Marine GIS. 3 Credit Hours.

Course provides a general survey of available quantitative methods for spatial analysis using Geographic Information Systems (GIS). Although GIS has been widely used for mapping and database management, this course is focused on the functionality of GIS as an effective tool for modeling and analyzing complex spatial relationships. Quantitative methods suitable for analyzing different features types are discussed. Applications for such methods are also presented.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 664. Citizen Participatory Science. 3 Credit Hours.

The Citizen and Participatory Science course will focus on preparing students for designing and implementing citizen and participatory science projects aimed at addressing questions and problems around specific environmental issues. As social networks grow, open data comes online and mobile technologies proliferate and advance, the opportunity to tap into eager and interested citizens to collect data for research and documentation purposes is quickly rising. This program will look at history of citizen science, which is over 100 years old, and will analyze current and past projects. Students will be exposed to how citizen science projects are designed and implemented and how they can be best leveraged to gain useful data for research. Guest lecturers will be invited for virtual and in-person presentations. A key component of the course will be for students to design a citizen science project using best practices. These projects can provide the baseline for launching real projects with organizations interested in applying citizen science to their work. The course will look at both technology driven projects as well as low-tech projects to expose students to the range of work being done in this rapidly evolving area.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 670. Conservation and Management of Marine Mammals. 3 Credit Hours.

This course emphasizes on the notion that proper conservation and management of large marine vertebrates (i.e., marine mammals, sea turtles, sharks and rays) require the understanding and integration of some important aspects of the (comparative) biology and ecology of these groups of animals with the multifaceted nature (e.g., social, economical, ethical and cultural dimensions) of these concerns.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 671. Marine Conservation Biology: An Ecosystem-Based Paradigm. 3 Credit Hours.

Until now, fisheries management has used a species-specific approach to conservation, focusing attention on economically important species that people consume. There has been some research on charismatic mega-fauna, particularly whales, seabirds and sea turtles. To this day, fishery biologists are concerned mainly with assessing stocks of commercially harvested species to maintain biomass production, rather than maintaining and restoring biological integrity: species composition, habitat structure and ecosystem function. It is only in the past few years that a new biodiversity-focused, ecosystem-based, multidisciplinary scientific approach to marine conservation has emerged. This new paradigm is known as Marine Conservation Biology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 672. A HISTORY OF SEAFARING. 3 Credit Hours.

Ships and seafarers have had considerable influences on civilization throughout history. The ship typically represents the pinnacle of a society's understanding of many disciplines: astronomy, geography, metallurgy, physics, warfare, et cetera. No other process similarly spread the delights and devastation of the world so effectively. This course studies man's evolutionary relationship with the sea from early civilization through the 20th century. Emphasis will be on archaeological and ethnographical investigations concerning shipwrecks and maritime epicenters supporting maritime culture. This will be a lecture course supported by visual, audible, and hands-on presentations. The final lectures make ample use of online resources. A voluntary and complimentary field trip at sea to Miami's underwater archaeological preserve, Half Moon/Germania, will be offered toward the end of the class.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 673. MARINE CONSERVATION OUTREACH. 3 Credit Hours.

This course will explore the concepts, theories and practices of creating and evaluating effective Marine Conservation Outreach. The course will cover the project life cycle from planning to implementation to evaluating effectiveness.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAF 674. From Gold to Glory : The Evolving History and Ethics of Exploration. 3 Credit Hours.

This course will address changes in motivation and approaches to exploration with a focus on risk perception, physiological limitations, and social-cultural context, including how past colonial legacy is still influencing perceptions of the current generation of scientists, explorers, and the groups they interact with. Assignments will include critical readings of source materials and case studies of particular expeditions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 676. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 677. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs. Prerequisite: Permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 678. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 679. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 680. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to marine affairs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 681. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAF 682. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAF 683. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAF 710. International Ocean Law And Governance. 3 Credit Hours.

This course shall track the history and development of international ocean law, from a series of bi-lateral and multi-lateral treaties, the evolving customary law framework, and coastal and maritime state claims to the codification and proliferation of international legal agreements addressing the panoply of ocean use and management issues. Applying a chronological approach, the course shall identify and discuss key developments in international ocean law, leading to the drafting of the Third United Nations Law of the Sea Convention (UNCLOS III). By evaluating the multifold themes addressed under the convention, the course will analyze the effects of convention in a post UNCLOS III world, especially in the fields of environmental protection, the management of marine fisheries and living resources, the allocation of seabed and subsoil resources, issues affecting the high seas, and polar regions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 720. Coastal Law and Policy. 3 Credit Hours.

Course examines the authority of different levels and agencies of government to make decisions affecting the coastal zone. Course also explores the coastal problems of shoreline use and development, uses of water areas and the seabed, and the related questions of environmental protection.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAF 774. Advanced Studies. 1-4 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAF 805. MPS Internship. 1-6 Credit Hours.

The M.A. student must complete an approved six credit internship with an organization engaged in activities associated with marine affairs. Credits are not awarded until the internship has been successfully completed, a written report approved and a formal letter of evaluation received from the cooperating institution.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAF 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAF 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAF 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAF 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Marine Biology and Fisheries (MBF)

MBF 504. Biology of Marine Mammals. 3 Credit Hours.

The purpose of this class is to introduce students to the biology, evolution, taxonomy, physiology, natural history, behavior, conservation, and management of marine mammals.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 505. Marine Mammal Disease and Medicine. 3 Credit Hours.

This course will cover the basics (theory and application) of marine mammal disease and medicine. Applications will focus on the medical management of managed care and wild populations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 507. Marine Mammal Applied Behavior Analysis and Managed Care. 3 Credit Hours.

This course involves a thorough examination of specific aspects of marine mammal managed care and conservation programs, with an emphasis on behavior management, analysis, and modification as a basis for adaptive response to changing environments both in-situ and ex-situ. Coursework will also focus on health management and assessment, emergency handling and transportation, government regulations, and wildlife conservation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 508. Biometrics in Marine Science. 3 Credit Hours.

Applied statistical analysis in marine biology and biological oceanography. Descriptive statistics, probability distributions, and hypothesis testing are discussed. Concepts of analysis of variance, simple linear regression, and computer statistical distribution-free methods are also included as well as principles and procedures with computer statistical packages for data analysis. Lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 514. Tropical Marine Biology: A Field Course. 3 Credit Hours.

General survey of marine flora and fauna of tropical marine ecosystems. Inhabitants and communities of the sandy shore, rocky shore, seagrass meadows, mangrove shoreline, coral and artificial reefs are collected, identified, maintained. Life histories of representatives are presented. Concepts of island biology and geology such as shore zonation local reef formation and the geological history of the lagoon are also discussed. The 10 day course involves 90 contact hours and approximately 40 hours of formal lectures. Grades are based on a laboratory practicum and written final exam. The course is given in its entirety at the University's field station at Bimini, Bahamas.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 515. Tropical Marine Ecology. 3 Credit Hours.

Marine ecology with emphasis on tropical ecosystems and local habitats. Physical environmental and biotic adaptations, population, and community ecology are discussed. Field exercises in mangrove, sea grass, and coral reef ecosystems are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 518. Coral Reef Biology, Ecology, And Conservation. 3 Credit Hours.

Coral reefs as integrated systems are examined from geological, ecological, and biological perspectives. The roles of global and local environmental fluctuations, physical disturbance, and biotic interactions in controlling reef formation and community structure is emphasized. The physiology of scleractinian corals and their algal symbionts is described and the prevalence of algal-invertebrate symbiosis on coral reefs related to nutrient cycling, productivity, and food webs on coral reefs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 521. Field Techniques and Instrumentation in Tropical Marine Ecology. 3 Credit Hours.

This course covers the instrumentation and field techniques commonly used to characterize the structure and function of the three dominant ecosystems in the tropics and subtropics, i.e. coral reefs, seagrass beds and mangroves.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 539. Oceanic Productivity. 3 Credit Hours.

History, methods, and current topics relevant to studies of marine primary production. Magnitude and fate of primary production in the sea is essential to understand secondary production, the success of fisheries recruitment, and global climate.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 542. Oceans and Human Health. 3 Credit Hours.

The objective of this interdisciplinary course is to provide students with introductory knowledge of the broad and relatively young field of Oceans and Human Health. The focus is the present, future, and potential effects of oceanic processes and aquatic organisms on human health, and vice versa. These diverse factors reflect the physical, chemical, biotic and social processes which require an integration of information and knowledge from the medical, marine and social sciences. The course covers harmful algal blooms, marine microbes, and global climate change as well as an overview of coastal impacts and remedies (e.g. dredging from the sea and marine models) through a series of coordinated lectures and case studies on human health, physical environment, and oceanographic processes. Prerequisite: Permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 545. Marine Population Assessment Surveys And Analysis. 3 Credit Hours.

In spite of global conservation efforts, marine animal populations show increasingly critical low levels of abundance. Marine population assessment techniques are mostly based on fishery-dependent data for those species that are commercially exploited. Population assessment techniques based on these types of data usually lack spatial resolution and they do not provide spatial-temporal patterns of species diversity and community structure. Conversely, direct resource surveys aim to provide representative estimates of the relative abundance and population structure of the species (and community) of interest. These surveys can generate multi-species population databases that are fundamental for the modeling and understanding of important ecosystem-wide mechanisms of resource conservation. Multi-species indices of relative abundance are also important in the "tuning" of modern stock assessment and conservation methods. In this course students will learn about experimental sampling concepts and designs, instrumentation, survey implementation and statistical methods to directly assess size-structured population abundance (i.e., density estimates scaled to survey area), and of exploited and non-target species (e.g. sea turtles, marine mammals, etc.) in the ecosystem. Students will analyze real data from various surveys carried out in the past using statistical techniques to estimate valid population parameters and variances. Comparative analyses of survey designs are discussed based on an ample literature on the subject matter, which will be made available to the students.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 546. Marine Population Biology Processes And Modeling. 3 Credit Hours.

Marine and freshwater animal populations undergo many changes in response to exploitation of core predator and prey species in their ecosystem while subjected to environmental and anthropogenic perturbations in their habitats. Understanding these changes is a major objective of marine population scientists and paramount to marine conservation science. Marine Population Biology Processes and Modeling considers some of the fundamental properties of wild aquatic populations with the aim of knowing and understanding their interactive dynamics. For this purpose mathematical models are used under assumptions that they will provide an adequate description of the biological processes of interest. In this course students will learn conceptual aspects and estimation methods for the main population processes such as growth, survival, reproduction and feeding. Such concepts are framed by mathematical modeling to facilitate interpretation of dynamic population-level processes. Emphasis is also on data requirements and statistical validation of the data and model fitting such that students will develop an ability to integrate and summarize complex biological knowledge under a set of well defined protocols.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 550. Analytical Techniques in Marine Biology. 2 Credit Hours.

Theory and applications of selected analytical techniques necessary to conduct quantitative research in marine biology (e.g., electrophoresis, metabolite assays, enzyme assays, radioisotope methodology). One hour lecture followed by three hour laboratory per week.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 555. Graduate Physiology.. 3 Credit Hours.

Broad overview of concepts important for physiology. Topics include discussions of genomes, molecular evolution and functional genetics (metabolism), cell biology and cell communication, and organismal - environmental interactions. Readings from the primary literature are included with an emphasis on seminal papers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 565. Fisheries Ecology and Oceanography. 3 Credit Hours.

Course content is intended to introduce fisheries oriented students to key biological, ecological, oceanographic and climatic processes of direct relevance to fishery species. with a view toward development of an ecosystem perspective. The view that marine ecosystems may operate as complex adaptive systems will be presented as a potential key element of effective long-term ecosystem-based marine resources management

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 570. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 571. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 572. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 573. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 574. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 576. Diseases of Marine Organisms. 3 Credit Hours.

Infectious, genetic, and environmentally induced diseases of marine fishes and invertebrates as well as diagnostic methods, cellular, and molecular pathology. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 577. Management And Conservation Of Marine Ecosystems. 3 Credit Hours.

In this course students will learn how fisheries management works to achieve these objectives. The primary focus will be on how fisheries interact with marine ecosystems, including how particular fisheries management measures influence fishing mortality rates. Nevertheless, the ecosystem-based approach to fisheries management requires seeing fisheries as integrated systems, so it will also be necessary to discuss social, economic and legal aspects of fisheries management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 578. Evolutionary Genetics. 3 Credit Hours.

A Graduate course that presents and overview from "New Evolutionary Synthesis" (1900) to Evolutionary Genomics. The critical points to emphasize is the importance of standing genetic variation, the role of neutral evolutionary process versus evolution by natural selection and how a evolution perspective provides meaning insights into the biology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 586. Environmental Biology of Fishes. 3 Credit Hours.

Ecology, dispersal, and modes of life of fishes. Adaptations by larvae and adults to various habitats are covered as well as the effects of man on fish faunas and the importance of fishes to various ecological systems.

Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 590. Acoustic Measurement of Nekton, Plankton and Underwater Habitat.. 3 Credit Hours.

MBF 590 is an introductory course on the theory, history and applications of acoustics to measure nekton, plankton and underwater habitat. It was designed for those students who wish to learn how to make quantitative measures of organisms and structure underwater. It is a prerequisite for MBF 690, Advance Measurement of Nekton, Plankton and Underwater Habitat, which focuses on data acquisition in the field and laboratory signal processing. This course is essential for students who need to make precise and accurate underwater measurements for their research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 604. Biology of Marine Mammals. 3 Credit Hours.

The purpose of this class is to introduce students to the biology, evolution, taxonomy, physiology, natural history, behavior, conservation, and management of marine mammals.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 605. Marine Mammal Disease and Medicine. 3 Credit Hours.

This course will cover the basics (theory and application) of marine mammal disease and medicine. Applications will focus on the medical management of managed care and wild populations.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 607. Marine Mammal Applied Behavior Analysis and Managed Care. 3 Credit Hours.

This course involves a thorough examination of specific aspects of marine mammal managed care and conservation programs, with an emphasis on behavior management, analysis, and modification as a basis for adaptive response to changing environments both in-situ and ex-situ. Coursework will also focus on health management and assessment, emergency handling and transportation, government regulations, and wildlife conservation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 608. Biometrics in Marine Science. 3 Credit Hours.

Applied statistical analysis in marine biology and biological oceanography. Descriptive statistics, probability distributions, and hypothesis testing are discussed. Concepts of analysis of variance, simple linear regression, and computer statistical distribution-free methods are also included as well as principles and procedures with computer statistical packages for data analysis. Lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 614. Tropical Marine Biology: A Field Course. 3 Credit Hours.

General survey of marine flora and fauna of tropical marine ecosystems. Inhabitants and communities of the sandy shore, rocky shore, seagrass meadows, mangrove shoreline, coral and artificial reefs are collected, identified, maintained. Life histories of representatives are presented. Concepts of island biology and geology such as shore zonation local reef formation and the geological history of the lagoon are also discussed. The 10 day course involves 90 contact hours and approximately 40 hours of formal lectures. Grades are based on a laboratory practicum and written final exam. The course is given in its entirety at the University's field station at Bimini, Bahamas.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 615. Tropical Marine Ecology. 3 Credit Hours.

Marine ecology with emphasis on tropical ecosystems and local habitats. Physical environmental and biotic adaptations, population, and community ecology are discussed. Field exercises in mangrove, sea grass, and coral reef ecosystems are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 618. Coral Reef Biology, Ecology, And Conservation. 3 Credit Hours.

Coral reefs as integrated systems are examined from geological, ecological, and biological perspectives. The roles of global and local environmental fluctuations, physical disturbance, and biotic interactions in controlling reef formation and community structure is emphasized. The physiology of scleractinian corals and their algal symbiontosis described and the prevalence of algal-invertebrate symbiosis on coral reefs related to nutrient cycling, productivity, and food webs on coral reefs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 621. Field Techniques and Instrumentation in Tropical Marine Ecology. 3 Credit Hours.

This course covers the instrumentation and field techniques commonly used to characterize the structure and function of the three dominant ecosystems in the tropics and subtropics, i.e. coral reefs, seagrass beds and mangroves.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 639. Oceanic Productivity. 3 Credit Hours.

History, methods, and current topics relevant to studies of marine primary production. Magnitude and fate of primary production in the sea is essential to understand secondary production, the success of fisheries recruitment, and global climate.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 642. Oceans and Human Health. 3 Credit Hours.

The objective of this interdisciplinary course is to provide students with introductory knowledge of the broad and relatively young field of Oceans and Human Health. The focus is the present, future, and potential effects of oceanic processes and aquatic organisms on human health, and vice versa. These diverse factors reflect the physical, chemical, biotic and social processes which require an integration of information and knowledge from the medical, marine and social sciences. The course covers harmful algal blooms, marine microbes, and global climate change as well as an overview of coastal impacts and remedies (e.g. dredging from the sea and marine models) through a series of coordinated lectures and case studies on human health, physical environment, and oceanographic processes. Prerequisite: Permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 645. Marine Population Assessment Surveys And Analysis. 3 Credit Hours.

In spite of global conservation efforts, marine animal populations show increasingly critical low levels of abundance. Marine population assessment techniques are mostly based on fishery-dependent data for those species that are commercially exploited. Population assessment techniques based on these types of data usually lack spatial resolution and they do not provide spatial-temporal patterns of species diversity and community structure. Conversely, direct resource surveys aim to provide representative estimates of the relative abundance and population structure of the species (and community) of interest. These surveys can generate multi-species population databases that are fundamental for the modeling and understanding of important ecosystem-wide mechanisms of resource conservation. Multi-species indices of relative abundance are also important in the "tuning" of modern stock assessment and conservation methods. In this course students will learn about experimental sampling concepts and designs, instrumentation, survey implementation and statistical methods to directly assess size-structured population abundance (i.e., density estimates scaled to survey area), and of exploited and non-target species (e.g. sea turtles, marine mammals, etc.) in the ecosystem. Students will analyze real data from various surveys carried out in the past using statistical techniques to estimate valid population parameters and variances. Comparative analyses of survey designs are discussed based on an ample literature on the subject matter, which will be made available to the students.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 646. Marine Population Biology Processes And Modeling. 3 Credit Hours.

Marine and freshwater animal populations undergo many changes in response to exploitation of core predator and prey species in their ecosystem while subjected to environmental and anthropogenic perturbations in their habitats. Understanding these changes is a major objective of marine population scientists and paramount to marine conservation science. Marine Population Biology Processes and Modeling considers some of the fundamental properties of wild aquatic populations with the aim of knowing and understanding their interactive dynamics. For this purpose mathematical models are used under assumptions that they will provide an adequate description of the biological processes of interest. In this course students will learn conceptual aspects and estimation methods for the main population processes such as growth, survival, reproduction and feeding. Such concepts are framed by mathematical modeling to facilitate interpretation of dynamic population-level processes. Emphasis is also on data requirements and statistical validation of the data and model fitting such that students will develop an ability to integrate and summarize complex biological knowledge under a set of well defined protocols.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 650. Analytical Techniques in Marine Biology. 2 Credit Hours.

Theory and applications of selected analytical techniques necessary to conduct quantitative research in marine biology (e.g., electrophoresis, metabolite assays, enzyme assays, radioisotope methodology). One hour lecture followed by three hour laboratory per week.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 655. Graduate Physiology.. 3 Credit Hours.

Broad overview of concepts important for physiology. Topics include discussions of genomes, molecular evolution and functional genetics (metabolism), cell biology and cell communication, and organismal-environmental interactions. Readings from the primary literature are included with an emphasis on seminal papers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 665. Fisheries Ecology and Oceanography. 3 Credit Hours.

Course content is intended to introduce fisheries oriented students to key biological, ecological, oceanographic and climatic processes of direct relevance to fishery species. with a view toward development of an ecosystem perspective. The view that marine ecosystems may operate as complex adaptive systems will be presented as a potential key element of effective long-term ecosystem-based marine resources management

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 670. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 671. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 672. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 673. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 674. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Biology and Fisheries.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 676. Diseases of Marine Organisms. 3 Credit Hours.

Infectious, genetic, and environmentally induced diseases of marine fishes and invertebrates as well as diagnostic methods, cellular, and molecular pathology. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

MBF 677. Management And Conservation Of Marine Ecosystems. 3 Credit Hours.

In this course students will learn how fisheries management works to achieve these objectives. The primary focus will be on how fisheries interact with marine ecosystems, including how particular fisheries management measures influence fishing mortality rates. Nevertheless, the ecosystem-based approach to fisheries management requires seeing fisheries as integrated systems, so it will also be necessary to discuss social, economic and legal aspects of fisheries management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 678. Evolutionary Genetics. 3 Credit Hours.

A Graduate course that presents and overview from "New Evolutionary Synthesis" (1900) to Evolutionary Genomics. The critical points to emphasize is the importance of standing genetic variation, the role of neutral evolutionary process versus evolution by natural selection and how a evolution perspective provides meaning insights into the biology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 686. Environmental Biology of Fishes. 3 Credit Hours.

Ecology, dispersal, and modes of life of fishes. Adaptations by larvae and adults to various habitats are covered as well as the effects of man on fish faunas and the importance of fishes to various ecological systems.

Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 690. Acoustic Measurement of Nekton, Plankton and Underwater Habitat.. 3 Credit Hours.

MBF 590 is an introductory course on the theory, history and applications of acoustics to measure nekton, plankton and underwater habitat. It was designed for those students who wish to learn how to make quantitative measures of organisms and structure underwater. It is a prerequisite for MBF 690, Advance Measurement of Nekton, Plankton and Underwater Habitat, which focuses on data acquisition in the field and laboratory signal processing. This course is essential for students who need to make precise and accurate underwater measurements for their research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 702. Biological Oceanography Seminar. 1 Credit Hour.

Participation is required of all students in Marine Biology and Fisheries department every semester they are in residence whether or not they are registered for the course. Students past their second semester must give one 20-minute presentation per year, on their research or other acceptable topic. Dates are be assigned by lottery. Course may be taken for credit only once.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MBF 704. Biological Oceanography. 3 Credit Hours.

A comprehensive course in Biological Oceanography, including energy flow, biogeochemical cycles, planktonic and benthic ecosystem structure, evolutionary ecology, adaptations of marine organisms, and paleoceanography. Course is required of all MBF students and should be taken in sequence with Oceanography I (MPO 501), Oceanography II (MAC 502), and Oceanography IV (MGG 504).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 707. Biochemical Toxicology. 3 Credit Hours.

Biochemical mechanisms of absorption, distribution, metabolism, and excretion of natural and synthetic environmental toxicants. Methods for evaluation of acute and chronic toxicity, carcinogenesis, mutagenesis, and teratogenesis including *in vivo*, isolated organ, tissue culture, and subcellular approaches to toxicity testing are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 710. The Physical Environment of Marine Organisms. 3 Credit Hours.

The fluid environment of the sea influences the growth, distribution, and survival of marine organisms. The physical processes that affect organisms occur in space and time, ranging from the molecular properties of water to basin-wide linkages between oceanic regime and climate shifts are discussed. Course emphasis is placed on how physical processes affect the life of plankton to nekton. Students are required to present reviews based on the literature.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 713. Marine Population Dynamics. 3 Credit Hours.

The concepts of stocks, sub-populations, and populations as biological systems in the marine environment. Quantitative studies of growth, mortality, recruitment, and abundance of marine populations are discussed. Data requirements, experimental design, sampling, and mathematical procedures for estimating population parameters are included. Lecture and laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 714. Population Modeling and Management. 3 Credit Hours.

Mathematical and computer-intensive models of exploited populations fish, shell fish, marine mammals, and sea turtles. Stock production (surplus production), structured analytical yield (yield-per-recruit and age-size structured assessments), stock and recruitment, simulation modeling, adaptive control theory, risk assessments, and decision theoretic analyses are discussed. Techniques of management, concepts of resource allocation, and fishery management institutions with case studies are also included. Lecture and computer-based laboratory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MBF 715. Advanced Biometrics in Marine Science. 3 Credit Hours.

An introduction to advanced statistical analysis of multivariate empirical observations with primary emphasis on applications in the assessment and interpretation of the dynamics of marine populations and communities in marine biology, biomedical sciences, fisheries, and biological oceanography. Advanced methods in linear, multiple and nonlinear regression analysis, probability and estimation theory, multiple partial correlation, ANCOVA, GLIM, general additive models, nonlinear optimization, multivariate statistics (classification and ordination), and sampling techniques. Exploratory data analysis and modeling are emphasized using the software SAS, S-PLUS, and MATLAB.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 716. Bayesian Statistics For Marine Scientists. 3 Credit Hours.

Bayesian methods are increasingly used in ecology, fisheries science and marine biology, as a statistically rigorous means to incorporate information from diverse sources into a single analysis, deal with missing or incomplete data, and directly estimate the probabilities of hypotheses or outcomes. This course will cover Bayesian methods from the theory to the practical use of the statistics package OpenBUGS for Bayesian analysis. Topics will include development of prior probability density functions, numerical methods for integrating posterior probability density functions, diagnostics of convergence, and methods for model selection and model averaging. Examples will be taken from ecology and marine science and will include Bayesian meta-analysis of life history parameters, fisheries stock assessment models, tag-recapture models, molecular biology, decision analysis and estimation of animal abundance from surveys. Students will be encouraged to read the peer reviewed literature critically, and evaluate whether the Bayesian methods that are commonly applied are being used and interpreted appropriately. After doing several assigned homework problems, students will have an opportunity to develop a Bayesian analysis on their own data set.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 771. Advanced Studies. 1-4 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 772. Advanced Studies. 1-4 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 773. Advanced Studies. 1-4 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 775. Advanced Studies. 1-4 Credit Hours.

Supervised study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 787. Biology and Systematics of Fishes. 3 Credit Hours.

Lectures and laboratories on comparative evolution, morphology, physiology, and ecology of fishes. Laboratory emphasis is placed on family level taxonomy and systematics of marine and estuarine fishes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MBF 790. Advance Measurement on Nekton, Plankton, and Underwater habitat.. 3 Credit Hours.

MBF 690 is the second course in a series on the acoustic measurement of nekton, plankton and underwater habitat. It follows in the introductory course MBF 59 0. In this course, we will focus more on the acquisition and processing of plankton, nekton and marine habitat data using sonar hydrophones. We will also spend time reviewing and discussing the classic papers that have been published on this topic. This class was designed for those students who wish to learn how to make quantitative measures of organisms and underwater habitat structure for their research.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MBF 805. MPS Internship. 1-6 Credit Hours.

Supervised project for students pursuing the Master of Arts degree in Marine Studies. Consists of a paper, researched, and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MBF 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MBF 815. Masters Thesis-Post Candidacy. 1-6 Credit Hours.

Used to establish student has been admitted to candidacy for the MS Degree. The student working on his/her Master's Thesis enrolls for credit not to exceed 6 combined with 710. Credit is not awarded until the Thesis has been accepted.

Components: LEC.

Grading: GRD.

MBF 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MBF 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MBF 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of MBF 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MBF 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Marine Geology and Geophysics (MGG)

MGG 501. Oceanography I (Geological). 2 Credit Hours.

The first section of the core course curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of marine science and their applications to the study of the marine environment. To be taken in sequence with Oceanography II - Physical (MPO 502), Oceanography III - Chemical (MAC 501), and Oceanography IV - Biological (MBF 502). This course is for non-MGG majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 511. Earth Surface Systems. 3 Credit Hours.

An introduction to the elements of the earth surface environment and their interactions with an emphasis on the application to understanding the geologic record. Course includes discussions of the processes and agents that influence and shape the character of the earth's surface, the attributes of the resultant sedimentary features, and the use of these features to unravel geologic and geomorphic history. Focus is placed on systems dynamics and interactions among sedimentologic, geomorphic, biotic, and hydrologic processes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 513. Introductory Geochemistry. 3 Credit Hours.

Fundamentals of atomic structure and quantum mechanics applied to Chemistry. Topics include origin and distribution of the elements, chemical bonding and substitution, basic thermodynamics of solids, liquids, and gases. Applications of these concepts to such geochemical processes as magmatic differentiation, rock-water interactions, low temperature aqueous geochemistry, and the geochemical cycling of the elements is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 514. Geophysics. 3 Credit Hours.

Course topics include seismology, gravity, heat flow, thermal history, geomagnetism, plate tectonics, and their importance in understanding the Earth's crust, mantle, and core.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 525. Applied Environmental Geophysics. 3 Credit Hours.

Application of subsurface geophysical tools to environmental problems. Course includes the theory and application of shallow refraction and reflection seismology, conducting field experiments and processing both marine and land seismic data, other marine survey techniques such as side-scan sonar surveying, potential field techniques (gravity, magnetics, EM), ground penetrating radar, and borehole geophysics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 541. Field Evaluation of Fossil Platforms, Margins, and Basins. 2 Credit Hours.

Field investigation of classic rock sequences formed within ancient platform, margin, and basin environments. The use of ancient exposures as a guide to the interpretation of modern marine environments.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 550. Mathematical Methods for Geoscientists. 3 Credit Hours.

Background mathematics needed to solve problems in the geosciences. Applications in tectonics, geodynamics, structural geology, seismology, and hydrology. Topics include linear inverse problems, least squares, linear algebra, matrix theory, vectors, dimensional analysis, probability and scientific inference, continuum mechanics, transform and numerical methods to solve differential, and partial differential equations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 570. Continental Tectonics. 3 Credit Hours.

Reviews major research techniques used in the study of the structure and evolution of continental crust and topical discoveries, with an emphasis on the Neogene to Recent time. The course begins with brief introductions to the fields of structural geology, seismology, and geodesy as they relate to continental tectonics. New research in areas such as the rheology of the lithosphere, plate motion models, deformation of continental crust in plate boundary zones, oblique subduction, and earthquake hazard assessment are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 579. Plate Tectonics. 3 Credit Hours.

The theory of plate tectonics, sea floor spreading, and continental drift. Mathematical description of plate motions, finite and instantaneous rotation poles, consequences of plate tectonics, mountain building, rifting, erosion, and recycling of continental materials are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGG 580. Geological and Environmental Remote Sensing. 3 Credit Hours.

This one semester course will cover major remote sensing techniques used in the geological and environmental sciences. The course will begin with an introduction to the basic physics of remote sensing, followed by a review of major remote sensing techniques used in aircraft and satellite platforms, including IR and near IR, optical and microwave systems. We will then discuss specific terrestrial and coastal applications using a case history approach, including geologic, soil and biomass mapping, environmental monitoring, and natural hazard assessment. The course is aimed at graduate students and senior undergraduates with some background in math and physics. Grades are based on problems sets (a minimum of three), a mid-term test, and a report or lab exercise involving image processing, due at the end of the semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 581. Petroleum Geology. 4 Credit Hours.

Students will learn the basics of hydrocarbon generation, migration and entrapment using a variety of tools and real subsurface datasets. Participants should be comfortable with sedimentary geology, stratigraphy, structural geology. Some basic geophysics is helpful but not necessary. At the end of the course, students will be able to use ARCGIS and other software tools to build risk maps of hydrocarbon prospectively, assess exploration potential of an area and understand the basics of reserve estimation, prospect level risk assessment and ways to estimate yet-to-find volumes for a basin using a variety of statistical as well as geological techniques. The course stresses an understanding of practical applications of petroleum geochemistry, source rock and fluids characterization, burial history and oil and gas show evaluation to predict new accumulations and appraise discoveries. Basic principles of rock property analysis, coupled with an understanding of subsurface pressures, seals and ways to recognize hydrocarbons on electric logs are also covered. Lastly, seismic stratigraphy and plate tectonics are touched upon. A large number of subsurface datasets are used and the opportunity exists to learn additional software packages for those interested. Many subsurface problems will involve small teams of students working together to make final presentations simulating real work-place discussions and processes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 583. Scanning Electron Microscopy. 2 Credit Hours.

Theory and practical application of the SEM and the electron probe to research problems. Lectures and laboratory with emphasis on independent operation of the SEM, special preparation techniques, and interpretation of results are included. Course is designed to provide students with a broad and thorough background in scanning electron microscopy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 584. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 585. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 586. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 601. Oceanography I (Geological). 2 Credit Hours.

The first section of the core course curriculum designed as an integrated and multidisciplinary view of ocean processes, covering the major disciplines of marine science and their applications to the study of the marine environment. To be taken in sequence with Oceanography II - Physical (MPO 502), Oceanography III - Chemical (MAC 501), and Oceanography IV - Biological (MBF 502). This course is for non-MGG majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 611. Earth Surface Systems. 3 Credit Hours.

An introduction to the elements of the earth surface environment and their interactions with an emphasis on the application to understanding the geologic record. Course includes discussions of the processes and agents that influence and shape the character of the earth's surface, the attributes of the resultant sedimentary features, and the use of these features to unravel geologic and geomorphic history. Focus is placed on systems dynamics and interactions among sedimentologic, geomorphic, biotic, and hydrologic processes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 613. Introductory Geochemistry. 3 Credit Hours.

Fundamentals of atomic structure and quantum mechanics applied to Chemistry. Topics include origin and distribution of the elements, chemical bonding and substitution, basic thermodynamics of solids, liquids, and gases. Applications of these concepts to such geochemical processes as magmatic differentiation, rock-water interactions, low temperature aqueous geochemistry, and the geochemical cycling of the elements is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 614. Geophysics. 3 Credit Hours.

Course topics include seismology, gravity, heat flow, thermal history, geomagnetism, plate tectonics, and their importance in understanding the Earth's crust, mantle, and core.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 625. Applied Environmental Geophysics. 3 Credit Hours.

Application of subsurface geophysical tools to environmental problems. Course includes the theory and application of shallow refraction and reflection seismology, conducting field experiments and processing both marine and land seismic data, other marine survey techniques such as side-scan sonar surveying, potential field techniques (gravity, magnetics, EM), ground penetrating radar, and borehole geophysics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 641. Field Evaluation of Fossil Platforms, Margins, and Basins. 2 Credit Hours.

Field investigation of classic rock sequences formed within ancient platform, margin, and basin environments. The use of ancient exposures as a guide to the interpretation of modern marine environments.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 650. Mathematical Methods for Geoscientists. 3 Credit Hours.

Background mathematics needed to solve problems in the geosciences. Applications in tectonics, geodynamics, structural geology, seismology, and hydrology. Topics include linear inverse problems, least squares, linear algebra, matrix theory, vectors, dimensional analysis, probability and scientific inference, continuum mechanics, transform and numerical methods to solve differential, and partial differential equations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 670. Continental Tectonics. 3 Credit Hours.

Reviews major research techniques used in the study of the structure and evolution of continental crust and topical discoveries, with an emphasis on the Neogene to Recent time. The course begins with brief introductions to the fields of structural geology, seismology, and geodesy as they relate to continental tectonics. New research in areas such as the rheology of the lithosphere, plate motion models, deformation of continental crust in plate boundary zones, oblique subduction, and earthquake hazard assessment are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 679. Plate Tectonics. 3 Credit Hours.

The theory of plate tectonics, sea floor spreading, and continental drift. Mathematical description of plate motions, finite and instantaneous rotation poles, consequences of plate tectonics, mountain building, rifting, erosion, and recycling of continental materials are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGG 680. Geological and Environmental Remote Sensing. 3 Credit Hours.

This one semester course will cover major remote sensing techniques used in the geological and environmental sciences. The course will begin with an introduction to the basic physics of remote sensing, followed by a review of major remote sensing techniques used in aircraft and satellite platforms, including IR and near IR, optical and microwave systems. We will then discuss specific terrestrial and coastal applications using a case history approach, including geologic, soil and biomass mapping, environmental monitoring, and natural hazard assessment. The course is aimed at graduate students and senior undergraduates with some background in math and physics. Grades are based on problems sets (a minimum of three), a mid-term test, and a report or lab exercise involving image processing, due at the end of the semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 681. Petroleum Geology. 4 Credit Hours.

Students will learn the basics of hydrocarbon generation, migration and entrapment using a variety of tools and real subsurface datasets. Participants should be comfortable with sedimentary geology, stratigraphy, structural geology. Some basic geophysics is helpful but not necessary. At the end of the course, students will be able to use ARCGIS and other software tools to build risk maps of hydrocarbon prospectively, assess exploration potential of an area and understand the basics of reserve estimation, prospect level risk assessment and ways to estimate yet-to-find volumes for a basin using a variety of statistical as well as geological techniques. The course stresses an understanding of practical applications of petroleum geochemistry, source rock and fluids characterization, burial history and oil and gas show evaluation to predict new accumulations and appraise discoveries. Basic principles of rock property analysis, coupled with an understanding of subsurface pressures, seals and ways to recognize hydrocarbons on electric logs are also covered. Lastly, seismic stratigraphy and plate tectonics are touched upon. A large number of subsurface datasets are used and the opportunity exists to learn additional software packages for those interested. Many subsurface problems will involve small teams of students working together to make final presentations simulating real work-place discussions and processes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 683. Scanning Electron Microscopy. 2 Credit Hours.

Theory and practical application of the SEM and the electron probe to research problems. Lectures and laboratory with emphasis on independent operation of the SEM, special preparation techniques, and interpretation of results are included. Course is designed to provide students with a broad and thorough background in scanning electron microscopy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 684. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 685. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 686. Special Topics. 1-3 Credit Hours.

Lectures, research projects or directed readings in special topics related to Marine Geology and Geophysics

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGG 701. Seminar in Marine Geology and Geophysics. 1 Credit Hour.

Oral presentation and discussion of research and special topics by students, faculty, and visiting scientists. Students receiving credit are required to present a seminar.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MGG 720. Satellite Radar Interferometry in the Earth Sciences. 3 Credit Hours.

Spaceborne interferometric Synthetic Aperture Radar is an important technique for various disciplines in the Earth Sciences, such as geodesy, glaciology and hydrology. This course reviews the principles of radar, synthetic aperture radar of interferometric and differential radar interferometric techniques.

Components: LEC.

Grading: GRD.

MGG 722. Geophysical Inverse Theory. 3 Credit Hours.

This course covers the principles of geophysical inverse theory as applies to problems in the Earth Sciences. Inverse theory is a set of mathematical techniques used to obtain inferences about the Earth from physical measurements. The focus of this class will be on formulating and solving inverse problems, and understanding the non-uniqueness and resolution associated with inversions. The emphasis will be on geodetic data (obtained from GPS and InSAR measurements).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 750. Stable Isotopes in Biogeochemical Processes. 3 Credit Hours.

Theory of stable isotope fractionation, methods of measurement, and application of results to geological, biological, and oceanographic processes. Hands-on experience in the stable isotope laboratory is provided utilizing a range of techniques. A project chosen either by the student or instructor is required. All students who wish to use the stable isotope facility should take this course. Lecture, 2 hours; laboratory, 3 hours. Prerequisite: Permission of instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 761. Sedimentary Petrology. 3 Credit Hours.

Composition, texture, fabric, and structures of sediments and sedimentary rocks. The occurrence and properties of the major clasts of detrital and chemical sediments from a petrologic and historical perspective is discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 762. Comparative Sedimentology. 3 Credit Hours.

The use of modern sediments to decipher processes of origin, accumulation, and early diagenesis as the basis for interpreting environments and architecture of ancient deposits in outcrop and in the subsurface. Evaluation of the sedimentary record of climate and sea level changes is included as well as the application of facies models for interpretation of seismic and log data.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 768. Isotopic Processes in Earth Sciences. 3 Credit Hours.

The use of isotopic methods in geology, geochemistry, and geophysics, including oceanography and meteorology. General laws governing isotopic effects in chemical and physical processes are discussed. Specific problems in dating, tracing, and paleotemperatures are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 771. Diagenesis of Carbonate Sediments. 3 Credit Hours.

Application of geochemical, mineralogical, and petrological principles to the behavior of carbonate minerals in sediments. Physical and chemical conditions responsible for cementation, dolomitization, and aragonite-calcite phase transitions are emphasized. Types of depositional and diagenetic information which may be preserved in carbonate sediments. Laboratory studies of sediments are included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 772. Basin Analysis and Seismic Interpretation. 3 Credit Hours.

The processes of basin formation and filling. The principles of seismic facies analysis, seismic sequence stratigraphy, and their applications in basin analysis, groundwater management, and exploration for hydrocarbons are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MGG 776. Paleoclimatology. 3 Credit Hours.

Climatic variables and their effects on geological and biological processes. The development of the paleoclimatic record, modeling of present climate, and the extrapolation to past and future climates are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MGG 777. Physical Volcanology. 3 Credit Hours.

Volcanology is the study of volcanoes of the Earth and planets. On Earth, volcanoes occur on land and under the sea. Eruptions vary in size, duration, and frequency, and in the composition of eruptive rocks and volatiles. Proximity to centers of population makes some of them extremely dangerous. This course covers the principles of physical volcanology, including introductory petrology, mineralogy, geology, magma physics, the fluid dynamics of magmas, and volcanic hazards. Course logistics: Lectures supplemented by homework. Homework will be designed to illustrate physical processes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 781. Advanced Studies. 1-4 Credit Hours.

Special study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 782. Advanced Studies. 1-4 Credit Hours.

Special study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 783. Advanced Studies. 1-4 Credit Hours.

Special study in areas of special interest to graduate students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 784. Advance Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGG 785. Advance Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGG 786. Advance Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGG 787. Advance Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGG 788. Advance Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGG 800. Practical Training and Internship. 1-6 Credit Hours.

Supervised internship or off-campus employment for students pursuing the M.A., M.S., or Ph.D. degree. Consists of work related to research in progress.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MGG 805. Special Report. 1-6 Credit Hours.

Supervised project for students pursuing the Master of Arts degree in Marine Studies. Course consists of a research paper, researched, and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGG 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MGG 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MGG 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MGG 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of MGG 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MGG 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Marine Science (MSC)

MSC 101. Survey of Oceanography. 3 Credit Hours.

Introduction to the oceans and their significance to mankind, encompassing geological, physical, chemical, and biological processes; man's role in and on the sea, including fisheries, pollution, and ocean management. Not for major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSC 102. Introduction to Weather and Climate. 3 Credit Hours.

The structure, physics, dynamics and thermodynamics of the atmosphere. Weather, weather forecasting, climate and climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 103. Survey of Modern Meteorology. 3 Credit Hours.

Dynamics and thermodynamics of the atmosphere as they relate to contemporary issues in meteorology. Overview of numerical weather prediction techniques and new technologies for monitoring weather and climate. Open to majors or minors with permission of instructor.

Prerequisite: MTH 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 104. Molecules Of Life. 3 Credit Hours.

Topics include: basic composition and chemistry of the atmosphere; chemical processes involved in regional air pollution and acid rain; health effects of air pollution; global change in the composition and climate of the atmosphere; stratospheric ozone, and global warming. The treatment will only utilize basic pre-calculus mathematics and high-school level chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 107. Life in the Sea. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 108. Environmental Oceanography. 3 Credit Hours.

This course will focus on environmental issues facing the oceans today, including global climate destabilization, the impact of population growth on coastal environments, marine pollution, and the state of marine fisheries. An active learning approach will be adopted, with emphasis on case studies and critical analysis. Marine environmental issues will be presented in self-contained analytical exercises. Basic math needed to quantify environmental issues will be introduced. Information and questions on sustainability will be integrated throughout the course and students will be asked to think critically about these pressing concerns.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 111. Introduction to Marine Science. 3.00 Credit Hours.

Geological, physical, chemical and biological processes of the world's oceans. The role of the oceans in global dynamics and man's role in and on the sea, including fisheries, pollution and ocean management. Enrollment limited to Marine Science/Marine Affairs majors and minors. Lecture and discussion, 3 hours. Field trips.

Components: DIS.

Grading: GRD.

Typically Offered: Fall.

MSC 115. Tropical Marine Biology. 3 Credit Hours.

A field and lecture study of selected marine environments around South Florida, with emphasis on the interaction between organisms and the geological, physical, and chemical environment. Field trips. Fee required.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MSC 172. Special Topics in Marine Science. 2-6 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 180. Seminar In Marine Science. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 190. Studies in Marine Science. 1-5 Credit Hours.

Components: LEC.

Grading: GRD.

MSC 191. Studies in Marine Policy. 1-5 Credit Hours.

Components: LEC.

Grading: GRD.

MSC 204. Environmental Statistics. 3 Credit Hours.

This introductory course provides an overview of parametric and nonparametric statistics with an emphasis on applications in the analysis of environmental data. (Not open to students with credit in MTH 224, BIL 311, PSY 204 or equivalent).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 205. Mathematical Methods for Marine Science. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 210. The Dynamic Oceans. 3 Credit Hours.

The course will describe the principal means of observing and quantifying oceanic circulation and will include descriptive treatments of ocean circulation at various time and length scales, including eddies, gyres, and strong currents such as the Gulf Stream. The course covers sea water properties, water masses and their distributions. The main concepts introduced are conservation principles and forcing mechanisms of the ocean circulation. The role of the oceans in earth's climate and climate variability are also treated.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 215. Chemical Oceanography. 3 Credit Hours.

An introduction to the chemistry of the oceans. Descriptive chemical oceanography of the components of ocean waters (metals, gases, organic compounds and nutrients). Biogeochemical cycles in oceanic systems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 216. Chemical Oceanography Laboratory. 1 Credit Hour.

Chemical and physical methods in chemical oceanography. Analytical and instrumental techniques used to determine density, salinity, chlorinity, dissolved oxygen, nutrients and components of the carbonate system. Corequisite: MSC 215.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSC 220. Climate and Global Change. 3 Credit Hours.

The Earth's climate system and the role of natural and anthropogenic processes in shaping climate change.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 222. Earth'S Climate: Past And Future. 3 Credit Hours.

According to the recent reports from the Intergovernmental Panel on Climate Change (IPCC), there is mounting evidence that human activities have increasingly played a significant role on the Earth's climate change over the last few centuries. While there is disagreement on the magnitude of these changes, it is widely accepted in the scientific community that the effects of anthropogenic forcing on climate will propagate into the future, with potentially dire socio-economic and environmental consequences. In spite of compelling instrumental and proxy data that document climate change on scales relevant to human societies, as well as a sharp increase in public dissemination of this information in recent years, the general public and many students of higher education remain skeptical and unconvinced about the primary driver(s) of global warming during the Anthropocene
Prerequisite: MSC 111, and GSC 110 or GSC 111. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 230. Introduction to Marine Biology. 3 Credit Hours.

The sea as an environment. Marine life, its special problems and adaptations. Emphasis on Caribbean organisms. Lecture, 3 hours. Identical to BIL 230.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 232. Introduction to Marine Biology Laboratory. 1 Credit Hour.

Ecology, physiology, and behavior of marine organisms in south Florida marine habitats. Laboratory Techniques.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSC 240. Introduction To Marine Geology. 3 Credit Hours.

The principal marine geological environments of the world, their substrate, their sediments, their flora and fauna, and their evolution through time.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 264. Tropical Coastal Ecosystems. 3 Credit Hours.

This course will cover basic concepts of the ecology, management, conservation, and restoration of tropical marine ecosystems. The ecosystems and habitats to be discussed include coral reefs, seagrass beds, and mangrove forests. Given the importance of these ecosystems and their recent declining trajectories, we will discuss status and trends as well as disturbance factors affecting these resources. In addition to the ecology and conservation of these systems, we will cover basic concepts of population and community ecology, sampling design, and monitoring methods. Special attention will be given to the management tools presently used to protect and recover these resources, including the design and implementation of Marine Protected Areas and advances in the field of Restoration Ecology. Assigned readings will come from the two textbooks as well as the primary literature. The grading in this course will be based on two exams (midterm and final) as well as an oral or multimedia presentation.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 265. Tropical Coastal Ecosystems: Lab and Field Methods. 1 Credit Hour.

This 1-credit course will complement the lecture-based MSC 264 (Science, Conservation, and Restoration of Tropical Coastal Ecosystems) by providing students with hands-on experience on common field survey methodologies used to assess the health of coastal ecosystems like seagrass beds and coral reefs and the opportunity to conduct a lab experiment on the effects of stressors like salinity, sedimentation, or nutrients on the growth and survivorship of the target organisms.

Prerequisite: MSC 264. Or Corequisite: MSC 264. Or Requisite: Instructor Permission.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 300. Water Resources: History, Management, and Policy. 3 Credit Hours.

An overview of the issues and problems surrounding the management of aquatic resources in the broadest sense including water quality of natural waters, drinking water, water pollution, water quantity and supply issues, watershed management, wetland protection, and coastal management. We will explore the available strategies to wisely manage the various aquatic resources, policy options and their socio-economic aspects, legal frameworks, and institutional arrangements. The examples and cases discussed in the course will largely come from China, Vietnam, and the US.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MSC 301. Introduction to Physical Oceanography. 3 Credit Hours.

Application of the laws of physics to the study of the properties and circulation of the world's oceans and atmosphere.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 302. Introduction To Physical Oceanography Lab. 1 Credit Hour.

Laboratory exercises and field work on basic fluid mechanics applicable to the ocean. These include buoyant convection and double diffusion, methods for measuring flows, gravity wave experiments in the lab and field, diffusion studies and rotating tank investigations as an analog for planetary flows.

Prerequisites: MSC 301 or ATM 405. Or Corequisites: MSC 301 or ATM 405.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 307. Introduction to the physics of climate. 3 Credit Hours.

The physical mechanisms which govern the earth's climate and climate variability.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 310. Living Resources of the Ocean. 3 Credit Hours.

Marine fish and shellfish of major commercial and recreational value: biology, techniques of harvesting, and resource management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 313. Coastal Law. 3 Credit Hours.

Basic doctrines and public policy related to the use and regulation of the United States coastal zone and seabed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 314. Ocean Law. 3 Credit Hours.

The principles of international ocean law regarding ocean management; ocean delimitation and issues of environmental ocean regulation within international legal framework.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 316. Global Primary Production. 3 Credit Hours.

Photosynthesis supports the vast majority of life on planet earth. This course reviews the magnitude and the processes that shape primary production in terrestrial, oceanic, and freshwater habitats. It includes the fate of primary production in the earth's biomes, and the role of terrestrial and aquatic productivity in regulating, and responding to, variable climate.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 317. Earth'S Biogeochemistry. 3 Credit Hours.

Outstanding features of planet Earth, including its vast oceans, climate and atmosphere, are strongly impacted by life. Scientists investigate these impacts, such as ocean acidification, variable atmospheric CO₂ concentrations, coastal anoxia, and permafrost melting, through their biogeochemical dynamics. The first part of the course covers the relevant microbial and chemical reactions that occur in the atmosphere, on land, in freshwaters and in the oceans. The second part links this mechanistic understanding to a large-scale, synthetic view of global biogeochemical cycles. These are considered in the context of global change.

Prerequisite: CHM 111 or CHM 112.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 321. Scientific Programming in the Atmospheric Sciences. 3 Credit Hours.

An introduction to scientific programming in a linux environment using the FORTRAN 90/95 language with specific applications to Meteorology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 323. Invertebrate Zoology. 4 Credit Hours.

Biology of invertebrates, with emphasis on tropical and subtropical marine forms. Field work and combined lecture-laboratory sessions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 324. The Biology of Fishes. 3 Credit Hours.

Selected topics on the ecology and physiology of fishes. Lectures on reproduction, respiration, osmoregulation, sense systems, hormonal control.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 325. Biological Oceanographic Techniques. 3 Credit Hours.

Field sampling for plankton biomass and productivity; benthic biomass, and of selected physical parameters. Applications of molecular techniques and remote sensing to oceanographic problems.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 326. Marine Genomics. 3 Credit Hours.

Intensive lecture/laboratory course with emphasis on using genomic tools to address an independent research project of importance in the marine sciences.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSC 327. Marine Animal Neurophysiology and Behavior. 3 Credit Hours.

This course will look at neural and endocrine systems in a variety of marine animal invertebrate and vertebrate models and how these systems work together to control elements of physiology, sensation and perception of the environment and behavior.

Prerequisite: BIL 230 or MSC 230, and BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 328. Introduction To Aquaculture. 3 Credit Hours.

This course will provide an introduction to the field of aquaculture, which represents one of the fastest growing industries in food production in the worlds and is a field that offers exciting job opportunities in science, business, marketing, resource management, and socioeconomics. This course will provide students with a sound background in aquaculture prior to engaging in higher-level courses in this field.

Prerequisites: MSC 111 or MSC 230. Corequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 329. Marine Vertebrate Zoology. 3 Credit Hours.

The course will be a comprehensive examination of the form and function of the vertebrate lineage of marine animals from early chordates to the evolution of cartilaginous and bony fish and the emergence of tetrapods, those that evolved from marine ancestors and have since returned to the seas. A comparative point of view will be used to assess the anatomy and physiology of each taxonomic group as well as behavioral and ecological adaptations related to their life history. Specifically, the course will cover the emergence of the vertebrate body plan and the evolution of fish from agnathans through modern teleosts, as well as the tetrapod lineage of marine reptiles, marine birds, and marine mammals. We will examine critical points in vertebrate evolution where genome-wide duplication events occurred as well as instances of convergent evolution in various lineages.

Prerequisite: MSC 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 333. Ocean Human Health. 3 Credit Hours.

The focus of this course is on the present, future, and potential effects of oceanic processes and marine organisms on human health and wellbeing and on human impacts on the marine environment. Pre-requisite MSC 230.

Prerequisite: MSC 230 or BIL 230.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 340. Ocean Policy. 3 Credit Hours.

Analysis of ocean policy issues in US fisheries, marine conservation and marine protected areas, marine pollution, coastal management and regulation of offshore oil and gas activities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 342. Decision Making And The Environment. 3 Credit Hours.

A basic, critical appreciation of interdisciplinary decision theory as applied to natural resources management. Specific goals include comprehension of: decision making under uncertainty, evolutionary social science, managing common pool resources, and behavioral economics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 345. Economics of Natural Resources and the Environment. 3 Credit Hours.

A comprehensive overview of the economics of national, international, and global environmental problems. A unifying theme throughout is sustainable development defined as "maximizing the net benefits of economic development while maintaining the services and quality of natural resources over time". We will use economic reasoning to examine causes and consequences of environmental and resource problems, and measures for dealing with them.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 346. Climate Science and Policy. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 350. Survey of Marine Mammals. 3 Credit Hours.

The evolution and ecology of the cetaceans, pinnipeds, manatees, and allies: Natural history, zoogeography, physiology, husbandry, and biomedical aspects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 351. Physical-Biological Interaction In Ocean Ecosystems I. 3 Credit Hours.

Part 1 of a 2 course sequence encompassing physical oceanography, marine ecosystems and fisheries.

Prerequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 352. Physical-Biological Interaction In Ocean Ecosystems II. 3 Credit Hours.

Part 2 of a 2 course sequence encompassing physical oceanography, marine ecosystems and fisheries.

Prerequisite: MSC 351. Corequisite: MSC 204.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 355. Limnology. 3 Credit Hours.

This course is an introduction to the physical, chemical, and biological properties of freshwater ecosystems. It is intended as an upper level course for juniors and seniors. It emphasizes the ecological process of lakes, rivers, and to less extent, streams. The role of watershed processes is considered in the context of management of rivers and estuaries. Case studies integrate the scientific understanding of freshwater ecosystem function with management decisions. Applied aspects of freshwater systems are included.

Prerequisite: MSC 230. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 364. Life in Moving Fluids. 3 Credit Hours.

The physical characteristics of air and water are described in relation to various flow phenomena that play a part in life functions. Adaptations of form and function reflect the very different properties of the media (air and water) of terrestrial and aquatic life. Energy conversion and transfer limit form and function and enable a wide variety of survival strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 370. Current Research in Marine Biology: Seminars and Discussion. 2 Credit Hours.

These discussions and seminars comprising a 2 cr course provide well-prepared undergraduate students interested in marine research with an introduction to graduate student-presented science in the specialization of marine biology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 371. Readings in Marine Science. 1-3 Credit Hours.

Library research with faculty supervision. Bibliography to be submitted in preparation for laboratory and/or field research project.

Components: DIS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSC 372. Special Topics in Marine Science. 1-6 Credit Hours.

Content varies by semester and is indicated in parentheses following course number and title in class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 380. Field Studies In Marine And Aquatic Science. 1-4 Credit Hours.

Field course to selected marine, estuarine and/or aquatic sites in the United States and abroad. Travel fee may be required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 381. Marine Field Ornithology. 1-4 Credit Hours.

Waterbirds such as seabirds, shorebirds, and wading birds are key components of the marine ecosystem, including pelagic, coastal, and estuarine communities. As ecological indicators waterbird abundance provides a proxy for the health of these environments. Waterbirds have also served as important model systems for studies of behavior, evolutionary biology, and ecological theory. This course will provide an introduction to waterbird biology and conservation, including a variety of different field trips to waterbird communities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSC 390. Advanced Studies in Marine Science. 1-5 Credit Hours.

Components: LEC.

Grading: GRD.

MSC 391. Advance Studies In Marine Policy. 1-5 Credit Hours.

Components: LEC.

Grading: GRD.

MSC 403. Marine Environmental Toxicology. 3 Credit Hours.

This course will provide an introduction to the principles of environmental toxicology with an emphasis on marine ecosystems, considering a variety of different classes of toxicants, how they can impact marine organisms, the scientific methods used to assess impacts, and the regulatory frameworks used to monitor and manage their release to the environment.

Prerequisites: BIL 255, CHM 111, CHM 112.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 404. Marine Org. & Env Health. 1 Credit Hour.

This 1 credit course will complement salt water semester courses. (Must have taken MSC403 or MSC333 and either MSC466 or MSC326 and MSC463). Students will be required to collect and analyze samples, interpret their findings and present them in a formal laboratory report due two weeks after the trip. Students will also be required to give a presentation they have prepared before the trip and attend two seminars on Marine Organismal and Environmental Health topics

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 410. Marine Conservation Science. 3 Credit Hours.

Nature of marine biodiversity, what threatens it, and what can be done to recover the biological integrity of estuaries, coastal seas, and oceans. Topics include: distinctive aspects of marine populations and ecosystems; threats to marine biological diversity, singly and in combination; place-based management of marine ecosystems; and the human dimensions of marine conservation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSC 411. Projects in Marine Science. 1-4 Credit Hours.

Individual, independent research projects with faculty supervision. A formal written report is required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSC 415. Coral Reef Science and Management. 3 Credit Hours.

The interdisciplinary nature of coral reef science and management: biological, environmental, ecological and socioeconomic aspects of coral reef science, coral reef management problems and approaches at local to global scales, and the implications of climate change for coral reef science and management.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 417. Marine Biota And Biogeochemical Cycles. 3 Credit Hours.

The distribution of dissolved particulate materials in the sea is not uniform in time or space. Variability in these reflects the diverse biological sources, transformations, and sinks of chemical constituents in the sea. This course focuses on the role of marine organisms in marine biogeochemical cycling, with particular emphasis on the marine carbon and the nutrients. We visualize and query the ocean system using publicly available global ocean data sets and the application Ocean Data View. The material is presented as a capstone to your training in marine sciences, bringing together the physical, chemical and biological dynamics of the ocean as a single system.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 420. Political Ecology of the Galapagos. 3 Credit Hours.

This field course in the Galapagos National Park offers a rare chance to examine the human interactions in this highly politicized landscape of conservation. Students practice the political ecology approach for doing ethnographic field work and explore how it can lead to wiser resource management. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 421. Terrestrial Biology and Adaptations of the Galapagos.. 3 Credit Hours.

This course will examine the terrestrial plant and animal life of Isabela Island, discuss the biology and how it adapted to life on Isabela. Through field and laboratory exercises we will explore the power of organisms' DNA in shaping life into unique forms like those famously present in today's Galapagos. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 422. Marine Ecology of the Galapagos. 3 Credit Hours.

This course focuses on marine ecosystems of the Galapagos, emphasizing near-shore environments. Topics will include how the unique location and oceanography of the Galapagos have shaped the species composition of resident and migrant marine animals. The role of genetic drift, local habitat characteristics and natural selection on marine ecosystems will be examined. This is a field intensive course with time spent in intertidal, near-shore and off-shore island environments. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 423. Marine Conservation Biology & Fisheries of the Galapagos. 3 Credit Hours.

The Galápagos are located in a uniquely productive area of the sea, which has allowed the development of rich and unique marine biota. The first week of the course will carry the students through the dynamic, climatic, and oceanographic circumstances that determine the unique character of the Galapagos. The second week will cover scientific evaluation of the threats to the marine biodiversity of the Galapagos, focusing on sharks, penguins, sea turtles and other at-risk species and habitats. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 424. Origin and Geology of the Galapagos Islands.. 3 Credit Hours.

This course will explore the origin and geology of volcanic oceanic islands, using the Galapagos Islands as a natural laboratory. Though all share a common origin in plate tectonic theory, each island presents a host of environments that originate in the processes of volcanic action, erosion and hydrology. Individual islands therefore develop distinctive ecosystems within which organisms interact and evolve. The emphasis of this course will be to lay out the underlying geological processes that have led to the formation of the islands and to their present state, and then to explore the ways the physical environment has influenced adaptation and biodiversity. Part of UGalapagos semester.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 425. Galapagos Community-Based Research and Service. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 427. Field Experience In The Galapagos Island. 3 Credit Hours.

This 3 cr, 20-day Summer I field course in the southern Galapagos Islands, with a research paper, is a companion course to the lecture course MSC426. MSC427 provides students with the first-person knowledge and opportunity for research in the topics covered in the previous lecture course, encompassing the flora, fauna, geology, and society of the Galapagos Islands.

Prerequisite: MSC 426.

Components: LEC.

Grading: GRD.

MSC 432. Comparative Ecology of Terrestrial and Marine Systems. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 460. Spatial Applications in Marine Science. 3 Credit Hours.

The concepts and marine applications of Geographic Information Systems. Every class period will entail short class lectures and hands on computer based GIS exercise on marine science related issues. Students will learn how to use ArcGIS 9.2 and create simple GIS models primarily using vector data.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSC 462. Marine Biomedicine. 3 Credit Hours.

The course will cover diverse bioactive molecules that are derived from marine sources ranging from sponges to sharks. The isolation and characterization of these compounds as well as their potential application in clinical medicine and human health will be reviewed. The class will also cover marine-derived factors used in biotechnology and marine animal models used in biomedical research with an emphasis on marine immunology.

Prerequisite: BIL 255 and CHM 112.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 463. Marine Conservation Genetics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSC 464. Marine Comparative Immunology Lab. 1 Credit Hour.

The laboratory course will cover immunology techniques used in the assessment of immune function and immune reactivity in diverse marine taxa from sponges to fish to mammals

Prerequisite: MSC 465. Or Corequisite: MSC 465.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 465. Marine Comparative Immunology. 3 Credit Hours.

The course will cover immune function in diverse marine taxa from sponges to fish and the evolution of innate and adaptive immune mechanisms from a comparative point of view, with an emphasis on shark and fish immunology. Adaptations related to living in a microbe-rich marine environment will be highlighted. Potential applications of research findings will be addressed with respect to conservation and aquaculture. The role of invertebrate and vertebrate models in the study of the evolution of the immune system and applications for human health and medicine will be discussed.

Prerequisite: BIL 255.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSC 466. Environmental Physiology: Oxygen, Water And Ionoregulatory Stress. 3 Credit Hours.

This is an intensive laboratory course that combines and elaborates on concepts learned in BIL 360. Topics will include homeostasis, interactions with the external environment, and life with limited oxygen and water. Lectures will be highly discussion-based; students will be expected to read primary research articles as suggested by the professor before lecture to foster participation in those discussions and form hypotheses about accompanying laboratory. Each lab will be written up as a formal laboratory report (i.e., Introduction, Materials and Methods, Results and Discussion).

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSC 491. Special Studies in Marine Science. 1-3 Credit Hours.

Interdisciplinary capstone course in Marine Science. Content of course will vary by semester. Content in any semester will be expressed in parentheses following "Special Studies" in the class schedule.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Marine and Atmospheric Chemistry (MAC)

MAC 503. Principles of Marine and Atmospheric Chemistry. 3 Credit Hours.

Introduction to the chemical aspects of the sea and atmosphere chemical composition, physico-chemical properties and relationships, methodology of study, fundamental aspects of marine and atmospheric chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAC 510. Biogeochemical Exploration of the Major Ocean Basins. 3 Credit Hours.

This course will have students explore the basic hydrography and biochemistry of the major ocean basins through use of several publicly available global ocean data sets. Each ocean basin will be assessed for biogeochemical features that are unique to that system. By the end of the course, students will have the skills necessary to investigate and interpret marine biogeochemical processes throughout the global ocean.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAC 560. Tropospheric Chemistry I. 3 Credit Hours.

Process-Oriented lower atmospheric chemistry. Topics include photochemical oxidant formation, nighttime chemistry, air-sea exchange, cloud droplet and aerosol reactions, physical properties of aerosols, and transport properties of the troposphere.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAC 581. Special Topics in Marine and Atmospheric Chemistry. 1-4 Credit Hours.

Lectures, research projects or direct readings in special topics of marine and atmospheric chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAC 584. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics of Marine and Atmospheric Chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAC 603. Principles of Marine and Atmospheric Chemistry. 3 Credit Hours.

Introduction to the chemical aspects of the sea and atmosphere chemical composition, physico-chemical properties and relationships, methodology of study, fundamental aspects of marine and atmospheric chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAC 610. Biogeochemical Exploration of the Major Ocean Basins. 3 Credit Hours.

This course will have students explore the basic hydrography and biochemistry of the major ocean basins through use of several publicly available global ocean data sets. Each ocean basin will be assessed for biogeochemical features that are unique to that system. By the end of the course, students will have the skills necessary to investigate and interpret marine biogeochemical processes throughout the global ocean.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAC 660. Tropospheric Chemistry I. 3 Credit Hours.

Process-Oriented lower atmospheric chemistry. Topics include photochemical oxidant formation, nighttime chemistry, air-sea exchange, cloud droplet and aerosol reactions, physical properties of aerosols, and transport properties of the troposphere.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAC 684. Special Topics. 1-4 Credit Hours.

Lectures, research projects or directed readings in special topics of Marine and Atmospheric Chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAC 705. Chemical Oceanography. 3 Credit Hours.

Course consists of lecture and discussions with renowned experts in the major disciplinary foci and topical issues dominating the field of Chemical Oceanography. Topics include the chemistry and biogeochemical processes of the carbon cycle, ocean tracers, photochemistry, and specific marine environments (geothermal vents, anoxic waters, sediments, air/sea interface).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAC 720. Marine Physical Chemistry. 3 Credit Hours.

Physical-chemical principles applied to the marine environment, based on thermodynamics and the study of rate processes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAC 725. Marine Biochemical Cycles. 3 Credit Hours.

Course discusses the roles of bacteria in the transformation of compounds in the marine environment, their functions in the carbon, nitrogen, sulfur, and phosphorus cycles, and transformation of metals. Bacterial activities in the deep-sea environment and their involvement in corrosion and fouling is also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAC 750. Reaction Kinetics and Molecular Dynamics. 3 Credit Hours.

Theories and experimental techniques for studying kinetics in the gas-phase, association, unimolecular and bimolecular reactions, chain reactions, flames, statistical theories, potential energy surfaces, collision dynamics, kinetics in solution and the solid-state, experimental methods, diffusion-controlled processes, transition state theory, thermal decomposition, and nucleation are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAC 761. Tropospheric Chemistry II. 3 Credit Hours.

Chemical and physical properties of tropospheric aerosols. Topics include properties of aerosols, dynamics of single aerosol particles, thermodynamics of aerosols, nucleation theory, aerosol growth, heterogeneous processes, dynamics of aerosol populations, and radiative properties of atmospheric aerosols.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAC 762. Environmental Photochemistry. 3 Credit Hours.

Introduction to the principles of photochemistry and their application to understanding sunlight initiated processes in the region of the ocean-atmosphere interface. Organic and inorganic photochemical reactions and subsequent thermal reactions in solution, gas, and solid media are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAC 767. Marine Trace Element Geochemistry. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAC 770. Seminar in Marine and Atmospheric Chemistry. 1.00 Credit Hour.

Oral presentation of research and special topics by students, faculty, and visiting scientists.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MAC 781. Special Topics in Marine and Atmospheric Chemistry. 1-4 Credit Hours.

Lectures, research projects or direct readings in special topics of marine and atmospheric chemistry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAC 805. Special Report. 1-6 Credit Hours.

Supervised project for students pursuing the Master of Arts degree in Marine Studies. Consists of a paper, researched, and written on a topic approved by the student's advisory committee, and presented as a seminar to the student's division. Six credits are required for graduation.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAC 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAC 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12. Not more than 12 hours of MAC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAC 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Marketing (MKT)

MKT 201. Foundations of Marketing. 3 Credit Hours.

Understanding and satisfying consumer need through product planning, pricing, promotion, and distribution. Students identify and analyze marketing problems. Discovery and application of marketing skills are developed by marketing planning assignments, computer simulations, and case analysis.

Requisite: School of Business Administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 301. Marketing Foundations. 3 Credit Hours.

Understanding and satisfying consumer needs through product planning, pricing, promotion, and distribution. Students identify and analyze marketing problems. Discovery and application of marketing skills are developed by marketing planning assignments, computer simulation, and case analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKT 302. Marketing Research and Market Analysis. 3 Credit Hours.

Examination of the process, role, and function of marketing research, including research problem formation, research methods and procedures, data acquisition, sampling theory and practice, data analysis, presentation of results, ethical issues, and application for each of the above.

Prerequisites: MAS 201 or MAS 311 or PSY 204 or PSY 291 or PSY 292 or MTH 224 or IEN 311, MAS 202 or MAS 312 or IEN 312, MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 310. Consumer Behavior and Marketing Strategy. 3 Credit Hours.

The study of behavioral science research findings, principles, and theories, especially those from psychology and sociology, as they relate to the determinants of consumer buying behavior. The case approach is utilized to stimulate the development of creative marketing strategy.

Requisite: must be in the School of Business or have a Marketing minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 320. Retailing. 3 Credit Hours.

Retail store management, location, buying, merchandise control, policies, services, pricing, expenses, profits, training and supervision of retail sales force, and administrative problems are discussed.

Requisite: must be in the School of Business or have a Marketing minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKT 340. Professional Selling. 3 Credit Hours.

Nature of the professional selling function and its relationship and contribution to the marketing strategy of organizations. Special emphasis is placed on broadly applicable principles and effective personal communication skills during the sales process.

Requisite: must be in the School of Business or have a Marketing minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKT 360. International Marketing. 3 Credit Hours.

The major current factors affecting international marketing. Course is designed to acquaint students with the growing importance of world marketing in the U.S. and the strategic issues involved.

Prerequisites: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MKT 380. New Product Development. 3 Credit Hours.

This course enables students to appreciate the systematic approach that goes into the creation and marketing of new products. Practical aspects of developing and marketing new products are inculcated through two assignments and one class project.

Requisite: must be in the School of Business or have a Marketing minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 385. Marketing for Entrepreneurs. 3 Credit Hours.

This course is focused on the study and practice of marketing all aspects of an entrepreneurial venture: the new company itself as well as its products or services. Topics will include: branding, pricing and costing, buying behavior, market segmentation, channel management, as well as exploring issues such as intellectual property, customer service, corporate versus product web sites, media exposure and PR, and maintaining an integrated plan for building the venture's brand.

Requisite: must be in the School of Business or have a Marketing minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 386. Advertising Management. 3 Credit Hours.

In this course, students learn about the components involved in researching, planning, creating, and executing advertising strategies.

The class gives students a better understanding of how advertising can be effectively used in a marketing strategy. Students also learn how advertising both influences and is influenced by cultural trends. Implications of this to both marketers and society as a whole are discussed.

Requisite: must be in the School of Business or have a Marketing minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 387. Digital Marketing. 3 Credit Hours.

This course will introduce students to the principles of digital marketing from both perspectives of theory and practice. On the theory side, students will learn foundations and recent research and development of digital marketing. Main contemporary digital marketing issues will be extensively discussed in class, including search engine optimization, search engine marketing, online advertising, web analytics, email marketing, social media marketing, and reputation management. Students will also learn how to form an appropriate strategy for a digital marketing campaign and use quantitative skills to analyze the effectiveness of such a campaign. On the practice side, students will collaborate in teams and participate in applied learning exercises. Students will grasp critical concepts of search engine optimization by working with a local business client, laying out a suitable pre-campaign strategy, implementing and modifying the campaign in real time, and summarizing the campaign results in a meaningful and concise manner when it is over.

Requisite: must be in the School of Business or have a Marketing minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 388. Health Care Marketing. 3 Credit Hours.

This course is devoted to the study of healthcare marketing and the healthcare system involved with the task of marketing products and services. As healthcare reform continues to evolve current market conditions and transform existing organization into new practices, this course is focused on how managed care providers, hospitals, physicians, federal government, device and pharmaceutical companies will embrace the new patient centered market in their marketing strategies.

Requisite: must be in the School of Business or have a Marketing minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 389. Understanding Media Metrics In The Digital World. 3 Credit Hours.

This course introduces the student to the basics of evolving new media business metrics and corresponding forms of audience and competitive marketplace analysis. Students will research and evaluate business models for multiplatform new media products that use any combination of print, radio, television, internet, or mobile technologies. Product evaluations will be set within the context of comparative media economics, new media market dynamics, and advertising revenue projections. The goal will be to evaluate whether an existing or a current media product has the critical mass required for profitable advertiser metrics. Students will be exposed to developing new media usage patterns, cross platform media support strategies, new models of entertainment and news gathering, and corporate media acquisitions and mergers. Local media executives, and entrepreneurs will be invited to class to review current trends and discuss strategies for success.

Prerequisites: MKT 201 or MKT 301.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 403. Marketing Management. 3 Credit Hours.

Marketing Management is a capstone course that examines new concepts and insights regarding marketing management. Through case analysis the course covers important aspects of marketing management. The students also participate in a simulation in which they manage multi-segment markets.

Prerequisites: MKT 201 or MKT 301, FIN 302, MKT 302. Or Corequisite: MKT 302.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 469. International Marketing Management. 3 Credit Hours.

International Marketing Management is a capstone course that examines new concepts and insights regarding international marketing management. Through case analysis the course covers important aspects of international marketing management. The students also participate in a simulation in which they manage multi-country markets.

Prerequisites: MKT 302, MKT 360. Or Corequisite: MKT 360.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 498. Topics in Marketing. 3 Credit Hours.

Topics in selected areas of Marketing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 499. Undergraduate Directed Study. 1 Credit Hour.

Individually supervised readings or research projects. Restricted to students with superior academic records. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 555. Marketing Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Marketing.

Components: THI.

Grading: SUS.

Typically Offered: Spring.

MKT 639. Marketing Honors Research Project. 3 Credit Hours.

Research project to fulfill requirements for Departmental Honors in Marketing.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 640. Foundations of Marketing Management. 2 Credit Hours.

Course introduces students to the analytical concepts and tools of marketing management. Special emphasis is placed on the relationships between marketing and overall company strategy, the development of a customer orientation, the integration of marketing throughout the organization, and the implementation of systems for planning and controlling the marketing effort. Students consider problems of consumer analysis, product planning, integrated communication, distribution, and pricing. The discovery and application of marketing management skills are developed through the use of readings, case exercises, and class discussions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 641. Marketing Research. 2 Credit Hours.

The objective of the course is to allow students to understand functional analysis of consumer and market behaviors utilizing statistical tools.

The course will cover topics of secondary sources of data, sampling, questionnaire design, and analysis and interpretation of data. Project and case analysis methods will be used for instruction.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 642. Pricing And Value Management. 2 Credit Hours.

Pricing decisions require a synthesis of economic and marketing principles, an appreciation of legal and ethical constraints, and the ability to use accounting, financial, and market research data. This course is designed to teach students how to price goods and services by providing a framework for understanding pricing strategies and tactics. While pricing strategies are taught under the rubric of many diverse disciplines, we will take an integrative approach, combining strategic, economic, marketing, and psychological considerations. Topics covered include economic value and break-even analysis, price elasticity, markup and profit margin, price bundling, among others.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 644. Services Marketing. 2 Credit Hours.

Course develops skills necessary to manage companies in an increasingly service-oriented and technology-driven economy and to gain sustainable competitive advantage through delivering superior quality services. Course covers the special marketing challenges posed by the unique characteristics of services and discusses their managerial implications. The need and strategies for synergistic management of operations, systems, and people to satisfy customers in order to achieve marketing excellence and superior financial performance are also included.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 645. International Marketing. 2 Credit Hours.

Course analyzes the theories and practice of international marketing management. Course allows students to understand markets and aid in the development of marketing plans based on the nature of national as well as international markets. Issues of globalization, standardization, intermarket segments, trading blocks, global marketing strategies, local branding, global branding in the context of customer movements, product development, pricing, distribution, communication, and segmentation in global markets are also discussed.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 646. Consumer Behavior. 2 Credit Hours.

This course provides an overview of psychological and normative principles of consumer decision-making and judgment by focusing on underlying behavioral research and theory. How people process information, make decisions involving risk and uncertainty, conflicting objectives, and imperfect information are some of the main topics discussed. The implications of consumer behavior on a marketing strategy are highlighted.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 647. Advertising and Communications Management. 2 Credit Hours.

Billions of dollars are wasted every year on ineffective advertising and communication campaigns. This problem is due to an absence of a compelling strategy to serve as a foundation for developing creative executions and media plans. The course provides a balanced analysis of strategy and execution of integrated marketing communication campaigns. The effectiveness of existing and emerging communication vehicles to attain strategic marketing goals is assessed. Special emphasis is placed on advertising, sales promotions, and online communications. Current and historical campaigns are also reviewed. Course requirements include case reports, projects, and class participation.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 648. New Product Development. 2 Credit Hours.

This course enables students to appreciate the systematic approach that goes into the creation and marketing of new products. Practical aspects of developing and marketing new products are included through two assignments and one class project.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKT 649. Strategic Brand Marketing. 2 Credit Hours.

More and more firms have come to realize that their brands are among their most valuable assets. The goal of this course is to teach students the strategic significance of brands in creating shareholder value. Students should develop fluency with the core principles associated with branding including: an understanding of how to develop a brand's positioning; managing total brand experience; how to manage the brand relevancy over time; familiarity with the various qualitative and quantitative methodologies that are used to evaluate brand equity; how to achieve growth through brand extension; brand design and brand messaging. The basic philosophy for this course is to blend theory and practice of brand management. Branding is both an art and a science. Few branding situations have a definitive, unqualified "right" answer as to what is the best approach. However, when armed with relevant and comprehensive theories, appropriate frameworks and models, familiarity with past successful and unsuccessful branding strategies, managers can make better and more informed decisions that are more likely to yield successful implementation.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MKT 650. Strategic Marketing. 2 Credit Hours.

Course develops the skills necessary to strategically manage business-unit level marketing activities in a multi-brand firm. This necessitates examining all marketing mix elements, R&D, financial and production considerations simultaneously in the context of the many markets, products, and services that may concern a typical firm. The emphasis is placed on understanding internal capabilities, market competitors, and customers. Market simulation exercise, cases, and readings are utilized. Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 660. Foundations of Marketing Management. 3 Credit Hours.

Marketing problems experienced by top executives are examined and fundamental problem-solving concepts are developed. Students consider problems of consumer needs, product planning, promotion, distribution and pricing. The discovery and application of marketing management skills are developed through the use of cases and a major planning project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 665. International Marketing. 3 Credit Hours.

Analysis of major U.S. foreign markets, marketing policies, and techniques are discussed.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 672. Services Marketing. 3 Credit Hours.

Course develops the skills necessary to manage services marketing and compete through delivering quality service. The unique characteristics of services and their managerial implications are examined. Importance of the synergistic management of operations, environment, systems and people to satisfy the customer is highlighted.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MKT 675. Marketing Analytics. 2 Credit Hours.

More and more firms now consider data is one of their key strategic assets. This has made analytics an important subject for business majors. One area where firms find analytics useful is marketing. Today firms use analytics to identify profitable customers, continuously track brands, calculate optimal price promotions, test commercials and optimize media budgets across online and offline channels. The goal of this course is to give you hands-on experience with data and analytics and teach you how to draw strategic marketing insights from data.

Prerequisites: MKT 640 or MKT 660.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 686. Behavioral Decision Theory in Consumer Research.. 3 Credit Hours.

The objective of this seminar is to acquaint students with important theories and findings regarding consumer behavior and to stimulate research. Students will learn how to identify important research problems, ask interesting research questions, develop theories and hypotheses, and design experiments.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MKT 687. Marketing Strategy. 3 Credit Hours.

Marketing Strategy is a vast, exciting and exploding literature that almost defies classification. However, despite this difficulty one common theme unifies and distinguishes this stream of research: it is marketing as seen through the eyes of a manager. Is it worth fighting for market share? How do we analyze competitors? Is it more profitable to introduce a new product or enter a new market? Should we build on existing relationships or seek new customers? Does loyalty management pay? Do consumers understand product quality? Can we quantify the effects of advertising and promotions? What metrics should we use to evaluate the effectiveness of marketing effort? Can we run policy simulations before committing to marketing action? These are some of the questions that marketing managers need to address. Often the questions are very broad and complex, reflecting the bewildering range of techniques that have been used to address those questions. The seminar will try to impart an appreciation of how to define and solve research problems in a marketing strategy.

Requisite: Must be registered Doctoral Student.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MKT 688. Ph.D. Seminar in Consumer Behavior and Decision Making. 3 Credit Hours.

This course is designed to provide students with a background regarding a wide set of topics in consumer behavior focusing on theoretical models. In addition to developing a knowledge base in several extant consumer behavior literatures, this course has several additional goals. Students will: 1) become familiar with the content and style of consumer behavior research published within the marketing field, 2) develop an understanding of many methodologies and paradigms that can be used to investigate theoretical issues, 3) have several opportunities to explicate research ideas that they will hopefully be able to pursue in the remainder of the program or early in their careers, and 4) learn to critically evaluate the research of others to aid in strengthening their thinking and ultimately their own research activities.

Requisite: Must be registered Doctoral Student.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

MKT 695. Topics In Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 696. Topics In Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 697. Topics In Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 698. Topics In Marketing. 1-3 Credit Hours.

Topics in selected areas of Marketing.

Requisite: Must be registered Doctoral Student.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 699. Directed Study. 1-6 Credit Hours.

Individually supervised readings or research projects. Restricted to students with superior academic records. Approval of supervising professor as to topic and evaluation of project required at time of registration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MKT 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MKT 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Master of Arts Liberal Studies (MLS)

MLS 601. Aspects of Creative and Reflective Thought. 3 Credit Hours.

Selected aspects of creative and reflective thought, based on materials from the arts, the humanities, the sciences, the social sciences and history. The focus will be on themes and issues represented in a variety of cultural traditions.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 602. Perspectives on Human Nature. 3 Credit Hours.

Basic theories of human nature proposed by the humanities, the sciences, and the social sciences. The course deals with fundamental issues regarding the concept of human nature, such as the nature of the self and its relation to society, the impact of culture on self perception and the relation of thought to human action.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 603. Theories of the Physical Universe. 3 Credit Hours.

Various understandings of the nature of the universe and their impact on human culture. The course will deal with critical issues addressed in the various attempts to understand the physical world, such as fundamental structures and processes, the limitation of human perception, and the interaction between the human species and its environment.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 611. Studies in the Humanities. 3 Credit Hours.

Interdisciplinary study of selected topics in the Humanities.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 612. Studies in the Social Sciences. 3 Credit Hours.

Interdisciplinary study of selected topics in the Social Sciences.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLS 613. Studies in the Sciences. 3 Credit Hours.

Interdisciplinary study of selected topics in the sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLS 621. Studies in the Humanities. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLS 625. Special Topics. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 626. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLS 627. Special Topics. 3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLS 631. Studies in the Humanities. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLS 696. Directed Readings. 1-3 Credit Hours.

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 697. Directed Readings. 1-3 Credit Hours.

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MLS 798. Seminar in Liberal Studies. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MLS 799. Seminar in Liberal Studies. 3 Credit Hours.****Components:** SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MLS 810. Master's Thesis. 1-6 Credit Hours.**

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall & Spring.**MLS 815. Mals Project. 1-6 Credit Hours.**

The student working on his/her MALS project enrolls for credit, not to exceed 6, as determined by his/her advisor. Credit is not awarded until the project has been accepted.

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.**MLS 820. Research in Residence. 1 Credit Hour.**

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PSY 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Requisite: Plan of Master of Arts Liberal Studies.

Components: THI.**Grading:** GRD.**Typically Offered:** Fall & Spring.**MLS 825. Continuous Registration-Master's Study. 1 Credit Hour.**

To establish residence for non-thesis students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Requisite: Plan of Master of Arts Liberal Studies.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

Mathematics (MTH)

MTH 099. Intermediate Algebra. 3 Credit Hours.

Real number operations, polynomials, factoring, rational numbers and rational expressions. Cannot be used to fulfill the 120 credits required for graduation.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**MTH 101. Algebra for College Students. 3 Credit Hours.**

Algebraic operations and properties of the real numbers; linear and quadratic equations and inequalities; polynomials and factoring; rational expressions; radical expressions; graphs of lines; systems of linear equations.

Requisite: ALEKS score ≥ 40 or passing grade in MTH 099.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**MTH 105. Algebra and Trigonometry. 5 Credit Hours.**

An intensive course in algebra and trigonometry as covered in MTH 107-108, but without analytic geometry.

Requisite: ALEKS score ≥ 55 or passing grade in MTH 101.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**MTH 107. Precalculus Mathematics I. 3 Credit Hours.**

Algebraic operations; equations and inequalities; complex numbers; functions and their graphs; polynomial, exponential, and logarithmic functions; systems of equations.

Requisite: ALEKS score ≥ 55 or passing grade in MTH 101.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**MTH 108. Precalculus Mathematics II. 3 Credit Hours.**

Rational functions; analytic geometry; trigonometric functions, identities, and equations.

Requisite: ALEKS score ≥ 65 or a passing grade in MTH 107.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**MTH 113. Finite Mathematics. 3 Credit Hours.**

Sets, logic, counting techniques, elementary probability and statistics, mathematics in finance, linear programming, algebraic structures, symmetry. The selection of topics may vary by instructor. Intended for BA students.

Prerequisite: MTH 101 or MTH 107. Or Requisite: ALEKS score ≥ 60 or SAT score ≥ 630 or ACT score ≥ 28 .**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**MTH 130. Introductory Calculus. 3 Credit Hours.**

A one-semester survey of the fundamental principles of calculus, functions, limits, derivatives, definite integrals, applications. Not for students planning further study of calculus beyond this course.

Requisite: ALEKS score ≥ 65 or SAT score ≥ 630 or ACT score ≥ 28 or credits awarded for AP Calculus (AB) or a passing grade in MTH 107.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**MTH 133. Games And Strategies. 3 Credit Hours.**

A mathematical introduction to the theory of games, strategies, and optimal responses. Primarily intended for students in a B.A. program.

Prerequisite: MTH 113 or MTH 130.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

MTH 140. Calculus Concepts with Foundations A. 4 Credit Hours.

Tools from algebra and trigonometry for calculus. Functions and graphs, limits and continuity, the derivative and applications.

Requisite: ALEKS score ≥ 65 or SAT score ≥ 630 or ACT score ≥ 28 or credits awarded for AP Calculus (AB).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 141. Calculus Concepts with Foundations B. 4 Credit Hours.

Tools from algebra, trigonometry, and analytic geometry for calculus.

Further aspects of differentiation. Antiderivatives, definite integrals, and their applications.

Prerequisite: MTH 140.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 151. Calculus I for Engineers. 5 Credit Hours.

Analytic geometry, limits and continuity, derivatives, the definite integral, and applications relevant to engineering. Intended for students taking PHY 205 concurrently.

Requisite: ALEKS score ≥ 76 or C- or higher in MTH 105 or MTH 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 161. Calculus I. 4 Credit Hours.

Limits and continuity, derivatives and applications, the definite integral and applications.

Requisite: ALEKS score ≥ 76 or SAT score ≥ 700 or ACT score ≥ 31 or credits awarded for AP Calculus (AB or BC) or a C- or higher in MTH 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 162. Calculus II. 4 Credit Hours.

Transcendental functions, methods of integration, improper integrals, infinite series, polar coordinates, and introduction to differential equations.

Prerequisite: MTH 141 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 171. Calculus I. 4 Credit Hours.

The theory of limits, the derivative and the definite integral, techniques and applications. The sequence MTH 171-172 is more conceptually-oriented than MTH 161-162.

Requisite: Prism Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 172. Calculus II. 4 Credit Hours.

Continuation of MTH 171. Additional topics on the derivative and definite integral, improper integrals, infinite series, and introduction to differential equations.

Prerequisite: MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 210. Introduction to Linear Algebra. 3 Credit Hours.

Vectors, matrix algebra, systems of linear equations, and related geometry in Euclidean spaces. Fundamentals of vector spaces, linear transformations, determinants, eigenvalues, and eigenspaces.

Prerequisites: MTH 162 or MTH 172. Or Corequisites: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 211. Calculus III. 3 Credit Hours.

Vectors in space, partial differentiation, multiple integration.

Prerequisite: MTH 162 or MTH 172. Requisite: Not open to students with credit in MTH 310 or MTH 433 or MTH 533.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 224. Introduction to Probability and Statistics. 3 Credit Hours.

Probability distributions, random variables, expectation and variance, point estimation, interval estimation, testing of hypotheses, analysis of variance.

Prerequisites: MTH 162 or MTH 172. Or Corequisites: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 230. Introduction to Abstract Mathematics. 3 Credit Hours.

Fundamentals of set theory, logic and methods of mathematical proof.

Prerequisites: MTH 162 or MTH 172. Or Corequisites: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 271. Sophomore Honors in Mathematics. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 309. Discrete Mathematics I. 3 Credit Hours.

Mathematical methods of Computer Science and Computer Engineering. Mathematical reasoning, sets, relations, functions, Boolean algebra, combinatorics, graphs.

Prerequisite: MTH 141 or MTH 151 or MTH 161 or MTH 171.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 310. Multivariable Calculus. 3 Credit Hours.

Equations of curves, surfaces, solids; vector differential calculus; integration of scalar valued functions. Applications. Intended for mathematics majors.

Prerequisite: MTH 210, MTH 162 or MTH 172. Requisite: Not open to students with credit in MTH 433 OR MTH 533.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 311. Introduction to Ordinary Differential Equations. 3 Credit Hours.

Theory and applications of first-order differential equations. Linear differential equations. Solutions in series.

Prerequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 320. Introduction to Numerical Analysis. 3 Credit Hours.

Interpolation, quadrature, numerical solution of algebraic and transcendental equations, and optimization.

Prerequisite: MTH 210, and MTH 211 or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 359. Mathematical Models in Biology and Medicine. 3 Credit Hours.

Fundamentals of the dynamical systems approach to modeling temporal change in biological systems. An introduction to the analysis of mathematical models in biology and medicine with detailed, concrete examples drawn from ecology, cell biology, neuro-science, and physiology.

Prerequisite: Grade of C- or better in MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 433. Advanced Calculus. 3 Credit Hours.

A rigorous and comprehensive treatment of the theoretical concepts of calculus. The real number system; sequences; series; continuity, differentiation, and integration of functions of one variable.

Prerequisites: MTH 230, MTH 310 or MTH 211. Requisite: Not open for Students with Credit in MTH 533.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 461. Survey Of Modern Algebra. 3 Credit Hours.

Algebraic systems, equivalence classes, groups, rings, fields, unique factorization domains.

Prerequisites: MTH 210 and MTH 230. Requisite: Not open to students with credit in MTH 561.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 471. Directed Readings. 1-3 Credit Hours.

Topics selected from algebra, geometry, analysis, topology.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 472. Directed Readings. 1-3 Credit Hours.

Topics selected from algebra, geometry, analysis, topology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 502. History of Mathematics. 3 Credit Hours.

The development of mathematics from its earliest beginnings through the first half of the twentieth century. Numeral systems, geometry, algebra, analysis and set theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 504. Foundations of Geometry. 3 Credit Hours.

Axiom systems and models of Euclidean and Non-Euclidean geometry.

Prerequisite: MTH 230 or MTH 309.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 505. Theory of Numbers. 3 Credit Hours.

Divisibility, primes; congruences, quadratic residues and reciprocity; Diophantine equations. Applications to cryptography.

Prerequisite: MTH 210 or MTH 504.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 506. Mathematical Logic. 3 Credit Hours.

Logics, truth, proof, logical consequence, model theory, formalization, and computation. Meta-theory of first-order logic, computability theory, and Godel's incompleteness theorems. Related results by Church, Turing, and Tarski. Discussion of their philosophical significance.

Prerequisite: MTH 230.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 510. Linear Algebra. 3 Credit Hours.

Abstract vector spaces, bases and dimensions, linear maps, eigenvalues and eigenvectors, inner product spaces, operators, spectral theorems, canonical forms.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 512. Elementary Complex Analysis. 3 Credit Hours.

Complex variables; conformal mapping, contour integration.

Prerequisite: MTH 310 or MTH 211.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 513. Partial Differential Equations I. 3 Credit Hours.

Derivation, well posedness, and qualitative properties of initial value and boundary value problems for the heat, wave and Laplace equations. Energy methods, causality, maximum principles, heat kernels, Fourier series, and potential theory.

Prerequisite: MTH 210, MTH 311, and MTH 211 or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 514. Partial Differential Equations II. 3 Credit Hours.

Continuation of MTH 513. Approximations of solutions, distributions and integral transform methods, spectral theory and scattering. Applications to physical problems. Nonlinear equations and phenomena.

Prerequisite: MTH 513.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 515. Ordinary Differential Equations. 3 Credit Hours.

Linear systems, equilibrium and periodic solutions, stability analysis, bifurcation, phase plane analysis, boundary value problems, applications to engineering and physics.

Prerequisite: MTH 311, and MTH 211 or MTH 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 516. Dynamics and Bifurcations. 3 Credit Hours.

Bifurcation of equilibrium and periodic solutions, global theory of planar systems, planar maps, nonlinear vibrations, forced oscillations, chaotic solutions, Hamiltonian systems, applications to engineering and physics.

Prerequisite: MTH 515.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 520. Numerical Linear Algebra. 3 Credit Hours.

Topics from numerical linear algebra including solving systems of equations, LU, QR, and SVD factorizations, eigenvalues and eigenvectors, interactive methods and applications.

Prerequisite: MTH 320.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 521. Numerical Methods In Differential Equations. 3 Credit Hours.

Numerical solution of ordinary and partial differential equations.

Prerequisite: MTH 320 or MTH 520.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 524. Introduction to Probability Theory. 3 Credit Hours.

Probability spaces, random variables, expectation, limit theorems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 525. Introduction to Mathematical Statistics. 3 Credit Hours.

Probability distributions, theory of sampling and hypothesis testing.

Prerequisite: MTH 524.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 527. Theory of Computing. 3 Credit Hours.

Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

Prerequisite: MTH 309 or MTH 461.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 531. Topology I. 3 Credit Hours.

Set theory, topological spaces, compactness, connectedness, separation properties, quotient spaces, Tychonoff Theorem, compactification, Urysohn Lemma and Tietze Extension Theorem, function spaces.

Prerequisite: MTH 230.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 532. Topology II. 3 Credit Hours.

Differential and topological manifolds, classical groups and associated manifolds, tangent and tensor bundles, vector fields, differential forms, transversality, Sard's theorem, Stokes' Theorem.

Prerequisite: MTH 210 and MTH 531.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 533. Introduction to Real Analysis I. 3 Credit Hours.

Sequences and series in Euclidean space; sequences and series of functions; Fourier series; continuity, differentiation, and integration of functions between Euclidean spaces; implicit and inverse function theorems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 534. Introduction to Real Analysis II. 3 Credit Hours.

Continuation of MTH 533.

Prerequisite: MTH 533.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 542. Statistical Analysis. 3 Credit Hours.

Statistical inference about one or two populations from interval, ordinal and categorical data; analysis of variance; simple and multiple linear regression; designing research studies.

Prerequisite: MTH 210 and MTH 224.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 547. Introduction To Mathematical Finance. 3 Credit Hours.

Models of financial markets. Derivative securities: European and American options. Tools of mathematical finance: binomial trees, martingales, stopping times. Concepts of arbitrage and hedging. Risk-neutral valuation of financial derivatives; the Black-Scholes formula and its applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 551. Introduction to Differential Geometry. 3 Credit Hours.

Geometry of curves and surfaces in Euclidean space. Local space curve theory, intrinsic and extrinsic curvature of surfaces, geodesics, parallelism, and differential forms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 561. Abstract Algebra I. 3 Credit Hours.

Groups; rings; linear algebra; modules.

Prerequisite: MTH 210 and MTH 230.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 562. Abstract Algebra II. 3 Credit Hours.

Continuation of MTH 561.

Prerequisite: MTH 561.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 571. Directed Readings in Mathematics. 1-3 Credit Hours.

Readings in special topics.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MTH 591. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 592. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 593. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 602. History of Mathematics. 3 Credit Hours.

The development of mathematics from its earliest beginnings through the first half of the twentieth century. Numeral systems, geometry, algebra, analysis and set theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 604. Foundations of Geometry. 3 Credit Hours.

Axiom systems and models of Euclidean and Non-Euclidean geometry

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 605. Theory of Numbers. 3 Credit Hours.

Divisibility, primes; congruences, quadratic residues and reciprocity; Diophantine equations. Applications to cryptography.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 606. Mathematical Logic. 3 Credit Hours.

Logics, truth, proof, logical consequence, model theory, formalization, and computation. Meta-theory of first-order logic, computability theory, and Godel's incompleteness theorems. Related results by Church, Turing, and Tarski. Discussion of their philosophical significance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 610. Linear Algebra. 3 Credit Hours.

Abstract vector spaces, bases and dimensions, linear maps, eigenvalues and eigenvectors, inner product spaces, operators, spectral theorems, canonical forms.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 612. Elementary Complex Analysis. 3 Credit Hours.

Complex variables; conformal mapping, contour integration.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 613. Partial Differential Equations I. 3 Credit Hours.

Derivation, well posedness, and qualitative properties of initial value and boundary value problems for the heat, wave and Laplace equations. Energy methods, causality, maximum principles, heat kernels, Fourier series, and potential theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 614. Partial Differential Equations II. 3 Credit Hours.

Continuation of MTH 513. Approximations of solutions, distributions and integral transform methods, spectral theory and scattering. Applications to physical problems. Nonlinear equations and phenomena.

Prerequisite: MTH 613.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 615. Ordinary Differential Equations. 3 Credit Hours.

Linear systems, equilibrium and periodic solutions, stability analysis, bifurcation, phase plane analysis, boundary value problems, applications to engineering and physics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 616. Dynamics and Bifurcations. 3 Credit Hours.

Bifurcation of equilibrium and periodic solutions, global theory of planar systems, planar maps, nonlinear vibrations, forced oscillations, chaotic solutions, Hamiltonian systems, applications to engineering and physics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 620. Numerical Linear Algebra. 3 Credit Hours.

Topics from numerical linear algebra including solving systems of equations, LU, QR, and SVD factorizations, eigenvalues and eigenvectors, interactive methods and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 621. Numerical Methods In Differential Equations. 3 Credit Hours.

Numerical solution of ordinary and partial differential equations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 624. Introduction to Probability Theory. 3 Credit Hours.

Probability spaces, random variables, expectation, limit theorems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 625. Introduction to Mathematical Statistics. 3 Credit Hours.

Probability distributions, theory of sampling and hypothesis testing.

Prerequisite: MTH 624.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 627. Theory of Computing. 0 Credit Hours.

Sets, relations, and languages. Automata theory. Basic computability theory. Turing machines. The complexity classes P and NP.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 631. Topology I. 3 Credit Hours.

Set theory, topological spaces, compactness, connectedness, separation properties, quotient spaces, Tychonoff Theorem, compactification, Urysohn Lemma and Tietze Extension Theorem, function spaces.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 632. Topology II. 3 Credit Hours.

Differential and topological manifolds, classical groups and associated manifolds, tangent and tensor bundles, vector fields, differential forms, transversality, Sard's theorem, Stokes' Theorem.

Prerequisite: MTH 631.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 633. Introduction to Real Analysis I. 3 Credit Hours.

Sequences and series in Euclidean space; sequences and series of functions; Fourier series; continuity, differentiation, and integration of functions between Euclidean spaces; implicit and inverse function theorems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 634. Introduction to Real Analysis II. 3 Credit Hours.

Continuation of MTH 533.

Prerequisite: MTH 633.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 642. Statistical Analysis. 3 Credit Hours.

Statistical inference about one or two populations from interval, ordinal and categorical data; analysis of variance; simple and multiple linear regression; designing research studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 643. Statistical Analysis II with Financial Applications. 3 Credit Hours.

Exploratory data analysis. Designing parametric models and assessing their uncertainty. Techniques for resampling. Using multivariate distributions to model financial data; families of copulas. Analyzing time series, including ARIMA and GARCH models.

Prerequisite: MTH 642 or MTH 542.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 645. Optimization Methods. 3 Credit Hours.

Linear optimization: simplex method and simplex tableaus, sensitivity analysis. Quadratic optimization and its applications in finance: risk modeling and portfolio construction. Integer programming techniques, branch and bound method. Dynamic programming - deterministic and probabilistic techniques. Software tools of optimization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 647. Introduction To Mathematical Finance. 3 Credit Hours.

Models of financial markets. Derivative securities: European and American options. Tools of mathematical finance: binomial trees, martingales, stopping times. Concepts of arbitrage and hedging. Risk-neutral valuation of financial derivatives; the Black-Scholes formula and its applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 648. Stochastic Calculus with Application to Finance. 3 Credit Hours.

Stochastic calculus developing the basic probabilistic techniques necessary to study analytic models of financial markets. Brownian motion and the stochastic integral, stochastic differential equations, the Black-Scholes formula, Girsanov's theorem and applications to option pricing.

Prerequisite: MTH 647.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 649. Computational Methods of Finance. 3 Credit Hours.

Prerequisite: CSC 220, MTH 643, and MTH 648.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 651. Introduction to Differential Geometry. 3 Credit Hours.

Geometry of curves and surfaces in Euclidean space. Local space curve theory, intrinsic and extrinsic curvature of surfaces, geodesics, parallelism, and differential forms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 661. Abstract Algebra I. 3 Credit Hours.

Groups; rings; linear algebra; modules.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTH 662. Abstract Algebra II. 3 Credit Hours.

Continuation of MTH 561.

Prerequisite: MTH 661.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTH 691. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 692. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 693. Topics in Mathematics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 709. Data Security and Cryptography. 3 Credit Hours.

Encryption algorithms; cryptographic techniques; access, information flow and inference controls.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 721. Mathematical Probability. 3 Credit Hours.

Development of the measure-theoretic approach to probability. Random variables, central limit theory, laws of large numbers, martingales.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 722. Stochastic Processes. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 733. Real Variables. 3 Credit Hours.

First semester of a two semester sequence: General measure theory, Lebesgue measure and integration, L_p spaces, Fourier series in one and many variables, Fourier transforms, distributions, Sobolev spaces, applications to partial differential equations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 734. Real Variables. 3 Credit Hours.

Second semester of a two semester sequence: General measure theory, Lebesgue measure and integration, L_p spaces, Fourier series in one and many variables, Fourier transforms, distributions, Sobolev spaces, applications to partial differential equations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 735. Complex Variables. 3 Credit Hours.

First semester of a two semester sequence: Analytic functions, conformality, Cauchy's Theorem, representation theorems, harmonic functions, calculus of residues, Riemann Mapping Theorem, entire and meromorphic functions, analytic continuation, normal families.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 736. Complex Variables. 3 Credit Hours.

Second semester of a two semester sequence: Analytic functions, conformality, Cauchy's Theorem, representation theorems, harmonic functions, calculus of residues, Riemann Mapping Theorem, entire and meromorphic functions, analytic continuation, normal families.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 741. Algebraic Topology. 3 Credit Hours.

First semester of a two semester sequence: Homotopy and homotopy type, fundamental group, covering spaces, higher homotopy groups, simplicial singular and cellular homology, Eilenberg-Steenrod axioms, cohomology, universal coefficient theorem, products, Kunneth formula, duality theorems for manifolds, computations and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 742. Algebraic Topology. 3 Credit Hours.

Second semester of a two semester sequence: Homotopy and homotopy type, fundamental group, covering spaces, higher homotopy groups, simplicial singular and cellular homology, Eilenberg-Steenrod axioms, cohomology, universal coefficient theorem, products, Kunneth formula, duality theorems for manifolds, computations and applications.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 751. Differential Geometry. 3 Credit Hours.

First semester of a two semester sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 752. Differential Geometry. 3 Credit Hours.

Second semester of a two semester sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 757. Lie Groups. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 761. Abstract Algebra. 3 Credit Hours.

First semester of a two semester sequence: Group theory, ring theory, module theory, linear algebra.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 762. Abstract Algebra. 3 Credit Hours.

Second semester of a two semester sequence: Group theory, ring theory, module theory, linear algebra.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 770. Directed Readings or Research. 2-4 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 780. Topics in Analysis. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 781. Topics in Analysis. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 782. Topics in Topology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 783. Topics in Topology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 785. Topics in Algebra. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 786. Topics in Mathematics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 787. Topics in Mathematics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTH 820. Research in Residence. 1 Credit Hour.

To establish a residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full-time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Credits earned in this course apply towards the 12 credit hour dissertation research requirement of the graduate school. The student will enroll for credit a s determined by his/her dissertation advisor. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTH 835. Research Project. 1-6 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 840. Post-Candidacy Doctoral Dissertation. 1-6 Credit Hours.

Credits earned in this course apply towards the 12 credit hour dissertation research requirement of the graduate school. The student will enroll for credit a s determined by his/her dissertation advisor. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTH 845. Research in Residence. 1 Credit Hour.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTH 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Mechanical and Aerospace Engineering (MAE)

MAE 100. Introduction to Mechanical and Aerospace Engineering. 3 Credit Hours.

Basic principles of automobile engines and engine efficiency.

Introduction to robots and controls. Basic concepts of solar engineering and solar energy utilization. Principles of fuel cells and hydrogen energy. Introduction to aerospace engineering including the aspects of aerodynamics, propulsion and flight dynamics. Introduction to Aerodynamics of air planes and rockets.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MAE 111. Introduction to Engineering I. 3 Credit Hours.

Use of engineering tools and computer techniques for problem solving. Data acquisition, analysis, presentation, software design, and computer aided drafting are covered. Development of design skills through several design and building competitions. Introduction to professional ethics and intellectual property rights. Introduction to use of MATLAB, AutoCAD, and programming in C++.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 112. Introduction to Engineering II. 2 Credit Hours.

Introduction to engineering design and the design process. Course topics include safety, reliability, human and environmental factors, economic analysis, and cost estimation. Professional ethics, product liability, solid modeling, machine shop orientation, and practice are also included.

Group design projects.

Prerequisite: MAE 111.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 202. Dynamics. 3 Credit Hours.

Discussion of motion description and analysis, application of Newton's laws, energy, and momentum principles to mechanical systems.

Introduction to mechanical vibrations. Corequisite: PHY 205.

Prerequisite: CAE 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 207. Mechanics of Solids II. 3 Credit Hours.

Discussion of displacements, instability, flexural, shear, torsional, and principle stresses. Introduction to statically indeterminate analysis.

Prerequisite: CAE 210.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 241. Measurements Laboratory. 3 Credit Hours.

Introduction to experimental mechanical engineering. Basic principles of measurement, data interpretation, and uncertainty analysis are covered.

Laboratory exercises in mechanical engineering areas are included.

Corequisite: EEN 201 or 205.

Prerequisite: MAE 207, IEN 311, ENG 107.

Components: IND.

Grading: GRD.

Typically Offered: Fall.

MAE 301. Engineering Materials Science. 3 Credit Hours.

Introduction to the physics and chemistry of the solid state including the structure and properties of metals, polymers, and ceramics. Corequisite: PHY 207.

Prerequisite: PHY 207.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 302. Mechanical Behavior Of Materials. 3 Credit Hours.

Application of metallurgy and mechanics to the study of the plastic deformation and fracture of metals, ceramics, and plastics.

Prerequisite: MAE 207.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 303. Thermodynamics I. 3 Credit Hours.

Thermodynamic properties of materials; the first and second laws of thermodynamics; application to thermodynamic processes; introduction to heat transfer.

Prerequisite: PHY 206, and MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 309. Fluid Mechanics. 3 Credit Hours.

Course topics include fluid statics, fluid flow concepts, dynamics of inviscid and viscous fluids, closed and open channel flow, and compressibility effects.

Prerequisite: CAE 210 and PHY 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 310. Heat Transfer. 3 Credit Hours.

Application of elementary methods of solution to heat transfer problems involving steady and unsteady state conduction, radiation, and convection. Introduction of meaningful experimental data is also included.

Prerequisite: MAE 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 341. Mechanical Design I. 3 Credit Hours.

Concepts and software for kinematics, solid modeling, and project management. Fundamentals of mechanical design: stresses in and failure of mechanical elements. Individual and group design projects.

Prerequisite: MAE 202 and MAE 207.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 342. Mechanical Design II. 3 Credit Hours.

Review of the design process and creativity in design. Topics include design and reliability gears, shafts, etc. Individual and group design projects are included.

Prerequisite: MAE 341.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 351. Mechanics Laboratory. 2.00 Credit Hours.

Exercises in the experimental determination of the mechanical properties of materials and the static and dynamic characteristics of mechanical and structural elements. Lecture, 1 hour; laboratory, 3 hours.

Prerequisite: MAE 302.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 362. Computer Analysis of Mechanical and Aerospace Engineering Problems. 3 Credit Hours.

Exploration of physical systems behavior using discrete models. Topics include numerical analysis, solid modeling, and software evaluation.

Students solve engineering problems using student-developed and existing software. Corequisite: MAE 310.

Prerequisite: MAE 111, MAE 341 and MTH 211. Corequisite: MAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 371. Aerodynamics. 3 Credit Hours.

Course discusses the history of flight. Topics include fundamental variables, the atmosphere, basic equations, their approximations, compressibility, viscosity, flow regimes potential flow, and aerodynamics of airfoil and wing.

Prerequisite: MAE 309.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 399. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with firms offering positions consistent with the student's field of study. Course may be repeated.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 404. Experimental Engineering Laboratory. 2.00 Credit Hours.

Experimental analysis of problems in fluid mechanics, thermodynamics, and other areas of engineering. Lecture, 1 hour; laboratory, 3 hours.

Prerequisite: MAE 303, MAE 309 and MAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 408. Heating, Ventilating, and Air Conditioning. 3 Credit Hours.

Principles and procedures for the analysis and design of heating, ventilating and air conditioning (HVAC) systems, including moist air properties and conditioning processes, heating and cooling load calculations, building energy consumption, thermal comfort, and indoor air quality. Not available for students having taken MAE 405.

Prerequisite: MAE 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 412. System Dynamics. 3 Credit Hours.

Course topics include dynamic modeling of mechanical and thermo-fluid systems. Laplace transforms, transfer functions, energy concepts, causality, linearity, linear graph models, energy transducing system elements, frequency domain methods.

Prerequisite: ECE 201 or ECE 205, MAE 202, and MAE 309.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 415. Automatic Control. 3 Credit Hours.

Introduction to system theory, transfer functions, and state space modeling of physical systems. Course topics include stability, analysis and design of PID, Lead/Lag, other forms of controllers in time and frequency domains, root locus Bode diagrams, gain and phase margins, Nichols chart, Nyquist criterion, and systems with time delay.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 420. Applied Thermodynamics. 3 Credit Hours.

Cycle irreversibility; energy. Power and refrigeration cycles. Behavior of mixtures and solutions. Chemical thermodynamics, including combustion fundamentals. Compressible fluids. Advanced energy systems.

Prerequisite: MAE 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 441. Design of Fluid and Thermal Systems. 3 Credit Hours.

Course topics include thermal and fluid systems design fundamentals, piping systems, selection of pumps, piping system design practices, classification of heat exchangers. Basic design methods of heat exchange equipment is also included.

Prerequisite: MAE 309 and MAE 310.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 442. Capstone Design Project-I. 1 Credit Hour.

Lectures and classroom discussions cover (i) legal, ethical, and societal responsibilities of engineers, (ii) design factors such as product safety, reliability, life cycle costs, and manufacturability, and (iii) other aspects such as global market, contemporary issues, and continuous learning process. Students are required to select group design projects from the breadth of mechanical engineering activity and present project to serve as the basis for MAE 443.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 443. Capstone Design Project-II. 2 Credit Hours.

Continuation of the Capstone Design Project-I course. A mechanical system is designed, implemented, documented, and presented.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 444. Capstone Aerospace Design Project-I. 1 Credit Hour.

Lectures and classroom discussions cover (i) legal, ethical and societal responsibilities of engineers, (ii) design factors such as product safety, reliability, life cycle costs and manufacturability, and (iii) other aspects such as global market, contemporary issues and continuous learning process. Students are required to select group design projects from the breadth of aerospace engineering activity and present project proposals to serve as the basis for MAE 445.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 445. Capstone Aerospace Design Project-II. 2 Credit Hours.

Continuation of the Capstone Aerospace Design Project-I course. An aerospace system/subsystem is designed, implemented, documented and presented.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 446. Aircraft Design. 3 Credit Hours.

Concepts of aircraft design emphasizing on design layout including the airfoil geometry selection, propulsion integration, configuration layout, payload and landing gear system. Corequisite: MAE 471.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 470. Introduction to Aerospace Structures. 3 Credit Hours.

Course topics include mechanics of thin-walled aerospace structures, load analysis, virtual work, energy principles, stability of aerospace structures, and finite element methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 471. Flight Dynamics. 3 Credit Hours.

Course topics include aerodynamic performance, stability, control, propulsion systems, and structures. Case Studies of Aerospace Systems are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 472. Design of Aerospace Structures. 3 Credit Hours.

Design Philosophy and principles of aerospace structures. Detailed design of wing box structure, fuselage, landing gear mechanism, fasteners and structural joints. Application of composite materials.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 490. Undergraduate Research. 1-3 Credit Hours.

Research Projects. Individual investigation of current problems.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 501. Methods of Engineering Analysis. 3 Credit Hours.

Analysis of engineering systems in equilibrium and motion. Examples considered from mechanical, electrical, thermal and fluids engineering. Mathematical theory and computer methods for obtaining numerical solutions are developed for various cases involving discrete and continuous systems. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 502. Vibrations. 3 Credit Hours.

Basic theory of free and forced vibrations of mechanical systems with and without damping. Applications to systems with one and several degrees of freedom are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 503. Internal Combustion Engines. 3 Credit Hours.

Course discusses engine types, characteristics, and operation. Topics include performance factors, fuel combustion, power cycles, knock and engine variables, exhaust emissions, fuel metering, compressors, and turbines.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 505. Design for Manufacturability. 3 Credit Hours.

Manufacturing concerns at design stage. Design theory and methodology. Statistical considerations in geometric dimensioning, tolerances, reliability-based design, and quality control. Producibility, design for assembly, and value engineering. Life cycle costs and optimum design using nonlinear programming and Taguchi approaches. Hands on projects on machine tools.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 506. Nuclear Engineering. 3 Credit Hours.

Course topics include a review of neutron physics, chain reactions, reactor theory, steady state operation, and reactor kinetics. Control, long term reactivity changes, materials, heat transfer, and shielding are also included. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 507. Advanced Mechanics of Solids. 3 Credit Hours.

Courses discusses the basic elements of elasticity, plasticity, and viscoelasticity. Application to mechanical systems at rest and in motion are included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 508. Intermediate Heat Transfer. 3 Credit Hours.

Course discusses steady and unsteady heat transfer by conduction, convective heat transfer in laminar and turbulent fluid flow, natural convection, and heat transfer by radiation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 510. Fundamentals of Solar Energy Utilization. 3 Credit Hours.

Fundamentals basic to the design and performance analysis of thermal systems for the capture and utilization of Solar Energy.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 512. Intermediate Fluid Mechanics. 3 Credit Hours.

Course topics include conservation of mass, momentum, and energy, potential flow, viscous laminar and turbulent flows, the Reynolds analogy, and Boundary-layer approximations. Gas dynamics are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 514. Advanced Internal Combustion Engines Experimental Studies. 3 Credit Hours.

Experimental mechanical engineering as it pertains to internal combustion engines. The principal measurements necessary to analyze the operation of an internal combustion engine are covered. Emphasis is placed on experiment planning, data interpretation, and error analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 516. Introduction to Composite Materials. 3 Credit Hours.

Course provides an introduction to composite materials and terminology. Topics include advantages offered by composite materials, current aerospace, automotive, and bio-mechanics applications, experimental results, analytical models, and effects of impact and fatigue loads. The environment's impact on composite materials' performance and design procedures are discussed. Case studies examining composite materials as efficient replacements are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 521. Exhaust Emission Control. 3 Credit Hours.

Course topics include automotive emissions, air pollution, combustion of homogeneous mixtures, emission control systems, Federal emission standards, and emission instrumentation and measurement. Lecture, 2 hours; Laboratory, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 528. Fuel Cells. 3 Credit Hours.

Introduction to fuel cells, thermodynamics of fuel cells, electrochemical kinetics in fuel cells, transport phenomena in fuel cells, introduction to various types of fuel cells.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 539. Heating, Ventilating and Air Conditioning System Design. 3 Credit Hours.

Course topics include basic HVAC systems, multizone systems, dual-duct systems, terminal reheat systems, variable air volume systems, induction and induction reheat systems, special applications, hydronic systems, unitary and heat pump systems, hydronic heat recovery systems, cooling and heating load calculation duct and piping design, overall system design, and integration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 551. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 552. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 570. Aero Propulsion. 3 Credit Hours.

Definition of the atmosphere, propulsion basics, rocket fundamentals, turbine fundamentals, gas turbine cycles, component matching, math and computer models, aircraft missions, cycle section, reliability, and durability are analyzed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 590. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 591. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 592. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 599. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 601. Methods of Engineering Analysis. 3 Credit Hours.

Analysis of engineering systems in equilibrium and motion. Examples considered from mechanical, electrical, thermal and fluids engineering. Mathematical theory and computer methods for obtaining numerical solutions are developed for various cases involving discrete and continuous systems. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 602. Vibrations. 3 Credit Hours.

Basic theory of free and forced vibrations of mechanical systems with and without damping. Applications to systems with one and several degrees of freedom are included.

Components: LEC.

Grading: GRD.

MAE 603. Internal Combustion Engines. 3 Credit Hours.

Course discusses engine types, characteristics, and operation. Topics include performance factors, fuel combustion, power cycles, knock and engine variables, exhaust emissions, fuel metering, compressors, and turbines.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 605. Design for Manufacturability. 3 Credit Hours.

Manufacturing concerns at design stage. Design theory and methodology. Statistical considerations in geometric dimensioning, tolerances, reliability-based design, and quality control. Producibility, design for assembly, and value engineering. Life cycle costs and optimum design using nonlinear programming and Taguchi approaches. Hands on projects on machine tools.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 607. Advanced Mechanics of Solids. 3 Credit Hours.

Courses discuss the basic elements of elasticity, plasticity, and viscoelasticity. Application to mechanical systems at rest and in motion are included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 608. Intermediate Heat Transfer. 3 Credit Hours.

Course discusses steady and unsteady heat transfer by conduction, convective heat transfer in laminar and turbulent fluid flow, natural convection, and heat transfer by radiation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 612. Intermediate Fluid Mechanics. 3 Credit Hours.

Course topics include conservation of mass, momentum, and energy, potential flow, viscous laminar and turbulent flows, the Reynolds analogy, and Boundary-layer approximations. Gas dynamics are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 614. Advanced Internal Combustion Engines Experimental Studies. 3 Credit Hours.

Experimental mechanical engineering as it pertains to internal combustion engines. The principal measurements necessary to analyze the operation of an internal combustion engine are covered. Emphasis is placed on experiment planning, data interpretation, and error analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 616. Introduction to Composite Materials. 3 Credit Hours.

Course provides an introduction to composite materials and terminology. Topics include advantages offered by composite materials, current aerospace, automotive, and bio-mechanics applications, experimental results, analytical models, and effects of impact and fatigue loads. The environment's impact on composite materials' performance and design procedures are discussed. Case studies examining composite materials as efficient replacements are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 621. Exhaust Emission Control. 3 Credit Hours.

Course topics include automotive emissions, air pollution, combustion of homogeneous mixtures, emission control systems, Federal emission standards, and emission instrumentation and measurement. Lecture, 2 hours; Laboratory, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 628. Fuel Cells. 3 Credit Hours.

Introduction to fuel cells, thermodynamics of fuel cells, electrochemical kinetics in fuel cells, transport phenomena in fuel cells, introduction to various types of fuel cells.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 639. Heating, Ventilating and Air Conditioning System Design. 3 Credit Hours.

Course topics include basic HVAC systems, multizone systems, dual-duct systems, terminal reheat systems, variable air volume systems, induction and induction reheat systems, special applications, hydronic systems, unitary and heat pump systems, hydronic heat recovery systems, cooling and heating load calculation duct and piping design, overall system design, and integration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 651. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 652. Special Problems. 1-3 Credit Hours.

Project course introducing methods of research through an individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 670. Aero Propulsion. 3 Credit Hours.

Definition of the atmosphere, propulsion basics, rocket fundamentals, turbine fundamentals, gas turbine cycles, component matching, math and computer models, aircraft missions, cycle section, reliability, and durability are analyzed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 690. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 691. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 692. Special Topics. 1-4 Credit Hours.

Subtitles describing the topics will be shown in parentheses in the class schedule, following the "Special Topics."

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 699. Cooperative Education. 1 Credit Hour.

Practical application of classroom theory through alternating semester or summer employment with industries offering positions consistent with the student's field of study. Course may be repeated. Periodic reports and conferences are required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 701. Advanced Heat Transfer--Conduction and Radiation. 3 Credit Hours.

Advanced analytical methods of solutions of boundary value problems of steady, periodic, and unsteady heat conductions. Topics include techniques of transient point, line, and plane sources and sinks, thermodynamics of radiative equilibrium, radiative exchange, geometrical factors, network, and other methods. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 702. Advanced Heat Transfer--Convection. 3 Credit Hours.

The analogy between heat, mass, and momentum transfers. Topics include the transfer mechanism, heat transfer to liquid metals, boiling and condensation mechanisms, heat transfer in two-phase flow, ablation heat transfer, transpiration, film cooling, and heat exchanges. Lecture, 3 hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 705. Finite Element Methods in Mechanical and Aerospace Engineering. 3 Credit Hours.

Finite-element analysis methods for static and dynamic analysis of mechanical and aerospace structures, heat transfer analysis, and fluid flow applications. Primary emphasis is placed on underlying mechanics and numerical techniques. Consideration is also given to the use of existing programs, such as ANSYS, NASTRAN and FIDAP, designing proper meshes, and choosing the proper element. A term project is included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 706. Experimental Methods in Fluid Mechanics. 3 Credit Hours.

Course topics include methods of flow visualization, laser techniques in measurement of wall motions, conduit compliance, Newtonian and non-Newtonian properties of fluids, measurement of unsteady flow and pressure, laser Doppler anemometry, ultrasound Doppler velocimetry, electro-magnetic flowmetry, measurement of steady and unsteady wall shear stresses and boundary layers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 713. Transport Phenomena. 3 Credit Hours.

Course topics include laws of molecular transfer, the kinetic theory explanation of molecular transfer phenomena, introduction to turbulence, and molecular transfer in laminar and turbulent flows with experimental results. A unified treatment of salient aspects of momentum, heat, and mass transfer including the relationship between rate and conservation equations are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 714. Computational Fluid Dynamics. 3 Credit Hours.

Incompressible flow equations in rectangular co-ordinates. Topics include basic computational methods for incompressible flow, three dimensional flows, compressible flow equations in rectangular coordinates, basic computational methods for compressible flows, treatment of shocks, artificial viscosities, convergence, other mesh systems, programming, testing, and information processing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 730. Mechanical Systems Optimization. 3 Credit Hours.

Optimization as an element of the engineering design process. Topics include comparative examination of unconstrained algorithms, as well as development and application of methods for constrained optimization problems. Case studies which demonstrate the theory and application of mathematical programming as a design tool are also included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MAE 740. Continuum Mechanics. 3 Credit Hours.

Course discusses concepts that are common to all continuous media. Topics include elements of tensor analysis, motion, deformation, vorticity, material derivatives, mass and the continuity equation, and balance of linear and angular momentum as well as energy. Stress and its geometric characterization, constitutive equations of solid and fluid type behavior, virtual work, fundamental applications, and the Clausius-Duhem inequality are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MAE 751. Master's Project. 3 Credit Hours.

A required project for M.S. students in the non-thesis option.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 752. Master's Capstone Project. 4 Credit Hours.

A required project for the five year BSME/MSME program.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 780. Graduate Colloquium. 1 Credit Hour.

Presentations by selected speakers of weekly programs dealing with topics of interest in Mechanical Engineering. Attendance is required of all students registered in Mechanical Engineering graduate programs.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MAE 792. Special Problems. 1-3 Credit Hours.

Research and/or design projects consisting of individual investigation of current problems. Offered by special arrangement only.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 798. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MAE 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAE 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MAE 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MAE 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken prior to Ph.D. student's candidacy.

The student will enroll for credit as determined by his/her advisor. Not more than 12 hours of MAE 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAE 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Doctoral dissertation credits taken after Ph.D. student has been admitted to candidacy. The student will enroll for credit as determined by his/her advisor. Not more than 12 credits in MAE 740 may be taken in a regular semester, nor more than six credits in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MAE 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Microbiology and Immunology (MIC)

MIC 201. Modern Plagues and Society. 3 Credit Hours.

An examination of three infectious diseases (AIDS, tuberculosis, and malaria) that currently impact a significant fraction of the human population, describing the infectious microbes themselves, efforts of researchers to contain these diseases, and how politics, infrastructure, and geographical factors determine public health outcomes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 301. Introduction to Microbiology and Immunology. 5 Credit Hours.

Basic principles of microbiology and immunology, including laboratory exercises. Course is required for microbiology and immunology majors; recommended for biology, chemistry and biochemistry majors and those considering the health sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 302. Introduction to Microbiology and Immunology Honors Seminar. 1 Credit Hour.

Special topics in Microbiology/Immunology requiring a term paper and/or an oral presentation.

Prerequisite: MIC 301 or MIC 303 or MIC 320. Requisite: Honors Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 303. Part 1 of 2: Introductory Microbiology and Immunology (Lecture). 3 Credit Hours.

Basic principles of microbiology and immunology. This course is part one of a two part sequence. Course is required for MIC majors; recommended for BIL, CHM, BMB majors and those considering the health sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 304. Part 2 of 2: Introductory Microbiology and Immunology (Lab). 2 Credit Hours.

Basic laboratory principles of microbiology and immunology. This course is part two of a two part sequence. Course is required for all students taking the MIC 303.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MIC 319. Innate Immunity. 3 Credit Hours.

The innate immune system provides the first line of defense against infectious microorganisms and is a very important disease-preventing mechanism. In this course the students will learn the molecular and cellular processes mediating innate immune responses to microbial pathogens, including intra- and extra- cellular bacteria and viruses.

Prerequisite: MIC 301 or MIC 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MIC 320. Introduction to Microbiology and Immunology for Nurses. 3 Credit Hours.

Course covers the basic principles of microbiology and immunology. Course cannot be used for MIC major or minor credit.

Requisite: School of Nursing Health Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 321. Immunobiology. 3 Credit Hours.

Mechanisms underlying the cooperation between T-cells, B-cells, and antigens leading to humoral and cell mediated responses. The significance of immune cells and their products pertaining to autoimmunity, transplantation, and the surveillance of neoplastic cells is covered.

Prerequisite: MIC 301 and MIC 319.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 322. Medical Parasitology. 3 Credit Hours.

Course discusses the biochemistry, physiology, pathogenicity, immunology, and mechanism of drug action and resistance of medically important parasitic protozoa, trematodes, nematodes, and cestodes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 323. Principles of Microbial Pathogenesis. 3 Credit Hours.

Course analyzes host-microbe relationships at the molecular and cellular levels with an emphasis on microbial virulence determinants and host cell defense responses.

Prerequisite: MIC 301 or MIC 303.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 436. Fundamental and Medical Virology. 3 Credit Hours.

The study of viruses as biological entities and etiological agents of disease. Virus-cell and virus-host interactions are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 441. Microbiology and Immunology Colloquium. 1 Credit Hour.

External and internal faculty presentations as well as graduate presentations of recent advances in research. Course meets on hour per week.

Prerequisite: MIC 301 or MIC 303.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 451. Special Projects in Immunobiology. 2-6 Credit Hours.

Laboratory research problems in major areas of immunobiology including literature search, experimental design, data gathering and evaluation of results.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 452. Special Projects in Parasitology. 2-6 Credit Hours.

Laboratory research problems in major areas of parasitology including literature search, experimental design, data gathering and evaluation of results.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 453. Special Projects in Pathogenic Bacteriology. 2-6 Credit Hours.

Laboratory research problems in major areas of pathogenic bacteriology including literature search, experimental design, data gathering and evaluation of results.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 454. Special Projects in Microbial Genetics. 2-6 Credit Hours.

Laboratory research problems in major areas of microbial genetics including literature search, experimental design, data gathering and evaluation of results.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 455. Special Projects in Immunogenetics. 2-6 Credit Hours.

Laboratory research problems in major areas of immunogenetics including literature search, experimental design, data gathering and evaluation of results.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 456. Special Projects in Virology. 2-6 Credit Hours.

Laboratory research problems in major areas of virology including literature search, experimental design, data gathering, and evaluation of results.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 601. Medical Microbiology. 5 Credit Hours.

Course discusses the nature of microbial agents of infectious disease as well as relationship of virulence to host resistance and fundamental immunologic concepts. Microbial physiology and genetics, the structure, design, and mechanism of action on antimicrobials are also.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MIC 625. Mechanisms of Microbial Virulence. 2 Credit Hours.

This course will focus on the mechanisms employed by bacterial and viral pathogens to produce disease in animals and humans. The course is divided into two 3 week modules. The first module will cover bacterial pathogens with an emphasis on the bacteria-host cell interaction. Specific topics will include: bacterial attachment and invasion of eukaryotic cells, virulence gene regulation, secretion of virulence factors, bacterial toxins and obligate intracellular bacterial pathogens. The second module will cover viruses and human viral diseases with an emphasis on viral replication, gene expression, virus-host cell interactions and viral oncology. Classes will consist of a mixture of lectures and discussions of recent or classic papers. There will be 2 exams.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 705. Faculty Research and Discussions. 1 Credit Hour.

Forum for the discussion of the current research projects and interests of the faculty. This course provides students with the opportunity to exchange ideas about important scientific questions and the technologies being applied to experimentally address the hypotheses being tested.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 711. Accelerated Basic Science Medical Curriculum. 1-18 Credit Hours.

Beginning in the latter part of June each year, extending to the middle of February of the ensuing year, the following accelerated and intensive complete basic science medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry, Neuroanatomy, Biophysics and Neurophysiology, Systemic Physiology, Pathology, Medical Microbiology, and Pharmacology. Single grade will be entered on the graduate transcript for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MIC 716. Advanced Molecular Biology. 3 Credit Hours.

The molecular basis of cellular function and regulation in both prokaryotic and eukaryotic systems. The molecular genetics and biochemistry of the genetic material and its utilization during replication, transcription, translation, cellular growth, division, and differentiation. Recombinant DNA technology and molecular genetics are discussed. This course is designed for graduate students in biological sciences. A good background in biology or biochemistry is recommended.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 726. Laboratory Experimentation. 4 Credit Hours.

One or two laboratory training sessions of 6-12 weeks each. Each student rotates through faculty research laboratories in the areas of immunology, molecular biology, and microbiology, (bacteriology, virology, parasitology) where they receive "hands on" experience by participating in ongoing research projects.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 727. Laboratory Experimentation. 6 Credit Hours.

Two or three laboratory training sessions of 6-12 weeks each. Each student rotates through faculty research laboratories in the areas of immunology, molecular biology and microbiology, (bacteriology, virology, parasitology) where they receive "hands on" experience by participating in ongoing research projects.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 728. Principles of Immunology. 3 Credit Hours.

This team-taught course will present immunological concepts and reasoning in immunological research. The course is divided into 7 weekly modules. Each module has a common theme and consists of 3 lectures on immunological concepts and one session where students present and discuss a research paper related to the theme of each module. The paper discussion session will include use of disease models as a portal to understand the function of immune system in health and disease. The module topics are (a) lymphoid cell development, (b) antigen recognition, (3) initiation of immune responses, (4) T lymphocyte effector development and function, (5) T cell immunity versus tolerance, (6) B cell immunity, and (7) innate immunity. There will be one exam following the first 4 modules and the second exam after the remaining 3 modules.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 731. Special Work. 1-5 Credit Hours.

Special work, lecture, laboratory or a combination of these, as determined by advisor in accord with student's individual interest. Course is offered only on demand.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 751. Advanced Molecular Immunology. 3 Credit Hours.

The molecular mechanisms for generation of antigen specific receptor diversity and the specific gene activation during lymphocyte differentiation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 755. Infectious Agents and the Immune System. 3 Credit Hours.

This course is intended to explore, at an advanced level, the dynamic equilibrium that exists between microbial pathogens and host immune systems with emphasis on factors that influence progression to disease or sterilizing immunity. Mechanisms employed by the host and pathogen to shift that equilibrium in their favor will be discussed taking into account interactions at the cell system, cellular, and sub-cellular levels. To facilitate interaction between the two fields, both an immunological and a microbial/viral faculty member will be present at all classes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MIC 761. Advanced Topics in Molecular Biology of Animal Viruses. 2 Credit Hours.

This course is organized around four major themes of virological studies: (i) viral genome transcription, replication, and virus assembly; (ii) viral pathogenesis; (iii) virus cell interactions; and (iv) antiviral strategies. Most recent research developments in these areas are covered through lectures by participating faculty members as well as paper presentations by students.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MIC 775. Advanced Microbiology and Immunology. 3 Credit Hours.

This course will explore in depth the current and advanced concepts and topics in selected areas of Microbiology and Immunology. The classes will consist of a mixture of lectures and discussions of recent papers. Besides covering recent advances and cutting edge experimental approaches in cellular and molecular immunology and microbiology, this course will also expose students to breakthrough concepts and themes that link the disciplines of immunology, microbiology and virology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 780. Research Ethics. 1 Credit Hour.

The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. This program should be an integral part of the proposed training effort. The University of Miami School of Medicine has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and is given in two sessions of three hours each.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MIC 799. Advanced Topics. 1-3 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing the topics to be offered will be shown in parentheses in the printed class schedule, following the title "Advanced Topics".

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MIC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

MIC 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MIC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MIC 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MIC 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MIC 840. Doctoral Dissertation - Post Candidacy. 1-12 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

MIC 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Military Science (MSL)

MSL 101. Basic Military Science. 2.00 Credit Hours.

Introduction to Army organizations, military customs and courtesies, basic stationary and marching drills, basic map reading, land navigation, drown-proofing, rappelling, river crossing techniques, physical fitness training, and practical exercises in field discipline. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSL 102. Basic Military Science. 2.00 Credit Hours.

Introduction to basic leadership principles and traits, army command and staff officer duties, awards, decorations, individual military tactics, field discipline, patrolling techniques, radio telephone procedures, rappelling and river crossing. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSL 201. Basic Military Science. 2.00 Credit Hours.

Instruction to squad and platoon marching drills, development of physical fitness training programs, conduct on military training and inspections, leadership techniques, advanced map reading, rappelling and river crossing techniques. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSL 202. Basic Military Science. 2.00 Credit Hours.

Continued instruction in drill and ceremonies, radio/telephone procedures, nuclear, biological, and chemical warfare, practical land navigation, orienteering, and introduction to combat troop leading procedures. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSL 301. Basic Military Science. 3.00 Credit Hours.

Classroom and field experience in leading squads and platoons in both garrison and combat environments. Practical exercises in combat troop leading procedures. Advanced physical fitness training to include endurance runs and tactical road marches. Requires outdoor leadership laboratory and at least one weekend field training exercise.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSL 302. Advanced Military Science. 3.00 Credit Hours.

Classroom instruction and field experience in combat troop leading procedures for offensive, defensive and patrolling missions. Advanced written and practical land navigation exercises. Company level drill and ceremonies to include manual of arms. Classroom and practical exercises on requests for artillery and mortar fires. Practical experience with training underclassmen in first aid and individual tactics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSL 401. Advanced Military Science. 3.00 Credit Hours.

Instruction instills an uncompromising commitment to the Army Ethic, enhances thought processes and decision-making skills, and relates officer behavior to cadet leadership roles. Students are primarily responsible for the command and control of the cadet battalion for training purposes. Student's role is principally one of officer leader at the platoon (30 or more under classmen) and higher levels and cadet instructor/evaluator. Rifle qualification. Company level drill and ceremonies to include manual of arms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSL 402. Advanced Military Science. 3.00 Credit Hours.

Capstone course in the preparation for a commission as a second lieutenant. The training is intended to solidify the commitment to officership, reinforce individual competencies, and afford maximum practical officer leader experiences through responsible leadership positions within the cadet battalion command and staff.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSL 440. Studies in Military History. 1-3 Credit Hours.

Supervised readings and independent study in military history.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSL 499. Independent Studies in U.S. Military History. 3 Credit Hours.

Supervised readings and independent study in United States Military History. Writing requirements.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

Military Studies (MIS)

MIS 100T. Transfer Credit Elective. 1-10 Credit Hours.

Components: LEC.

Grading: TRN.

Modern Languages and Literature (MLL)

MLL 195. Transfer Credit. 1-3 Credit Hours.

Transfer credit at the 100 level for courses in languages not offered by the Department of Modern Languages and Literature.

Components: UNG.

Grading: GRD.

Typically Offered: Fall.

MLL 295. Transfer Credit. 1-3 Credit Hours.

Transfer credit at the 200 level for courses in languages not offered by the Department of Modern Languages and Literature.

Components: LEC.

Grading: GRD.

MLL 321. Topics In Comparative Literary Studies. 3 Credit Hours.

Comparative and/or interdisciplinary topics in the study of literature. Specific topics vary; may be repeated for credit if topics differ. Taught in English

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 322. Topics In Comparative Cultural Studies. 3 Credit Hours.

Cultural phenomena in various societies. Interdisciplinary analysis of the political dynamics of contemporary culture and its historical foundations with a focus on ideology, social class, nationality, ethnicity, sexuality and/or gender. Specific topics vary; may be repeated for credit if topics differ. Taught in English.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 325. World Cinema. 3 Credit Hours.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 330. Comparative Topics In Gender And Sexuality. 3 Credit Hours.

Topics in gender and sexuality in a comparative perspective. May be repeated if topics vary. Taught in English.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 340. Migration Studies. 3 Credit Hours.

Topics within the literary and/or cultural dimensions of migration in a comparative framework. Writing Credit.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 345. Franco-Maghreb Studies. 3 Credit Hours.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 360. The Caribbean Through Literary And Cultural Studies. 3 Credit Hours.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 370. Studies In Literature, Culture, And Science. 3 Credit Hours.

An analysis, in a comparative or historical perspective, of the literary works that expose the deep interaction and mutual influence between literary or visual cultures and the sciences. Topics might include: Leonardo's genius; technology at the turn of the 20th-century; 20th-century wars, the science behind them and their representations; Vesalius's anatomical work and the philosophy and representation of the body in 16th-century Europe.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 395. Transfer Credit. 1-3 Credit Hours.

Transfer credit at the 300 level for courses in languages not offered by the Department of Modern Languages and Literature.

Components: LEC.

Grading: GRD.

MLL 404. Language in Society. 3 Credit Hours.

Overview of ideological, social, political, economic, and cultural issues of language in society, and the principle linguistic concepts and methodologies that guide research on those issues. Language variation, social dialectology, multilingualism, interaction and interpersonal communication, gender, language and power, language policy and planning, and globalization are highlighted. The main focus of the course (at least 80%) will be on non-English languages in particular, those taught in MLL.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MLL 495. Transfer Credit. 1-3 Credit Hours.

Transfer credit at the 400 level for courses in languages not offered by the Department of Modern Languages and Literature.

Components: LEC.

Grading: GRD.

MLL 601. Intro to Second Language Teaching: Theory and Practice. 3 Credit Hours.

Introduction to the teaching of second languages in university settings.

Overview of major theoretical approaches: sociocultural, communicative, and task-based. Practice with teaching techniques: Lesson planning, task design, use of the target language, grammar teaching, use of authentic oral and written materials in the classroom

Requisite: Graduate Status.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MLL 602. Bilingualism. 3 Credit Hours.

Social, psychological, linguistic, and pedagogical dimensions of language contact situations. Emphasis on Spanish and French.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 603. Topics in Critical Studies of Language. 3 Credit Hours.

Special topics in the critical analysis of language.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 604. Sociocultural Theory and Second Language Development. 3 Credit Hours.

Key principles of sociocultural theory of mind applied to second language acquisition and pedagogy. The seminar will explore the theoretical, methodological, and pedagogical implications of the theory, emphasizing concept-based teaching and dynamic assessment.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 611. Introduction to Critical Theory. 3 Credit Hours.

An introduction to the major concepts, issues, and debates that inform contemporary literary criticism.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

MLL 612. Topics in Early Modern Comparative Literature. 3 Credit Hours.

Specific genres, works, authors and movements in comparative perspective in the early modern period (1300-1750). Topics may include: Trans-Atlantic Baroque; Grottesque Literature; Petrarchan Poetry in Italy, France, and England The Emergence of Professional Theater in Western Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 614. Readings in Critical Theory. 3 Credit Hours.

Representative works of critical theory as related to philosophy, sociology of culture, psychoanalysis, hermeneutics, deconstruction, etc. May be repeated for credit if topics are different.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MLL 621. Special Topics in Literature. 3 Credit Hours.

May be repeated for credit, if topics are different.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 626. Topics in Comparative Literature. 3 Credit Hours.

May be repeated for credit, if topics are different.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 693. Teaching Practicum. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 697. Readings for the Ph.D. Examinations. 1 Credit Hour.

For Ph.D. students who are preparing for exams.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MLL 699. Internship. 1 Credit Hour.

Students work in a community or business setting on issues related to language, culture, and/or teaching.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Molecular and Cellular Pharmacology (MCP)

MCP 701. Seminar. 2 Credit Hours.

Review of related literature, discussion of special topics, student presentations and attendance of faculty/department seminars. Course may be repeated for a total of eight credits.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MCP 704. Mechanisms of Drug Action. 3 Credit Hours.

This course consists of a combination of lectures, problem sessions and student presentations. Students will be given in-depth exposure to the fundamental principles of Pharmacology. The mechanism of action of some specific drug classes will be examined in detail.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCP 720. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MCP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCP 731. Special Topics. 1-6 Credit Hours.

Directed readings on subjects not ordinarily treated in depth in specific courses. Course may also consist of special laboratory problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCP 732. Cardiovascular Pharmacology. 2-3 Credit Hours.

The course covers cardiovascular pharmacology, necessary cardiovascular physiology and anatomy and the function and pharmacology of the autonomic nervous system. The students learn about the function and energetics of the heart and how it is changed in cardiac disease.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCP 752. Cell Signaling I: Intracellular Signal Transduction.. 3 Credit Hours.

Most therapeutic drugs exert their action by influencing cellular signal transduction processes. This course provides an in-depth molecular level review of the fundamental signal transduction mechanisms that regulate cell growth, cell proliferation, checkpoint response to cell stressors, cell morphogenesis and differentiation, and their role in the onset of disease.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCP 753. Cell Signaling 2: Cell-to-Cell Communication and Development.. 3 Credit Hours.

This course focuses on receptors and signaling pathways that govern cellular responses to extrinsic signals. It concentrates on specifics of signaling events in selected biological systems such as CNS, endocrine system, cardiac and hematopoietic stem cells.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCP 768. Neuropharmacology. 2-3 Credit Hours.

An intensive course covering the regulation of neural processes by drugs that target neurotransmitter signaling at the level of GPCRs, G proteins, second-messengers and ion channels.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCP 830. Dissertation Research-Pre-Candidacy. 1-12 Credit Hours.

Required for all PhD candidates. The student will enroll for credits as determined by their advisor/Office of Graduate and Postdoctoral Studies. No more than 12 hours of research may be taken in a regular semester, and no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MCP 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all PhD candidates. The student will enroll for credits as determined by their advisor/ Office of Graduate and Postdoctoral Studies but not less than a total of 24. No more than 12 hours of research may be taken in a regular semester, and no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MCP 850. Research in Residence. 1 Credit Hour.

Student must be registered in the semester they plan to defend. Used to establish research in residence for the PhD after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Student may be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Molecular, Cellular and Developmental Biology (MDB)

MDB 701. Seminar. 1-2 Credit Hours.

Students are required to present their research findings as well as attend Department Faculty seminars.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDB 710. Readings in Cell Biology. 1-6 Credit Hours.

Current and classical research papers in cell, developmental, and molecular biology. Critical evaluation of papers and the methodologies used is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MDB 713. Topics in Cell Biology. 1-6 Credit Hours.

Formal seminar course in which each student presents a lecture relating to a specific theme. Topic areas include cell, developmental, and molecular biology with the subject changing each term.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MDB 751. Advanced Cell Biology Approaches to Molecular Medicine. 2-3 Credit Hours.

Structure, function, and biogenesis of cellular organelles and the cytoskeleton, including their regulation and dynamic interactions. The course is taught in seminars, followed by student-led discussion of recent relevant papers in the literature. The goal of the course is to lead the students to in-depth conceptual and methodological analysis of selected topics up the understanding of current leading-edge research in specific topics in Cell Biology. The course is designed to cover knowledge beyond the text books and to enable the students to design and criticize experimental approaches in Cell Biology acceptable for current peer-review criteria.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MDB 752. Current Topics in Mammalian Development. 2-3 Credit Hours.

The course will cover central emerging topics in mammalian development today including embryonic stem cells, micro RNA gene regulation, and organogenesis. The class will have an interactive format, starting with basic lecture in mammalian development; subsequent sessions will include an overview of the selected topic by faculty, followed by round table discussions of current paper(s) in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MDB 753. Histology. 1 Credit Hour.

This course will offer the student a virtual slide collection of histology with interactive lectures to support image-based learning. The course covers basic tissues, organs, and systems (vascular; heart; pancreas; eyes; brain; spinal cord; liver; lung; mouse embryo; GI track). The course will meet once a week for one hour.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MDB 765. Tumor Biology. 3 Credit Hours.

This course, comprised of lectures and student-led literature discussion, is intended to provide broad-based instruction on the modern molecular and cellular aspects of cancer biology, basic and translational research. The course highlights multiple areas including cell cycle, apoptosis, epidemiology, angiogenesis, and meets two times weekly.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MDB 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MDB 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MDB 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all PhD candidates. The student will enroll for credits as determined by their advisor/ Office of Graduate and Postdoctoral Studies but not less than a total of 24. No more than 12 hours of research may be taken in a regular semester, and no more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MDB 850. Research in Residence. 1 Credit Hour.

Student must be registered in the semester they plan to defend. Used to establish research in residence for the PhD after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Student may be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Music Education and Therapy (MED)

MED 10. Music Therapy Forum. 0 Credit Hours.

The course provides a weekly forum for sharing information about issues, current developments, and other matters related to music therapy as a field of study and as a profession.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 149. Functional Techniques in Music Therapy I. 2 Credit Hours.

Students acquire functional guitar and piano skills while learning repertoire and techniques for leading and accompanying music therapy experiences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 15. Music Education Forum. 0 Credit Hours.

The course provides a weekly forum for sharing information about issues, current developments, and other matters related to music education as a field of study and as a profession. The course is required for all undergraduate MED majors during each semester, except during the semester of the internship.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 159. Introduction to Music Therapy. 2 Credit Hours.

An overview of the field of music therapy, including history, theory and clinical practice. Includes field observations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 240. Woodwind Techniques. 1 Credit Hour.

Course provides group instruction in woodwind instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 241. Brass Techniques. 1 Credit Hour.

Group instruction in brass instruments with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 242. Percussion Techniques. 1 Credit Hour.

Group instruction in percussion (snare drum, mallet-keyboard percussion, timpani, drum set, and small accessory instruments) with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 243. String Techniques. 1 Credit Hour.

The study of stringed instruments (violin, viola, cello, bass) in a heterogeneous class with emphasis on general principles of string playing and teaching methods for use in beginning and intermediate instruction in the schools. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 244. Vocal Techniques. 1 Credit Hour.

Class instruction in fundamentals of singing, breath control, tone production, and solo singing for music majors.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 245. Folk & Modern Instrumental Techniques. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 249. Functional Techniques in Music Therapy II. 2 Credit Hours.

Students acquire functional piano skills while learning repertoire and techniques for leading and accompanying music therapy experiences. Vocal skills are also emphasized.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MED 259. Music Therapy Pre-Practicum. 2 Credit Hours.

Students will learn a treatment-planning model for clinical practice. Topics include: assessment, goal setting, intervention design and data collection.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 340. Marching Band Fundamentals. 1 Credit Hour.

A study of all types of marching band activities and methods of presentation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 359. Music Therapy Practicum 1A. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 1A practicum is to observe and assist the on-site music therapist and to engage in limited co-leading.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 360. Music therapy Practicum 1B. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 1B practicum is to observe and assist the on-site music therapist and to co-lead for half of all sessions.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 361. Music Therapy Practicum 2A. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 2A practicum is to observe and assist the on-site music therapist and to co-lead for 60% of all sessions.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 362. Music Therapy Practicum 2B. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 2B practicum is to observe and assist the on-site music therapist and to co-lead for 75% of all sessions.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 363. Music Therapy Practicum 3A. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 3A practicum is to observe and assist the on-site music therapist and to co-lead all sessions following one initial observation.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 364. Music Therapy Practicum 3B. 1 Credit Hour.

Structured clinical experience in music therapy under supervision of a music therapist in varying health-related settings. Focus of the 3B practicum is to independently design and lead all sessions.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 430. Teaching Jazz/Popular Music in Secondary Schools. 2 Credit Hours.

A survey of materials, methods, and techniques for instructing jazz and popular music in secondary schools. Review of standard literature, program organization, and in-class performance is emphasized. Designed specifically for music education majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 433. Seminar for Teaching Associates.. 1 Credit Hour.

Discussion of teaching, rehearsal techniques, and the organization and presentation of music materials related to the internship experiences. Course is required of all Music Education majors. To be taken in conjunction with Internship, MED 471.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 471. Internship in Music Education (Elementary School). 6 Credit Hours.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 473. Internship in Music Education (Secondary School). 6 Credit Hours.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 475. Internship in Music Education. 12 Credit Hours.

A comprehensive program in observation and supervised teaching in elementary, middle, or secondary school music settings for a full semester under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 493. Special Projects In Music Education. 1-3 Credit Hours.

Supervised readings and other activities in specific areas of Music Education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 494. Special Topics In Music Education. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 541. Musical Instrument Maintenance. 0 Credit Hours.

Mechanical development, care, and maintenance of musical instruments. Separate sections for wind, percussion, string, and keyboard instruments.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 542. Teaching General Music (K-5). 3 Credit Hours.

Curriculum, methods, and materials designed for elementary music, K-6. Observation, planning, and teaching experience are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 543. Teaching Instrumental Music. 3 Credit Hours.

A study of elementary and secondary instrumental music instruction including program organization, teaching techniques, materials, and field experiences of music instruction in schools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 544. Teaching Modern Music (7-12). 3 Credit Hours.

This course will provide students with fundamentals of teaching vocal music at the secondary (middle and high school) level. Focus will be placed on presenting effective and ethical instruction to all learners; developing a foundation of appropriate pedagogy and practice; building strategies for classroom management; and working in diverse populations. Students will be guided through activities and materials necessary for a successful student teaching experience in vocal music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 545. Music in Rehabilitation. 3 Credit Hours.

Review of development and functioning for neurologically-based sensorimotor behavior. Survey of disabilities and diseases that typically result in sensorimotor deficits is included. Demonstration and practice of therapeutic techniques for sensorimotor deficits are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 546. Music in Psychotherapy. 3 Credit Hours.

Survey and practical application of music as therapy in the treatment of psychiatric disorders and in promoting mental health.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 548. Music for Special Learners. 3 Credit Hours.

This course is designed for music educators who will be working in schools with children and youth who have various disabilities. The purpose of MED 548 is to acquaint students with the characteristics of children and youth with disabilities, and introduce adaptive strategies in music education, K-12, for instructing children and youth with disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 549. Teaching Vocal Music. 3 Credit Hours.

This course will provide students with fundamentals of teaching general music at the secondary (middle and high school) level. Focus will be placed on developing 21st Century musical curricula across a variety of musical disciplines; engaging students through several instructional paradigms; and for presenting instruction using conventional educational strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 551. Music Therapy Research Methods. 3 Credit Hours.

This course is designed to help music therapy students: 1) integrate research findings into their clinical and/or educational practice, 2) implement research techniques into their work (e.g., through data collection or scholarly writing), and 3) become familiar with research procedures.

Components: LEC.

Grading: GRD.

MED 559. Internship in Music Therapy. 3 Credit Hours.

Course provides students with a six month opportunity as a music therapy intern in an approved training facility.

Components: PRA.

Grading: GRD.

Typically Offered: Summer.

MED 560. Internship in Music Therapy II. 0 Credit Hours.

Prerequisite: MED 450.

Components: PRA.

Grading: GRD.

Typically Offered: Summer.

MED 562. Psychology of Music I. 3 Credit Hours.

Psychological foundations of music with an emphasis on problems of perception, experimental esthetics, functional music, and measurement and diagnosis of musical ability and achievement. Related literature of experimental investigation is reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 575. Preschool Music Workshop. 1-3 Credit Hours.

Workshop is designed to prepare class members to initiate, administer, and teach music programs for preschool children. Materials which address the teacher, the child, and the parent are used. The daily schedule includes demonstration classes with children, lectures, and active participation of and discussion with class members. Emphasis is placed on working with a planning guide for teachers which offers articles on the major areas of the curriculum and clear, succinct statements focusing on the central issues of each lesson.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 576. Music and Development. 3 Credit Hours.

Review of development in cognitive, communication, and musical domains. Survey of developmental disabilities most commonly found in child populations is included as well as demonstration and practice of therapeutic techniques for cognitive and communication deficits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 581. Teaching Classroom Guitar I. 2 Credit Hours.

This class is designed for students and teachers, guitarist or non-guitarist, who wish to initiate, enhance, and teach guitar in a multi-level classroom setting. The course includes demonstration classes with elementary and secondary students. Topics include organization and teaching performance materials in a hands-on setting.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MED 593. Special Projects In Music Education And Music Therapy. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Music Education.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 594. Special Topics In Music Education And Music Therapy. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 641. Musical Instrument Maintenance. 0 Credit Hours.

Mechanical development, care, and maintenance of musical instruments. Separate sections for wind, percussion, string, and keyboard instruments.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 642. Teaching General Music. 3 Credit Hours.

Curriculum, methods, and materials designed for elementary music, K-6. Observation, planning, and teaching experience are emphasized

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 643. Teaching Instrumental Music. 3 Credit Hours.

A study of elementary and secondary instrumental music instruction including program organization, teaching techniques, materials, and field experiences of music instruction in schools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 644. Teaching Modern Music. 3 Credit Hours.

This course will provide students with fundamentals of teaching general music at the secondary (middle and high school) level. Focus will be placed on developing 21st century musical curricula across a variety of musical disciplines; engaging students through several instructional paradigms; and for presenting instruction using conventional educational strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 645. Folk and Modern Instrumental Techniques. 3 Credit Hours.

Review of development and functioning for neurologically-based sensorimotor behavior. Survey of disabilities and diseases that typically result in sensorimotor deficits is included. Demonstration and practice of therapeutic techniques for sensorimotor deficits are also covered.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 646. Music in Psychotherapy. 3 Credit Hours.

Survey and practical application of music as therapy in the treatment of psychiatric disorders and in promoting mental health.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 648. Music for Special Learners. 3 Credit Hours.

This course is designed for music educators who will be working in schools with children and youth who have various disabilities. The purpose of MED 548 is to acquaint students with the characteristics of children and youth with disabilities, and introduce adaptive strategies in music education, K-12, for instructing children and youth with disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 649. Teaching Vocal Music. 3 Credit Hours.

Course covers curriculum, vocal/rehearsal techniques, and literature. Teaching music in secondary schools through the medium of choral performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 651. Music Therapy Research Methods. 3 Credit Hours.

This course is designed to help music therapy students: 1) integrate research findings into their clinical and/or educational practice, 2) implement research techniques into their work (e.g., through data collection or scholarly writing), and 3) become familiar with research procedures.

Components: LEC.

Grading: GRD.

MED 655. Elementary Music Workshop. 3 Credit Hours.

Course is designed for in-service elementary school classroom teachers and music supervisors. Survey and experience with contemporary methodology and materials in elementary school music education is emphasized.

Components: SEM.

Grading: GRD.

Typically Offered: Summer.

MED 656. Secondary General Music Workshop. 3 Credit Hours.

Course is designed for teachers of general music classes in middle, junior high, and senior high schools. Practical experience with methods and materials designed for non-performance music classes, grades 7-12 is emphasized.

Components: SEM.

Grading: GRD.

Typically Offered: Summer.

MED 659. Internship in Music Therapy. 3 Credit Hours.

Course provides students with a six month opportunity as a music therapy intern in an approved training facility.

Components: PRA.

Grading: GRD.

Typically Offered: Summer.

MED 660. Internship in Music Therapy II. 0 Credit Hours.

Components: PRA.

Grading: GRD.

Typically Offered: Summer.

MED 662. Psychology of Music I. 3 Credit Hours.

Psychological foundations of music with an emphasis on problems of perception, experimental esthetics, functional music, and measurement and diagnosis of musical ability and achievement. Related literature of experimental investigation is reviewed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 675. Preschool Music Workshop. 1-3 Credit Hours.

Workshop is designed to prepare class members to initiate, administer, and teach music programs for preschool children. Materials which address the teacher, the child, and the parent are used. The daily schedule includes demonstration classes with children, lectures, and active participation of and discussion with class members. Emphasis is placed on working with a planning guide for teachers which offers articles on the major areas of the curriculum and clear, succinct statements focusing on the central issues of each lesson.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 676. Music and Development. 3 Credit Hours.

Review of development in cognitive, communication, and musical domains. Survey of developmental disabilities most commonly found in child populations is included as well as demonstration and practice of therapeutic techniques for cognitive and communication deficits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 681. Teaching Classroom Guitar I. 2 Credit Hours.

This class is designed for students and teachers, guitarist or non-guitarist, who wish to initiate, enhance, and teach guitar in a multi-level classroom setting. The course includes demonstration classes with elementary and secondary students. Topics include organization and teaching performance materials in a hands-on setting.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

MED 693. Special Projects In Music Education And Music Therapy. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Music Education.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 694. Special Topics In Music Education And Music Therapy. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 700. Psychoacoustical Foundations of Music. 2 Credit Hours.

Production, transmission, and reception of simple and complex tones. Examination of physical properties and psychoacoustical response to tonal stimuli is also included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 701. Recital Paper Preparation. 1 Credit Hour.

Supervised preparation of the recital paper required for the Master of Music degree in classical performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 702. DMA Essay Proposal. 1 Credit Hour.

Supervised preparation of the DMA proposal for the Doctor of Musical Arts in Performance, Conducting, or Accompanying and Chamber Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 710. Graduate Forum in Music Therapy. 0 Credit Hours.

Forum for graduate students to discuss topics relevant to advanced music therapy practice, engage in experiential therapeutic techniques, and to share student efforts of scholarship in the field.

Components: FOR.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 715. Graduate Forum. 0 Credit Hours.

Forum for masters and doctoral students to discuss various topics of relevance to music education practice and to share efforts of scholarship in the field.

Components: FOR.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 720. International Music Education. 3 Credit Hours.

Students study music instruction systems in other countries, including public and private school, community music programs, private music instruction, music conservatory instruction, informal instructional systems, and university work in music. Students compare music instruction systems in the United States and other countries through readings and presentations by native informants. An optional on-site field experience examining music education in another country may be arranged to coincide with this course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 725. Cultural Diversity In Music Education. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 729. Advanced Music Therapy Practice I. 3 Credit Hours.

Review of research literature in clinical topic areas, such as music and cognition, or music and affective processing. Presentation of research findings through writing and discussion is emphasized as well as the application of research findings through practice and demonstration of therapeutic techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 730. Advanced Music Therapy Practice II. 3 Credit Hours.

Review of research literature in clinical topic areas, such as music and sensorimotor processing or music in biofeedback. Presentation of research findings through writing and discussion is emphasized as well as the application of research findings through practice and demonstration of therapeutic techniques.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 732. Vocal Methods and Materials in Music Education. 2 Credit Hours.

Survey of latest vocal methods and publications for use in public schools.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 733. Seminar for Teaching Associates. 1 Credit Hour.

Discussion of teaching, rehearsal techniques, and the organization of music materials related to the internship experience. To be taken in conjunction with internship, MED 771.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 734. String Techniques. 1 Credit Hour.

Components: LAB.

Grading: GRD.

MED 735. Social Issues Music Learn. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 740. Community Music Program. 3 Credit Hours.

Group instruction in woodwind instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 741. Brass Techniques. 1 Credit Hour.

Group instruction in brass instruments with emphasis on basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 742. Percussion Techniques. 1 Credit Hour.

Group instruction in percussion (snare drum, mallet-keyboard percussion, timpani, drumset, and small accessory instruments) with emphasis upon basic skills of performance as well as the appropriate teaching techniques, methods, and materials necessary for public school pedagogy. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 743. String Techniques. 1 Credit Hour.

The study of stringed instruments (violin, viola, cello, bass) in a heterogeneous class with emphasis on general principles of string playing and teaching methods for use in beginning and intermediate instruction in the schools. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 744. Vocal Techniques. 1 Credit Hour.

Class instruction in fundamentals of singing, breath control, tone production, and solo singing for music majors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 745. Functional Music Techniques. 1 Credit Hour.

Group instruction in the functional use of guitar, autoharp, and recorder for classroom or music therapy uses. Functional skill, teaching methods, and materials are emphasized.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MED 747. Seminar in Instrumental Music Education. 2 Credit Hours.

Practical study of the development of school band programs with special consideration given to the selection of training and concert materials, rehearsal techniques and administrative procedures.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 750. Community Music Programs. 3 Credit Hours.

A seminar designed to generate ideas about contemporary theory and practice in community music. Students engage in readings and discussion. The course is open to all graduate music majors, but is intended for music education doctoral students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 757. Music Therapy Graduate Practicum 1. 2 Credit Hours.

In a clinical setting, gain skill in observation and co-leading under the supervision of a music therapist.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 758. Music Therapy Graduate Practicum 2. 2 Credit Hours.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 759. Music Therapy Graduate Practicum 3. 2 Credit Hours.

In a clinical setting, independently design and apply therapeutic techniques based on scientific evidence.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 760. Philosophy of Music Education. 3 Credit Hours.

The history of Western music education beginning with the ancient Greeks is surveyed to the present. Incorporated in the survey is the evolution of philosophical thought about music and its role in educational practice. From this grounding, current philosophical views of music education are presented.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 762. Music Learning and Curriculum. 3 Credit Hours.

Survey of theories of music learning and their application to music instruction, curriculum development, and instructional design in music.

Components: LEC.

Grading: GRD.

MED 763. Music Research Methods. 3 Credit Hours.

An introduction to descriptive, experimental, philosophical, qualitative, and historical research in music education and music therapy, with particular reference to data collection, research design, and effective research procedures. Students prepare critiques of research material and are guided in designing original research projects related to their own area of interest.

Components: LEC.

Grading: GRD.

MED 764. Music Assessment. 3 Credit Hours.

Presentation of methods for assessing musical behavior in studios, classrooms, and concert halls. Strategies for the objectification of performance quality, musical learning, capacity, and potential uses of contemporary measurement techniques are provided.

Components: LEC.

Grading: GRD.

MED 765. Seminar in Music Education. 2 Credit Hours.

Survey of literature, bibliography, and contemporary trends in music education. Course may be repeated for credit by doctoral students with consent of instructor.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 773. Seminar on Music in Childhood. 2 Credit Hours.

Seminar addresses music in the lives of children by examining the musical cultures of childhood, music transmission processes, and formal through informal learning. Implication from music teaching will be considered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 774. Seminar in General Music. 2 Credit Hours.

Course provides curriculum, methods, and materials designed for instruction for the general music student, grades K-12.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 775. Practicum in Music Education. 7 Credit Hours.

Students enrolled in the Master of Music with Certification Option Degree may complete the required internship with this course.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 776. Practicum in Teaching College Students. 1-3 Credit Hours.

Supervised practicum for teaching music education courses at the college level.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 780. Doctoral Seminar. 1 Credit Hour.

A seminar designed to generate ideas about contemporary theory and practice in music. Students engage in discussion of general research topics, but from the perspective of their particular discipline. Enrollment is intended for those doctoral students who have satisfactorily completed the qualifying examinations through and until receiving approval of the doctoral paper proposal. The course is open to all majors, but is required of all music education doctoral students.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MED 781. Seminar In Qualitative Research In Music. 2 Credit Hours.

Components: LSN.

Grading: GRD.

Typically Offered: Spring.

MED 782. Seminar In Quantitative Research In Music. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MED 784. Music Therapy Seminar. 1 Credit Hour.

Doctoral seminar in music therapy to address practical and professional issues pertaining to teaching and research in music therapy. Possible topics include: Teaching and Clinical Supervision, Philosophical Research, and Historical Research.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 790. Teaching Music in College. 1 Credit Hour.

An overview of college music curriculum, patterns of administrative organization, traditional and innovative content, styles and resources used in teaching at the college level, evaluation and grading techniques used in classes, lessons, and ensembles.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MED 793. Special Projects In Music Education And Music Therapy. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Music Education.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 794. Special Topics In Music Education Or Music Therapy. 1-3 Credit Hours.

Projects in any phase of music education in which the student is interested and qualified to work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MED 795. Doctoral Research Project. 1 Credit Hour.

Small scale research project in music education or music therapy, suitable for publication. This project could serve as pilot work for the dissertation.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 796. Doctoral Research Project. 1.00 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MED 805. Master's Project. 1-3 Credit Hours.

Culminating project for Master of Music in music education students not completing a thesis or recital.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

MED 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MED 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MED 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MED 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 24. Not more than 12 hours of MED 730 may be taken in a regular semester, nor more than six in a summer session. Where a student has passed his/her (a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MED 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Music, Media and Industry (MMI)

MMI 102. Record Company Practicum. 1 Credit Hour.

The course focuses on practical techniques and procedures employed by record companies.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 107. Skills Lab I. 1 Credit Hour.

A Contemporary Performance musical skills ensemble focusing on ear training, transcription, notation, and interactive musicianship for songwriters.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 108. Skills Lab II. 1 Credit Hour.

A Contemporary Performance musical skills ensemble focusing on ear training, transcription, notation, and interactive musicianship for songwriters.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MMI 13. Music Engineering Forum. 0 Credit Hours.

A weekly forum for all Music Engineering Technology and Audio Engineering majors, both undergraduate and graduate. Presentations include faculty lectures, guest lectures by industry professionals, as well as dissemination of information pertaining to audio studios and laboratories.

Requisite: Plan of Music Engineering.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 139. Small Contemporary Ensemble. 1 Credit Hour.

A performing ensemble of student-generated contemporary musical repertoire.

Requisite: must have a major Plan of MBEI with Creative American Music & Business or a minor Plan of Creative American Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 14. Music Industry Forum. 0 Credit Hours.

A weekly forum for all Music Industry majors, both graduate and undergraduate, for the purpose of updating current teaching material with the latest developments, presentations of guest speakers from the industry, lectures, and reports from faculty on current employment opportunities.

Requisite: Plan of Music Business & Entertainment Industry.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 140. Experiential Musicianship I. 3 Credit Hours.

The first of a two-course sequence in music theory, with an overall focus on musicianship for the Contemporary Music student. The course emphasizes theoretical and analytical skills, as well as the connection between analysis and other musical experiences in listening and performance. The student will display a written understanding of the basic building blocks of music, through its more advanced constructions and functions.

Corequisite: MMI 107.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 141. Experiential Musicianship II. 3 Credit Hours.

MMI 141 is the second in a two-course sequence in music theory and musicianship for the Contemporary Music Student. As with MMI 140, the course emphasizes analytical skills and the connections between analysis and other musical experiences in listening and performance. Prerequisite: MMI 108.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 15. Creative American Music Forum. 0 Credit Hours.

Requisite: must have a major Plan of MBEI with Creative American Music & Business or a minor Plan of Creative American Music.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 151. Desktop Audio Production. 3 Credit Hours.

Introduction to MIDI technology and computer based tools for music production.

Requisite: Plan of MUE or MEC.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 16. Contemporary Performance Forum. 0 Credit Hours.

A weekly forum of all Contemporary Performance principals dedicated to student and Faculty performances, master classes, guest artists, and workshops.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 160. Ensemble Recording Workshop I. 1-3 Credit Hours.

Assisting recording and sound reinforcement engineers in the assigned performance ensemble in both rehearsal and performance. Students also perform in a studio ensemble where they act as both recording engineer and musician.

Requisite: Plan of MUE or MEC.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 161. Ensemble Recording Workshop II. 3 Credit Hours.

Students are responsible for the audio needs of an assigned ensemble in both rehearsal and performance. Lectures address audio equipment and practices. Students also perform in a studio ensemble where they act as the recording engineer and musician. Open to MUE majors only.

Prerequisite: MMI 160. Requisite: Plan of MUE or MEC.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 171. Music Engineering Laboratory. 1 Credit Hour.

Requisite: MBEI and MBEC majors and MBEI minors only.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 172. Audio Design Workshop III. 1 Credit Hour.

Digital audio system design and architecture including analog-digital conversion, digital I/O hardware specifications, audio effects processors and digital audio recorder alignment techniques. Students design and troubleshoot audio projects including A/D converters, S/PDIF I/O, and DAT recorders. Open to MUE and EAN Majors only.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 173. Multinational Recorded Music Industry. 3 Credit Hours.

An introductory course presenting a structural overview of the music business and entertainment industries and the Music Industry Program. Historical development of music as a business and the development of the market place for both music and musicians. Emphasis is placed on contemporary music business practices. Topics include songwriting, publishing, musical instrument sales, artist management, arts management, professional organizations, copyright law, record industry, unions and guilds, and career development. Requisite: MBEI and MBEC majors and MBEI minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 178. Entertainment Industry Survey. 3 Credit Hours.

An overview of the entertainment industry. Concentration on the legal, marketing and financial aspects of different areas of the industry including film, television, music, broadcasting, cable, publishing, video games, sports, performing arts, and theme parks.

Requisite: MBEI and MBEC majors and MBEI minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 201. Introduction to Music Recording. 3.00 Credit Hours.

An overview study of the theory and practice of music recording, with emphasis on modern recording studio practices. Topics include physics of sound, psychoacoustics, studio design, microphones, loudspeakers, consoles, signal processing, digital audio, MIDI, and synchronization.

Requisite: Must have a plan of MUE or MEC or EAN.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 207. Skills Lab III: American Song Traditions. 1 Credit Hour.

A learning ensemble focusing on the various African American song traditions from early plantations songs, shouts, hollers, and spirituals, to the development of blues traditions, to gospel. Students will develop a portfolio of original works in traditional African-American styles.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 208. Skills Lab IV: American Song Traditions. 1 Credit Hour.

A learning ensemble focusing on the various Anglo-American song traditions from English and Irish folk ballads, to shape-note and Sacred Harp hymnody, to early folk, country and bluegrass. Students will develop a portfolio of original works in traditional Anglo-American styles.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MMI 240. Experiential Musicianship III. 3 Credit Hours.

The study of melodic, harmonic and rhythmic language in jazz and contemporary music using analysis and aural dictation. MMI 207 Skills Lab III, keyboard lab accompanies this course.

Corequisite: MMI 207 SKILLS LAB III.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 241. Experiential Musicianship IV. 3 Credit Hours.

The continuation of MSJ 140/MMI 240 focused on the study of the diminished chord, extensions, modes and upper structure triads. A keyboard lab accompanies this course.

Corequisite: MMI 208 SKILLS LAB IV.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 250. Essential Technologies For Musicians. 3 Credit Hours.

Basic MIDI and digital audio principles from set-up to final mix, recording of live instruments using basic microphone techniques, MIDI sequencing, software synthesizers, basic editing, and audio looping.

Requisite: Frost School of Music.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 273. Artist Development and the Live Entertainment Industry. 3 Credit Hours.

Views of the live entertainment industry from the perspective of the performing artist, artist manager, talent agent, attorney, and concert promoter. Consideration is given to the interpersonal, business, and contractual relationships and their impact on the performing artist's career. Strategies for career development are addressed and the ground rules of publicity, public relations, and promotion explored and applied in practical situations through special individual and team projects.

Prerequisites: MMI 173 or MMI 178 or MMI 310. Requisite: MBEI and MBEC majors and MBEI minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 274. Introduction to Music Copyright Law. 3 Credit Hours.

A study of essential provisions of the 1976 Copyright Act and the Protection of Intellectual Property, covering the principles and practices of modern music publishing and international co-publishing. Students examine the complexities of copyright right law as it relates to the music industry.

Requisite: MBEI and MBEC majors and MBEI minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 307. Skills Lab V: American Pop. 1 Credit Hour.

A learning ensemble focusing on American Popular Music from the late-1950s to the late-1970s. Students will develop a portfolio of original songs in modern American styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MMI 308. Skills Lab VI: American Pop. 1 Credit Hour.

A learning ensemble focusing on American Popular Music from the 1980s to the present. Students will develop a portfolio of original songs in modern American styles.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MMI 310. Music Business and Entrepreneurship. 3 Credit Hours.

This course provides students with an overview of the music business, entrepreneurial fundamentals, and business practices related to the student's specific music major. Music business topics explored include copyright, publishing, the record business, licensing, the live music industry, and arts administration. Entrepreneurial topics explored include starting a business, securing funding, and accounting and marketing basics. Business practices related to the student's specific music major vary by major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 315. Contemporary Songwriting I. 3 Credit Hours.

Explores modern songwriting techniques, song lyric theory, song form, melodic development, pop harmony and rhythm & grooves. Students will analyze a variety of recordings by top modern songwriters. Students will compose and record a number of original songs for the course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 320. Contemporary Lyric Writing. 3 Credit Hours.

This course explores modern lyric writing techniques, song lyric theory, and song form. Students will analyze a variety of lyrics by top modern songwriters, focusing on their use of literary devices, imagery and metaphors. Students will compose a number of original lyrics for the course.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 361. Acoustics. 3 Credit Hours.

A study of the theoretical principles of acoustics. Principle topics include basic properties, acoustical phenomena, superposition, Fourier Theorem, symmetry, vibrating strings and columns, and musical instruments; a study of architectural acoustics such as growth and decay, absorption coefficients, normal modes, diffusion, isolation, and mass law; design applications such as structural techniques and materials, live end-dead end, room geometry, tuning, TDS and other measurement techniques. Prerequisites: MTH 112, PHY 102 or PHY 205. Requisite: Plan of MUE and MEC.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 378. Entertainment Industry Contract Basics.. 3 Credit Hours.

Business relations between the record company, artist, producer and licensees, both domestic and foreign. Analysis of actual contracts between parties, implications of newer technology on the industry. Prerequisites: MMI 173 or MMI 178 or MMI 310, MMI 274. Requisite: MBEI and MBEC Majors and MBEI Minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 401. Audio Electronics. 3.00 Credit Hours.

An introductory course in audio electronics theory and professional audio applications such as recording studio equipment and audio effects design. Coursework includes basic electronic components and theories, passive filtering, transformers, operational amplifiers, vacuum tubes, non-linear elements including diodes and JFETs, graphic, parametric and shelving equalizers, compressors, limiters, gates, microphone preamps, analog effects including reverb, flanging, and chorusing. Students will design custom audio circuits and use computer simulations to understand theory of operation.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 410. Music Engineering Capstone Project. 3 Credit Hours.

Students in MMI 410 propose and execute a project that represents the Culmination of their learning experiences in the Music Engineering Program. Students meet as a group with a faculty member of record each week to Discuss project topics and assess progress. The course concludes with a public Presentation of the final project.

Prerequisite: MMI 504.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 436. Audio Postproduction. 3 Credit Hours.

Basic audio for video and film postproduction, including the study of time code, synchronization, electronic editing, video and film transports, dolby stereo, equipment interfacing, and future developments.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 445. Senior Project/Portfolio. 1 Credit Hour.

This course is the capstone of the Creative American Music Program. Students will develop a portfolio of recordings of original songs. Students will also be required a public performance of their original songs.

Requisite: must have a major Plan of MBEI with Creative American Music & Business or a minor Plan of Creative American Music.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

MMI 454. Entertainment Industry Practicum. 1 Credit Hour.

Practical experience in an entertainment industry organization.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 455. Internship in Entertainment Industry. 2 Credit Hours.

Practical experience in different areas of the entertainment industry under the supervision of professional firms and the faculty advisor.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 456. Internship in Entertainment Industries II. 0 Credit Hours.

Continuation of MMI 455.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 460. Recital Recording And Sound Reinforcement (Recording Services). 1 Credit Hour.

Practical experience in live concert recording, editing and mastering, and sound reinforcement, under supervision of professional on-campus engineers.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 465. Internship in Music Engineering. 1-3 Credit Hours.

Practical experience in the music engineering industry such as work in a recording studio, broadcast company, hardware or software manufacturer, under professional supervision.

Requisite: Plan of MUE or MEC.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 493. Special Projects In Music Media & Industry. 1-3 Credit Hours.

Supervised readings and other activities in specific areas of Music Media and Industry.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 494. Special Topics In Music Media & Industry. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 501. Transducer Theory. 3 Credit Hours.

Course covers the fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electro-acoustical analysis of transducers including acoustic suspension, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses. Open to MUE and EAN Majors only.

Prerequisite: MMI 501. Requisite: Plan of MUE and EAN.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 502. Audio Signal Processing I. 3.00 Credit Hours.

A study of the theory and practice of digital audio topics including discrete time sampling, quantization, dithering, PCM, A/D and D/A conversion, digital filtering, oversampling, modulation codes, timebase, error correction codes, magnetic storage, DAT, and optical storage.

Requisite: MUE and EAN majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 503. Audio Signal Processing II. 3 Credit Hours.

A study of the theory and practice of digital audio topics including fiber optics and networks, compact disc, interconnection, psychoacoustics, low bit-rate perceptual coding, MPEG, digital audio broadcasting, sigma-delta conversion, noise shaping, digital video, and emerging technologies. Open to MUE and EAN Majors only.

Prerequisite: MMI 502. Requisite: Plan of MUE and EAN.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 504. Audio Signal Processing III. 3 Credit Hours.

Theory, design, and development of computer audio synthesizers and analyzers. Students implement software synthesizers including analog and physical modeling, wave-table, wave-shaping, and FM designs. Classical and modern theories of timbre and time-frequency analysis are included.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 505. Current Trends In Music Engineering I. 3 Credit Hours.

Theory, design and development of audio signal processing techniques. Topics include DSP architectures, systems design, algorithm development, and applications. DSP development tools used to write, debug, and test programs including time-domain based effects such as reverb, chorus, flanging, and digital delay as well as frequency-domain projects such as FIR, IIR, and FFT filters and vocoders.

Prerequisite: MMI 504. Requisite: Plan of MAU and EAN.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 506. Current Trends In Music Engineering II. 3 Credit Hours.

MMI 506 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 508. Current Trends In Music Engineering III. 3 Credit Hours.

MMI 508 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 510. Computational Psychoacoustics. 3 Credit Hours.

This course deals with the fundamentals of audition in human biological systems, including auditory sensory transduction, cochlear processes, neural pathways, cortical organization, and auditory illusions, with specific applications to perceptual data reduction techniques and auditory displays.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 511. Current Trends In Music Engineering Iv. 3 Credit Hours.

MMI 511 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 520. Audio Technology for Musicians. 3.00 Credit Hours.

Introduction and overview of audio technology with emphasis on music recording, production equipment, and techniques. Topics include microphones, loudspeakers, mixing consoles, interconnection, amplifiers, digital processing, time code, and surround sound. Open to non-MUE majors.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

MMI 521. Timbral Ear Training. 3 Credit Hours.

Students in this course will accomplish four primary goals: 1) instantaneous discernment of ISO frequency regions and critical bands; 2) aural identification of audio-processing techniques, artifacts, and problems; 3) development of critical thinking skills and competence in current audio listening test methodologies; and 4) successful completion of a comprehensive bank of critical listening "golden ears" tests

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 530. Entrepreneurship for Musicians. 3 Credit Hours.

Course explores a wide range of options for musicians who want to pursue music business careers in their regional music markets. Students examine opportunities in performance, recording, composition, education, and more. Emphasis is placed on the packaging of musical skills in the marketplace and on the financial management of a small proprietary music business. As a result, the student musician will be prepared to make career decisions with foresight and planning.

Requisite: Frost School of Music.

Components: DIL.

Grading: GRD.

Typically Offered: Spring.

MMI 531. Recording Engineering Seminar. 3 Credit Hours.

Students in MMI 531 will accomplish three primary goals: 1) understanding historical trends in the audio recording industry, particularly those involving key technological advances; 2) understanding and appreciating recent advances in sound recording technologies and methods; and 3) development of critical thinking, research, writing, and presentation skills.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 537. Recorded Music Operations. 3 Credit Hours.

A study of the activities involved in commercially exploiting recorded music. Includes an analysis of activities involved in the production, manufacturing, distribution, and marketing of a recorded music product; as well as related royalty accounting, mechanical licensing and master-use licensing activities.

Requisite: MBEI and MBEC majors and MBEI minors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 543. Marketing And Promotion In The Entertainment Industry. 3 Credit Hours.

Students learn how to fulfill demand and influence consumer behavior through effective marketing techniques. The course provides the students with information on the latest technologies being employed to reach and communicate with target consumers.

Requisite: Plan of MBEI, MPR, JDMM, and JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 545. Music Placement And Exploitation. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 573. International Music Publishing. 3 Credit Hours.

An in-depth study of the international publishing industry with an emphasis on catalog development and exploitation.

Requisite: Plan of MBEI, MPR, JDMM, and JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 593. Special Projects In Music, Media, And Industry. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Music Media and Industry.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 594. Special Topics In Music, Media, And Industry. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 601. Transducer Theory. 3 Credit Hours.

Course covers the fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electro acoustical analysis of transducers including acoustic suspension, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses. Open to MUE and EAN Majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 602. Audio Signal Processing I. 3.00 Credit Hours.

A study of the theory and practice of digital audio topics including discrete time sampling, quantization, dithering, PCM, A/D and D/A conversion, digital filtering, oversampling, modulation codes, timebase, error correction codes, magnetic storage, DAT, and optical storage.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MMI 603. Audio Signal Processing II. 3 Credit Hours.

A study of the theory and practice of digital audio topics including fiber optics and networks, compact disc, interconnection, psychoacoustics, low bit-rate perceptual coding, MPEG, digital audio broadcasting, sigma-delta conversion, noise shaping, digital video, and emerging technologies. Open to MUE and EAN Majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 604. Audio Signal Processing III. 3 Credit Hours.

Theory, design, and development of computer audio synthesizers and analyzers. Students implement software synthesizers including analog and physical modeling, wave-table, wave-shaping, and FM designs. Classical and modern theories of timbre and time-frequency analysis are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 605. Current Trends In Music Engineering I. 3 Credit Hours.

Theory, design and development of audio signal processing techniques. Topics include DSP architectures, systems design, algorithm development, and applications. DSP development tools used to write, debug, and test programs including time-domain based effects such as reverb, chorus, flanging, and digital delay as well as frequency-domain projects such as FIR, IIR, and FFT filters and vocoders.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 606. Current Trends In Music Engineering II. 3 Credit Hours.

MMI 506 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 608. Current Trends In Music Engineering III. 3 Credit Hours.

MMI 508 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 610. Computational Psychoacoustics. 3 Credit Hours.

This course deals with the fundamentals of audition in human biological systems, including auditory sensory transduction, cochlear processes, neural pathways, cortical organization, and auditory illusions, with specific applications to perceptual data reduction techniques and auditory displays.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 611. Current Trends In Music Engineering Iv. 3 Credit Hours.

MMI 511 addresses current technologies, skills, and techniques employed in a specific aspect of the audio technology and/or music technology fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 620. Audio Technology for Musicians. 3.00 Credit Hours.

Introduction and overview of audio technology with emphasis on music recording, production equipment, and techniques. Topics include microphones, loudspeakers, mixing consoles, interconnection, amplifiers, digital processing, time code, and surround sound. Open to non-MUE majors.

Components: LEC.

Grading: GRD.

MMI 621. Timbral Ear Training. 3 Credit Hours.

Students in this course will accomplish four primary goals: 1) instantaneous discernment of ISO frequency regions and critical bands; 2) aural identification of audio-processing techniques, artifacts, and problems; 3) development of critical thinking skills and competence in current audio listening test methodologies; and 4) successful completion of a comprehensive bank of critical listening "golden ears" tests

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 630. Entrepreneurship for Musicians. 3 Credit Hours.

Course explores a wide range of options for musicians who want to pursue music business careers in their regional music markets. Students examine opportunities in performance, recording, composition, education, and more. Emphasis is placed on the packaging of musical skills in the marketplace and on the financial management of a small proprietary music business. As a result, the student musician will be prepared to make career decisions with foresight and planning.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 631. Recording Engineering Seminar. 3 Credit Hours.

Students in MMI 531 will accomplish three primary goals: 1) understanding historical trends in the audio recording industry, particularly those involving key technological advances; 2) understanding and appreciating recent advances in sound recording technologies and methods; and 3) development of critical thinking, research, writing, and presentation skills.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 637. Recorded Music Operations. 3 Credit Hours.

A study of the activities involved in commercially exploiting recorded music. Includes an analysis of activities involved in the production, manufacturing, distribution, and marketing of a recorded music product; as well as related royalty accounting, mechanical licensing and master-use licensing activities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 641. Tour Management And Production. 3 Credit Hours.

Students will become familiar with the responsibilities of a tour planner. Individual tour planning projects are assigned which will give the students insight into the management and production of a tour.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 643. Marketing And Promotion In The Entertainment Industry. 3 Credit Hours.

Students learn how to fulfill demand and influence consumer behavior through effective marketing techniques. The course provides the students with information on the latest technologies being employed to reach and communicate with target consumers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 645. Music Placement And Exploitation. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 673. International Music Publishing. 3 Credit Hours.

An in-depth study of the international publishing industry with an emphasis on catalog development and exploitation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 693. Special Projects In Music, Media, And Industry. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Music Media and Industry.

Components: DIS.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 694. Special Topics In Music, Media, And Industry. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 701. Advanced Digital Audio Electronics. 3 Credit Hours.

Topics in digital audio including discrete time signals, digital filters, error digital audio processors, FFT, CIRC, and digital recorders are discussed.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 706. Current Topics in Audio Analysis and Signal Processing. 3 Credit Hours.

MMI 606 surveys recent topics related to audio analysis, synthesis, and signal processing with an emphasis in software programming and practical applications. Course material is drawn from several topics: current audio APIs and plug-in architectures, computational theories of musical timbre, machine listening, spatial audio, digital audio effects, new digital audio synthesis techniques, and machine-musician interaction modalities.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 714. Graduate Music Business and Entertainment Industries Forum. 0 Credit Hours.

Forum for all graduate Music Business and Entertainment Industries students, for the purpose of discussing the latest developments in the field with guest speakers from the industry and faculty members.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 715. Contemporary Songwriting I. 3 Credit Hours.

Requisite: Must be in the School of Graduate Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 726. Performing Arts Center and Facility Management. 3 Credit Hours.

Students learn the many aspects of managing a live entertainment and performing arts center facility. Logistics, management, budgeting, marketing and programing within a live entertainment and performing arts facility are addressed.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 735. World of the Working Musician. 3 Credit Hours.

Building a career in the twenty-first century and beyond creates challenges both exciting and daunting. The purpose of this course is to provide grounding, critical information, as well as planning and vision for shaping the key components of launching and sustaining a career in the arts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 736. Sponsorship, Development And Financial Management In The Live Entertainment Industry. 3 Credit Hours.

Students learn how to write and present a line-item budget for an arts presentation event, arts presenting organization, and an arts facility. Specific techniques and methods that are used to reduce event risk and safety are discussed.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 738. Legal Aspects of the Live Entertainment Industry. 3 Credit Hours.

Students become familiar with various Artist, Client, Production, Vendor and Facility Contracts and Agreements commonly used in the industry.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 739. Small Contemporary Ensemble. 1 Credit Hour.

A performing ensemble of student-generated contemporary musical repertoire.

Requisite: Must be in the School of Graduate Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 740. Arts Presenting Project. 3 Credit Hours.

Students develop and produce an Arts Presenting event. Students will be responsible for all aspects of budgeting, marketing, promotion and production of the event. This will be a semester long project requiring the knowledge and skills learned throughout the Arts Presenting Program.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MMI 750. Music Industry Agreements. 3 Credit Hours.

A study of various music industry agreements and how they affect the artist and songwriter. Recording, music publishing, and personal management agreements are analyzed and discussed. Topics include negotiation considerations, deal points, record company economics, and profitability.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 751. Recording Studio Workshop. 1 Credit Hour.

Introduction to the multi track recording studio environment. Hands-on lectures and labs including tracking, overdub and mixdown session management, techniques, and philosophies are included. Topics also include audio routing, equalization, effects, and microphone technique.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 752. International Music Licensing. 3 Credit Hours.

Advanced music industry concepts and problems in music licensing. Personal rights and most varieties of music licenses and international licensing concepts are covered. Students acquire practical experience utilizing licensing parameters.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI 753. Transducer Workshop. 1 Credit Hour.

Fundamentals of electromagnetism and audio transducer theory including loudspeaker and microphone systems. Classical electro-acoustical analysis of transducers including acoustic suspensions, bass-reflex, transmission line, electrostatic and horn loudspeakers, dynamic, ribbon and condenser pressure, and pressure-gradient microphones. Students use computer-aided design programs and Thiele-Small parameterization to model loudspeakers and measure loudspeaker responses.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MMI 755. Music Industry Internship. 3 Credit Hours.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

MMI 756. Entertainment Industry Practices. 3 Credit Hours.

An overview of entertainment industry practices. Concentration on the legal, marketing and financial aspects of different areas of the industry focusing primarily on film, television, and book publishing, while also broadly exploring additional areas such as video games, sports, and performing arts.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 774. Music Copyright Law. 3 Credit Hours.

A study of the essential provisions of the 1976 Copyright Act and subsequent amendments and revisions. Students examine the unique complexities of copyright law as it relates to the music industry.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 780. Advanced Analysis Of Current Topics In The Music Business. 3 Credit Hours.

Requisite: Graduate Plan of MBEI or MPR or JDMM or JDML.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MMI 793. Special Projects In Music, Media, And Industry. 1-3 Credit Hours.

Projects in any phase of music media and industry in which the student is interested and qualified to work.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 794. Special Topics In Music, Media, And Industry. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MMI 802. Internship in Music Industry. 3 Credit Hours.

Practical experience in different areas of the music industry under supervision of professional firms. Open only to Music Industry majors.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MMI 804. Internship In Arts Presenting. 3 Credit Hours.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MMI 813. Master's Research Project. 1-3 Credit Hours.

The student working on his/her master's research project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MMI 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MMI 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MMI CB1. Contemporary Bass. 1-2 Credit Hours.

1 hour lesson for students enrolled for 2 credits; 1/2 hour lesson for students enrolled for 1 credit. Technical Requirements: Basic grooves and bassline construction. Analysis of different styles of rock, pop, rhythm & blues, and funk music. Introduction to acoustic, six-string electric, and fretless electric basses. Knowledge of beginning functional harmony and sight-reading skills will also be addressed.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CB3. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of classic rhythm sections recorded throughout the last 50 years, including concentration on important and influential drummers in different styles of rock, pop, R&B, funk, latin, and jazz idioms. Live performance skills and studio techniques. Studies in jazz and modal harmony. Introduction to improvisation.

Prerequisite: MMI CBD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBB. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Basic grooves and bassline construction. Analysis of different styles of rock, pop, rhythm & blues, and funk music. Introduction to acoustic, six-string electric and fretless electric basses. Knowledge of beginning functional harmony and sight-reading skills will also be addressed.

Prerequisite: MMI CBA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBC. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of important bass players and styles, including Carol Kaye, James Jamerson, Larry Graham, Jack Bruce and others. Studies in intermediate harmony and introduction to standard American popular repertoire. Sight-reading, chart reading, and basic rhythm section arranging.

Prerequisite: MMI CBB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBD. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of important bass players and styles, including Carol Kaye, James Jamerson, Larry Graham, Jack Bruce and others. Studies in intermediate harmony and introduction to standard American popular repertoire. Sight-reading, chart reading, and basic rhythm section arranging.

Prerequisite: MMI CBC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBF. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Analysis of classic rhythm sections recorded throughout the last 50 years, including concentration on important and influential drummers in different styles of rock, pop, R&B, funk, latin, and jazz idioms. Live performance skills and studio techniques. Studies in jazz and modal harmony. Introduction to improvisation.

Prerequisite: MMI CBE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBG. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Advanced jazz harmony and improvisation. World music and odd meter studies, including non-traditional styles and grooves. Advanced concepts of recording and performance, including starting and working within the context of an original band project. Elements of professionalism in the music business.

Prerequisite: MMI CBF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CBH. Contemporary Bass. 1-2 Credit Hours.

One hour lesson for students enrolled for 2 credits, 1/2 hour less for students enrolled for 1 credit. Technical requirements: Advanced jazz harmony and improvisation. World music and odd meter studies, including non-traditional styles and grooves. Advanced concepts of recording and performance, including starting and working within the context of an original band project. Elements of professionalism in the music business.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CD1. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking techniques, basic hand/foot patterns. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CD3. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.

Prerequisite: MMI CDD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDB. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking techniques, basic hand/foot patterns. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading.

Prerequisite: MMI CDA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDC. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced sticking techniques, advanced hand/foot patterns. Transcription/analysis of important drumset artists in major styles. Advanced chart reading.

Prerequisite: MMI CDB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDD. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced sticking techniques, advanced hand/foot patterns. Transcription/analysis of important drumset artists in major styles. Advanced chart reading.

Prerequisite: MMI CDC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDF. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.

Prerequisite: MMI CDE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDG. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Tools to enhance soloing and executing grooves. Transcription/analysis of important drumset artists in major styles. Basic studio performance techniques, and relationship to singer/songwriter. Basic jazz performance elements. Basic world music rhythms.

Prerequisite: MMI CDF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CDH. Contemporary Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced soloing techniques, odd groupings, displacement. Advanced studio performance techniques, and relationship to singer/songwriter. Advanced jazz performance elements, Advanced world rhythms. Development of individual voice in music.

Prerequisite: MMI CDG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CG1. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop harmony. Beginning accompanying. Rock/pop Improvisation. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading. Basic acoustic and electric guitar techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CG3. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Rock/pop improvisation. Beginning functional jazz harmony. Basic jazz performance elements. Transcription/analysis of important guitar artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Advanced acoustic guitar techniques. Guitar equipment, maintenance.

Prerequisite: MMI CGD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGB. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop harmony. Beginning accompanying. Rock/pop Improvisation. Analysis of rock, pop, rhythm and blues, Latin and jazz styles. Basic chart reading. Basic acoustic and electric guitar techniques.

Prerequisite: MMI CGA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGC. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced harmony. Advanced accompanying. Transcription/analysis of important guitar artists in major styles. Advanced chart reading and capoing techniques. Beginning alternate tunings.

Prerequisite: MMI CGB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGD. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced harmony. Advanced accompanying. Transcription/analysis of important guitar artists in major styles. Advanced chart reading and capoing techniques. Beginning alternate tunings. Successful completion of Level D to move to Level E.

Prerequisite: MMI CGC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGF. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Rock/pop improvisation. Beginning functional jazz harmony. Basic jazz performance elements. Transcription/analysis of important guitar artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Advanced acoustic guitar techniques. Guitar equipment, maintenance.

Prerequisite: MMI CGE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGG. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced improvisational concepts. Advanced jazz harmony. Advanced jazz performance elements. Advanced studio performance techniques and relationship to the singer/songwriter. Advanced world music rhythms. Development of individual voice in music. Advanced alternate tunings. Guitar equipment, maintenance.

Prerequisite: MMI CGF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CGH. Contemporary Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced improvisational concepts. Advanced jazz harmony. Advanced jazz performance elements. Advanced studio performance techniques and relationship to the singer/songwriter. Advanced world music rhythms. Development of individual voice in music. Advanced alternate tunings. Guitar equipment, maintenance.

Prerequisite: MMI CGG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CK1. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning Gospel harmony (triads in all inversions), basic add-nine pop harmony. Beginning accompanying. Analysis of rock, pop, rhythm and blues, Latin, and jazz styles. Basic chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CK3. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop improv. Beginning functional jazz harmony (thirds and sevenths). Basic jazz performance elements. Transcription/analysis of important keyboard artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Keyboard equipment, maintenance, patch libraries and sound editors.

Prerequisite: MMI CKD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKB. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning Gospel harmony (triads in all inversions), basic add-nine pop harmony. Beginning accompanying. Analysis of rock, pop, rhythm and blues, Latin, and jazz styles. Basic chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKC. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Gospel harmony. Advanced accompanying. Transcription/analysis of important keyboard artists in major styles. Advanced chart reading.

Prerequisite: MMI CKB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKD. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced Gospel harmony. Advanced accompanying. Transcription/analysis of important keyboard artists in major styles. Advanced chart reading.

Prerequisite: MMI CKC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKF. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Beginning pop improv. Beginning functional jazz harmony (thirds and sevenths). Basic jazz performance elements. Transcription/analysis of important keyboard artists in major styles. Basic studio performance techniques and relationship to singer/songwriter. Keyboard equipment, maintenance, patch libraries and sound editors.

Prerequisite: MMI CKE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKG. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced improvisational concepts. Advanced jazz harmony. advanced jazz performance elements. Advanced studio performance techniques and relationship to singer/ songwriter. Advanced world music rhythms. Development of individual voice in music. Keyboard equipment, maintenance, patch libraries and sound editors.

Prerequisite: MMI CKF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CKH. Contemporary Keyboard. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced improvisational concepts. Advanced jazz harmony. advanced jazz performance elements. Advanced studio performance techniques and relationship to singer/ songwriter. Advanced world music rhythms. Development of individual voice in music. Keyboard equipment, maintenance, patch libraries and sound editors.

Prerequisite: MMI CKG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CM1. Contemporary Media. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CM3. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMB. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMC. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMD. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMF. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CME.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMG. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CMH. Contemporary Media. 1-2 Credit Hours.

Prerequisite: MMI CMG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CV1. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Beginning chart writing. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CV3. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, advance knowledge of music styles and historical periods of contemporary music, effective communication of original songs. Advanced chart writing. Intermediate improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVD.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVB. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Beginning chart writing. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVA.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVC. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic knowledge of musical styles and historical periods of contemporary music, effective communication of songs in a variety of contemporary styles. Intermediate chart writing. Beginning improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVB.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVD. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic knowledge of musical styles and historical periods of contemporary music, effective communication of songs in a variety of contemporary styles. Intermediate chart writing. Beginning improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVC.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVF. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, advance knowledge of music styles and historical periods of contemporary music, effective communication of original songs. Advanced chart writing. Intermediate improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVE.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVG. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required contemporary styles, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performance with accuracy in pitch, rhythm, good posture, breath management, phonation, resonance, and microphone technique. Advanced chart writing and studio vocal arranging techniques. Advanced improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVF.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CVH. Contemporary Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits, 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required contemporary styles, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performance with accuracy in pitch, rhythm, good posture, breath management, phonation, resonance, and microphone technique. Advanced chart writing and studio vocal arranging techniques. Advanced improvisation and ornamentation. Repertoire of original and contemporary songs in various styles as prescribed by the voice teacher.

Prerequisite: MMI CVG.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CX1. Contemporary Performance Instruction. 1-2 Credit Hours.

1-Hour Lesson for students enrolled for 2 credits, ½ hour lesson for students enrolled for 1 credit. Applied instrument/ voice instruction in contemporary, popular music performance. Freshman/Sophomore level.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MMI CX3. Contemporary Performance Instruction. 1-2 Credit Hours.

1-Hour Lesson for students enrolled for 2 credits, ½ hour lesson for students enrolled for 1 credit. Applied advanced instrument/ voice instruction in contemporary, popular music performance. Junior/Senior level.

Prerequisite: MMI CX1 or by audition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Musicology (MCY)

MCY 101. The World Of Music. 1-3 Credit Hours.

For all new music majors, a novel introduction to music now and then, here and there; its ideas, its relations to other arts, and its role in human life.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 124. The Evolution of Jazz. 3 Credit Hours.

A study of the origin, development, and styles of jazz music and its exponents. This course is not for music majors. Music majors should enroll in MSJ 113 and MSJ 213.

Requisite: Must not be in School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 127. Evolution of Rock. 3 Credit Hours.

Rock music from its sources to the present. Aural recognition of rock styles and selected performing artists are included. This course is not for music majors. Music majors should enroll in MCY 311.

Requisite: Must not be in School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 131. Understanding Music. 3 Credit Hours.

A general introduction to the musical elements and the history of music from antiquity to the present. Primarily focuses on classical music, but also includes exposure to pop, jazz, and music traditions. This course is not for music majors. Music majors should enroll in MCY 140 and MCY 141.

Requisite: Must not be in School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 140. Experiencing Music. 3 Credit Hours.

A broad introduction to musical elements, genres, periods, styles, and composers in the jazz, folk, popular, and world music traditions.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 141. Musical Traditions. 3 Credit Hours.

A broad introduction to musical elements, genres, periods, styles, and composers in the classical music tradition.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 16. Musicology Forum. 0 Credit Hours.

A weekly forum for all Musicology majors. This course involves guest lectures by local and visiting scholars, presentations of student and faculty research, and group discussions centered on principal ideas, methods, and approaches in the field.

Components: FOR.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MCY 212. Anglo-American Song Traditions. 3 Credit Hours.

A study of the origins, development, and styles of Anglo-American song traditions from English and Irish folk ballads, to shape-note and Sacred Harp hymnody, to early folk, country and bluegrass. Areas to be explored include the development of an American cultural identity and the political and socio-economic influences on the content and musical styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 221. Anglo-American Song Traditions. 3 Credit Hours.

A study of the origins, development, and styles of Anglo-American song traditions from English and Irish folk ballads, to shape-note and Sacred Harp hymnody, to early folk, country and bluegrass. Areas to be explored include the development of an American cultural identity and the political and socio-economic influences on the content and musical styles.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 222. African-American Song Traditions. 3 Credit Hours.

A study of the origins, development, and styles of African American song traditions from early plantation songs, shouts, hollers, and spirituals, to the development of blues traditions, to gospel. Areas to be explored include the development of an African American cultural consciousness and the political and socio-economic influences on the content and musical styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 311. Modern American Pop Music. 3 Credit Hours.

A study of the development and styles of American popular music during the twentieth century from Tin Pan Alley to the present. Areas to be explored include influential songwriters and performers, and stylistic development in their political and socio-economic context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 313. Music of Latin America. 3 Credit Hours.

An introduction to the music of Latin America, with special emphasis on Mexico, Brazil, Argentina, the Andes, and the Caribbean. Covers folk, popular, and classical music traditions. Open to non-music majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 324. Music in Hebrew Culture. 3 Credit Hours.

A study of the folk, traditional, liturgical, and art music of the Jews. Particular attention is given to music on Jewish subjects, music employing traditional Jewish resources, and music by contemporary Jewish and Israeli composers.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 333. Introduction to Cuban Music. 3 Credit Hours.

A survey of Cuban Music from the early European settlement to the present. Course addresses African and Caribbean influences and the amalgamation into new national styles, as well as current musical activity on the island and in expatriate communities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 341. Music of the Mediaeval, Renaissance, and Baroque Periods. 3 Credit Hours.

A comprehensive, in-depth study of the musical styles and genres of the Mediaeval, Renaissance, and Baroque Eras., Important musical figures of these periods and analytical studies of important pieces of music from these periods are addressed.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

MCY 342. Music of the Classical, Romantic, and Modern Periods. 3 Credit Hours.

A comprehensive, in-depth study of the musical styles and genres of the Classical, Romantic, and Modern Eras of important musical figures of these periods, and analytical studies of important pieces of music from these periods.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

MCY 493. Special Projects In Musicology. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 494. Special Topics In Musicology. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 520. History and Literature of the Wind Band. 3 Credit Hours.

An historical survey of wind band literature, the evolution of the military band, the wind band, and the wind orchestra.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 521. Symphonic Literature. 3 Credit Hours.

A survey of orchestral music from the end of the seventeenth century to the present.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 522. Operatic Literature. 3 Credit Hours.

The history and literature of opera from the end of the sixteenth century to the present.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 524. Contemporary Music. 3 Credit Hours.

Music of the 20th century, with emphasis on developments since 1945.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 525. Art Song Literature. 3 Credit Hours.

A survey of the solo vocal literature from the 16th century to the present, with particular emphasis on the 19th-century French and German repertoire.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 526. Keyboard Literature I. 3 Credit Hours.

A survey of keyboard literature from its beginning to approximately 1750 emphasizing changes in styles of writing and expression, development of techniques suited to the primary instruments in use (including the early organ, clavichord, harpsichord and fortepiano), ornamentation both specified and improvised, forms, and ideas for interpretation based on historical sources.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 527. Keyboard Literature II. 3 Credit Hours.

A survey of solo keyboard literature from approximately 1750 to the present emphasizing changes in styles of writing and expression, development of technique suited to the primary instruments in use (including the clavichord, harpsichord, fortepiano and modern piano), embellishment both specified and improvised, forms, and ideas for interpretation based on historical sources (including facsimiles, printed scores, written records and sound recordings, particularly those by the composers themselves).

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 529. Music of the Baroque Period. 3 Credit Hours.

Literature and history of music from the end of the sixteenth to the middle of the eighteenth centuries.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 530. Music of the Classical Period. 3 Credit Hours.

The musical styles which developed between the mid-eighteenth century and the nineteenth century.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 533. Music of the Romantic Period. 3 Credit Hours.

The musical styles which developed during the nineteenth century.

Requisite: Music Majors, Upperclass Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 537. Music in the United States. 3 Credit Hours.

A survey of music in the United States from colonial times to the present, with emphasis on the social, economic, and political conditions which affected it. Art music (sacred and secular), popular music in all idioms, the music industry as it evolved in the U.S., and the influence of American music on the music of other countries.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 538. Music, Gender, and Sexuality. 3 Credit Hours.

An exploration of music from around the world from the perspective of women. We will examine the roles women have played, and still play, as creators and performers in art music and popular music traditions. Representations of women and gender ideologies will also be discussed.

Requisite: Upperclass Status or Permission from Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 540. Music And Religion. 3 Credit Hours.

Music and Religion are fundamental aspects of human existence, evidence of which goes back some 30,000 years. This seminar course will explore musical and religious experiences in human history and the use of music within major religious traditions. It will include specific study of some of the major monuments of sacred music of the western classical tradition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 553. Miami's Musical Heritage. 3 Credit Hours.

A study of the musical traditions and practices of the various cultures that are part of Miami's unique multi-ethnic society.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

MCY 554. Music Cultures Of The World. 3 Credit Hours.

A study of music culture of the region including the music of folk societies, popular artists, and classical musicians. Open to non-majors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MCY 562. Music of Argentina and Brazil.. 3 Credit Hours.

An in-depth study of Argentine and Brazilian musical cultures covering folk, popular, and classical traditions. Open to non-majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 564. Seminar in Latin American Music Collections. 3 Credit Hours.

Examines Latin American music materials at the Cuban Heritage Collection and Special Collections at the Richter Library. Focuses on interpreting original documents and acquiring archival techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 583. History of the American Musical Theatre. 3 Credit Hours.

An examination of the development of musical theatre from its European opera and operetta background to an indigenous American art form.

The areas to be explored include the rise and fall of various genre of musical shows, integration of story, song and dance, important producers, directors, lyricists, composers, and new fields such as director-choreographer. The development of an American cultural consciousness and political and socio-economic trends of various decades that greatly influenced the content and form of musical shows is also examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 593. Special Projects In Musicology. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Musicology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 594. Special Topics In Musicology. 1-3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**MCY 611. Musicology Pedagogy. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**MCY 620. History and Literature of the Wind Band. 3 Credit Hours.**

An historical survey of wind band literature, the evolution of the military band, the wind band, and the wind orchestra.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**MCY 621. Symphonic Literature. 3 Credit Hours.**

A survey of orchestral music from the end of the seventeenth century to the present.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**MCY 622. Operatic Literature. 3 Credit Hours.**

The history and literature of opera from the end of the sixteenth century to the present.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**MCY 624. Contemporary Music. 3 Credit Hours.**

Music of the 20th century, with emphasis on developments since 1945.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**MCY 625. Art Song Literature. 3 Credit Hours.**

A survey of the solo vocal literature from the 16th century to the present, with particular emphasis on the 19th-century French and German repertoire.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**MCY 626. Keyboard Literature I. 3 Credit Hours.**

A survey of keyboard literature from its beginning to approximately 1750 emphasizing changes in styles of writing and expression, development of techniques suited to the primary instruments in use (including the early organ, clavichord, harpsichord and forte-piano), ornamentation both specified and improvised, forms, and ideas for interpretation based on historical sources.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**MCY 627. Keyboard Literature II. 3 Credit Hours.**

A survey of solo keyboard literature from approximately 1750 to the present emphasizing changes in styles of writing and expression, development of technique suited to the primary instruments in use (including the clavichord, harpsichord, forte-piano and modern piano), embellishment both specified and improvised, forms, and ideas for interpretation based on historical sources (including facsimiles, printed scores, written records and sound recordings, particularly those by the composers themselves).

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**MCY 628. Music Bibliography. 3 Credit Hours.**

Course presents research materials, including dictionaries, encyclopedias, historical collections, scholarly editions, complete works, books, articles, and lists dealing with specialized areas of music history and literature.

Requisite: Frost School of Music.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**MCY 629. Music of the Baroque Period. 3 Credit Hours.**

Literature and history of music from the end of the sixteenth to the middle of the eighteenth centuries.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**MCY 630. Music of the Classical Period. 3 Credit Hours.**

The musical styles which developed between the mid-eighteenth century and the nineteenth century.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**MCY 632. History of Chamber Music. 3 Credit Hours.**

Styles and forms in chamber music literature from the seventeenth century to the present.

Requisite: Frost School of Music.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**MCY 633. Music of the Romantic Period. 3 Credit Hours.**

The musical styles which developed during the nineteenth century.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**MCY 635. Choral Literature I. 2 Credit Hours.**

Choral music of the sixteenth through the eighteenth centuries. A combination of lecture-discussion and class performance.

Requisite: Frost School of Music.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.

MCY 636. Choral Literature II. 2 Credit Hours.

Choral music of the nineteenth and twentieth centuries. A combination of lecture-discussion and class performance.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 637. Music in the United States. 3 Credit Hours.

A survey of music in the United States from colonial times to the present, with emphasis on the social, economic, and political conditions which affected it. Art music (sacred and secular), popular music in all idioms, the music industry as it evolved in the U.S., and the influence of American music on the music of other countries.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 638. Music, Gender, and Sexuality. 3 Credit Hours.

An exploration of music from around the world from the perspective of women. We will examine the roles women have played, and still play, as creators and performers in art music and popular music traditions. Representations of women and gender ideologies will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 640. Music And Religion. 3 Credit Hours.

Music and Religion are fundamental aspects of human existence, evidence of which goes back some 30,000 years. This seminar course will explore musical and religious experiences in human history and the use of music within major religious traditions. It will include specific study of some of the major monuments of sacred music of the western classical tradition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 653. Miami's Musical Heritage. 3 Credit Hours.

A study of the musical traditions and practices of the various cultures that are part of Miami's unique multi-ethnic society

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

MCY 654. Music Cultures Of The World. 3 Credit Hours.

A study of music culture of the region including the music of folk societies, popular artists, and classical musicians. Open to non-majors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MCY 662. Music of Argentina and Brazil.. 3 Credit Hours.

An in-depth study of Argentine and Brazilian musical cultures covering folk, popular, and classical traditions. Open to non-majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MCY 664. Seminar in Latin American Music Collections. 3 Credit Hours.

Examines Latin American music materials at the Cuban Heritage Collection and Special Collections at the Richter Library. Focuses on interpreting original documents and acquiring archival techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 683. History of the American Musical Theatre. 3 Credit Hours.

An examination of the development of musical theatre from its European opera and operetta background to an indigenous American art form. The areas to be explored include the rise and fall of various genres of musical shows, integration of story, song and dance, important producers, directors, lyricists, composers, and new fields such as director-choreographer. The development of an American cultural consciousness and political and socio-economic trends of various decades that greatly influenced the content and form of musical shows is also examined.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 693. Special Projects In Musicology. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Musicology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 694. Special Projects. 1-3 Credit Hours.

Projects in any phase of music literature and history in which the student is interested and qualified to work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 7. B.A. in Music Forum. 0 Credit Hours.

Forum for this major will provide programs on and discussion of the role of the musical arts in society for people in a wide range of careers.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 711. Musicology Pedagogy. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MCY 716. Graduate Musicology Forum. 0 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MCY 793. SPECIAL PROJECTS IN MUSICOLOGY. 1-3 Credit Hours.

Projects in any phase of music literature and history in which the student is interested and qualified to work.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 794. Special Topics in Musicology. 1-3 Credit Hours.

Projects in any phase of music literature and history in which the student is interested and qualified to work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MCY 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MCY 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MCY 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Neuroscience Program (NEU)

NEU 100. Introduction To Neuroscience. 3 Credit Hours.

Students examine the basic aspects of neuroscience research, specifically targeting neurological disorders. Tools and techniques used in the area of neuroscience such as biochemistry, molecular biology, electrophysiology, light and electron microscopy, confocal microscopy, and image analysis will be addressed. Discussions will also include topics in lab diagnostic techniques as well as state of the art instrumentation.

Components: LEC.

Grading: GRD.

NEU 190. Faculty Overview Of Research And Undergraduate Mentoring(Forum). 1 Credit Hour.

Critical discussion of research reports in neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NEU 200. Introduction To Psychiatry. 3 Credit Hours.

The course will cover basic aspects of Psychiatry and behavioral sciences. We will emphasize the impact of evidence-based findings on the diagnosis, etiology, management and treatment of all major psychiatric disorders. Concepts such as history of psychiatry, evolution of the psychiatric nomenclature, childhood and adult development, brain circuitry, neurotransmitters, psychotherapies and pharmacological mechanisms of most commonly used medications will be discussed. We will utilize lectures, small group discussions as well as videos and live patient interviews. Students will be able to observe a patient interview by a faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NEU 280. Introduction To Research Projects I. 1-3 Credit Hours.

Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 342. Neural Mechanisms of Disease. 3 Credit Hours.

Cellular and molecular mechanisms underlying nervous system dysfunction and mental illness. Biological bases, including clinical and therapeutic aspects, of specific neurological disorders.

Prerequisite: BIL 268 or PSY 220.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 380. Introduction To Research Projects Ii. 1-3 Credit Hours.

Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Prerequisite: PSY 291 or PSY 292. Requisite: UASP and Faculty Permission, 2.5 NEU GPA.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 400. Neurogenetics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NEU 403. Neuroscience laboratory. 4 Credit Hours.

Research methods and laboratory experiments in contemporary neuroscience from individual cells to behavior. Scientific report writing and computer applications in experimental design and analysis.

Prerequisite: PSY 390, BIL 268 or PSY 425. Or Corequisite: PSY 425.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 440. Neural Mechanisms Of Psychiatric Disorders. 3 Credit Hours.

Analysis of different neuropsychiatric disorders including, but not limited to, schizophrenia, depression, post-traumatic stress disorder and autism spectrum disorders. Lectures are derived from current research articles looking at in depth mechanisms of these disorders. It is expected that students have a good understanding on neuroscience, molecular biology and abnormal psychology before registering for this course. Grades are based upon two take home exams that are designed to test the student's knowledge of the material presented in class. In addition, students are required to write a research paper on a topic agreed upon by both the professor and the student.

Prerequisite: BIL 268 or PSY 220. Requisite: UASP permission.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 465. Cellular and Molecular Neuroscience. 3 Credit Hours.

Biophysical, biochemical, and structural features of nerve muscle and sensory cells. Basic cellular processes underlying function and development of nervous system.

Prerequisite: BIL 255, BIL 268 or PSY 220, and CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 468. Developmental Neuroscience. 3 Credit Hours.

Cellular and molecular aspects of nervous system including neuronal differentiation.

Prerequisite: BIL 255, BIL 268 or PSY 220, and CHM 202.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NEU 480. Research With Writing Credit. 1-3 Credit Hours.

Students assist on a research project in neuroscience under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 580. Senior Honors In Neuroscience I. 3 Credit Hours.

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 581. Senior Honors In Neuroscience II. 3 Credit Hours.

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 600. Seminar in Neuroscience. 1 Credit Hour.

Required each Fall and Spring for all NEU students, emphasizes student research presentations (30 min each for 2nd year students; 60 min each for student 3rd year on). Attendance at neuroscience related seminars is also required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 601. Introduction to Neuroscience Techniques. 1 Credit Hour.

Hands-on exercises in research laboratories introduce first-year Neuroscience students to methodologies commonly used in the Neurosciences. The course includes selected techniques from electrophysiology, immunocytochemistry, fluorescence microscopy, recombinant DNA, protein immunoblotting, and functional imaging. Students are required to complete a lab notebook of each exercise. There is also a segment on database searches.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 609. Research. 1-5 Credit Hours.

Students work with individual members of the program faculty on research problems. Provides orientation as to the areas of research in the field and the techniques used.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 611. Accelerated Basic Science Medical Curriculum. 1-18 Credit Hours.

From late June to mid-February, the following accelerated and intensive complete basic science medical curriculum is offered: Embryology, Gross Anatomy, Histology, Biochemistry, Neuroanatomy, Biophysics and Neurophysiology, Systemic Physiology, Pathology, Medical Microbiology, and Pharmacology. A single grade will be entered on the graduate transcript for this course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 631. Special Topics In Neuroscience. 1-5 Credit Hours.

A seminar course with graded readings and discussions based on research literature. The course is taught by various faculty in areas related to their research topics. Writing assignment or homework exercises may also be assigned.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 641. Statistics in Neuroscience. 1 Credit Hour.

This course will provide basic information necessary to appropriately design experiments and analyze and interpret data in the behavioral and biological sciences. A lecture/discussion format will be used. The course will cover research methodology, basic statistical concepts, and an in-depth discussion of descriptive (measures of central tendency, variability and correlation) and inferential statistics (both parametric and non-parametric tests of significance). In addition, various statistical computer programs will be reviewed. Specific topics include: 1. Statistical terminology; 2. Measurement scales; 3. Plotting your data for initial interpretation; 4. Measures of central tendency and variability; 5. Type I and Type II errors and controlling power; 6. Which statistical test do I use for my data? 7. What can I conclude from my data and does it mean anything? Students will be evaluated based on their understanding of statistical design and data interpretation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NEU 650. Modeling CNS injury and Repair. 1 Credit Hour.

This course provides an overview of a number of complex modeling systems using in CNS Injury and Repair biomedical research. The course examines models, such as spinal cord injury, traumatic brain injury, ischemic/stroke injury, experimental autoimmune encephalomyelitis (EAE) model of multiple sclerosis, axon regeneration in retinal nerve and spinal cord, and drosophila models of degeneration. The course will consist of both lectures and hands-on laboratory components. Elective

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NEU 661. Molecular And Cellular Neuroscience. 2 Credit Hours.

This is an eight-week introduction to the cellular and molecular biology of the nervous system. The course is an intensive, interactive discussion of neurons, synapses, sensory cells, and learning/memory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 662. Systems Neuroscience. 4 Credit Hours.

This course aims to provide a general, but intensive, background to the neurosciences beyond Cellular Neuroscience (NEU 661) and Developmental Neuroscience (NEU 663) and to prepare students for more specialized neuroscience courses, for lab rotations, and for subsequent dissertation work. NEU 662 will present sensory, motor and integrative neuroscience at the level of functional systems, but will do so in the context of cellular and molecular neuroscience. The course concentrates on the experimental basis for our understanding of nervous system function and uses both didactic lectures and student discussions of current research literature. The course expects that students have a working knowledge of synaptic transmission, excitable cell membranes, and ion channels from previous coursework in PHS 641/2 and NEU 661, as well as a general knowledge of biochemistry and molecular biology from their PIBS course. It will also be useful to have taken NEU 663.

Prerequisite: NEU 661, PHS 641, and PHS 642.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 663. Developmental Neuroscience.. 2 Credit Hours.

This course will explore nervous system development from early neural induction and neurogenesis to the construction of neural circuits. Cellular and molecular mechanisms of neurulation and CNS patterning, neural progenitor migration, neural crest and ectodermal placodes, programmed cell death, construction of neural circuits and axon guidance, and synaptogenesis will be covered

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NEU 697. Neuroanatomy. 3 Credit Hours.

This course is designed to teach functional neuroanatomy to individuals engaged in basic neuroscience research. Therefore, most of the emphasis will be placed upon gross anatomy, identification of pathways and circuits, and a description of the physiological functions of neuroanatomical systems. To the extent that it may help to explain functional aspects of the nervous system, each lecture will contain some clinical examples and/or case histories. An important feature of each class period will be a laboratory segment in which the student will study human and sheep brains, examine models of the brain, and use internet neuroanatomy websites containing pictures, text, clinical examples, and 3-dimensional rotations of the nervous system

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NEU 720. Research in Residence. 0 Credit Hours.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in Master's Thesis (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NEU 810. Master's Thesis. 1-12 Credit Hours.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

NEU 830. Doctoral Dissertation. 1-12 Credit Hours.

Required for all PhD students before passing the Qualifying Examination. The student will enroll for credits as determined by the Program Office, but no more than a total of 6 credits.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

NEU 840. Doctoral Dissertation- Post Candidacy. 1-12 Credit Hours.

Required for all PhD students before passing the Qualifying Examination. The student will enroll for credits as determined by the Program Office, but no more than a total of 6 credits.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

NEU 850. Research in Residence. 1 Credit Hour.

Students register in the semester they plan to submit their dissertation to the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Nursing (NUR)

NUR 100. Introduction to Nursing. 3 Credit Hours.

This is an introductory course to explore the various roles and responsibilities of the professional nurse in American health care. Major issues within health care today will be discussed and the impact they have on professional nursing will be explored.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 200. Summer Scholars Program. 3 Credit Hours.

Course focuses on current health care issues and the health care system as well as future directions of health care.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 202. Introductory Statistics in Health Care. 3 Credit Hours.

Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing and health sciences.

Corequisite: MTH 101. Or Requisite: ALEKS > or = 55 or SAT Score > or = 630 or ACT > or = 28.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 205. Personal Nutrition. 3 Credit Hours.

Principles of nutrition integrated with cultural dietary patterns across the lifespan. Not for nursing majors or minors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 207. Introduction to Pharmacology. 3 Credit Hours.

Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included. Emphasis is on the understanding of the different classes of drugs and their application in various health care settings.

Prerequisites: BIL 150, CHM 103 or CHM 111, HCS 212, and HCS 215.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 301. Human Sexuality and Vulnerable Populations. 3 Credit Hours.

The study of human sexuality via multidisciplinary theoretical perspectives and research. Students will examine the complex relationships of the physiological, psychological, cultural, gender, religious, historical, and political aspects of human sexuality. Human sexuality in the context of health disparities will form the foundation for the course. WRITING COURSE

Prerequisite: BPH 206. Or Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 303. Hiv/Aids And Health Maintenance For Health Care Providers. 3 Credit Hours.

Definition, diagnosis, management, and care of diverse patient populations with HIV infection and AIDS. Course is presented and discussed from an interdisciplinary health care perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 304. Adult Health I: Fundamentals of Nursing Practice. 6 Credit Hours.

This clinical course emphasizes the supervised application of health assessment skills, nursing process, and clinical nursing techniques in the clinical laboratory, community, and acute care settings.

Requisite: School of Nursing and Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 305. Issues in Health Disparities. 3 Credit Hours.

This course will be an introduction to the general research on health systems and health disparities. Emphasis will be placed on social, biological, economic and social policy issues that impact on the health of minority populations. Concepts associated with epidemiology, poverty, racism, public policy and international politics will be explored. WRITING COURSE

Prerequisite: BPH 206. Or Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 306. Principles of Nutrition. 3 Credit Hours.

Principles of nutrition integrated with cultural dietary patterns for client adaptation across the lifespan.

Requisite: Sophomore Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 307. Pharmacology. 3 Credit Hours.

Introduction to the basic principles of therapeutic pharmacology. Special consideration of cultural beliefs and folk medicine included.

Requisite: School of Nursing and Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 308. Adult Health II. 8 Credit Hours.

This course focuses on the nursing management of the client throughout the adult life cycle who experiences alterations and/or adaptations in physiologic defense mechanisms. Teaching strategies to be utilized include lecture, discussion, critical thinking exercises.

Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 310. Global Health. 3 Credit Hours.

Introduction to the concepts of global health and the critical links between public health and social and economic development.

Determinants of health and patterns of disease and health outcomes across the globe are critically examined. The course reviews the determinants of health status in terms of biology, demography, epidemiology, culture, sociology, economics, and politics. Key concerns regarding reproductive health, child survival, nutrition, communicable diseases, and chronic diseases are examined. health care delivery in developed vs. undeveloped regions of the world are emphasized.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 311. Theories and Concepts of Nursing. 2 Credit Hours.

An introductory nursing course explaining the philosophy of baccalaureate nursing using the major concepts of person, environment, health, and nursing with a multicultural focus. WRITING COURSE.

Requisite: School of Nursing and Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 314. Health Assessment and Promotion. 3 Credit Hours.

Introduction to health and physical assessment using a lifespan approach.

Requisite: School of Nursing and Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 315. Pathophysiology. 3 Credit Hours.

The study of the physiologic and biologic manifestations of disease and disease processes. Emphasis is placed on physiology of altered health within the context of disruptions of structure and function of the human body as a whole.

Requisite: School of Nursing and Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 317. Theories in Growth and Development. 3 Credit Hours.

Application of growth and development theories through the lifespan with a case study approach to issues commonly encountered nursing practice in a variety of clinical settings.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 318. Women's Health Nursing. 4 Credit Hours.

Requisite: School of Nursing and Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 319. Contemporary Issues in Bioethics for Health Care. 3 Credit Hours.

This course will cover bioethical issues in the health care environment, including ethical principles, theories and decision making strategies.

WRITING COURSE

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 320. Child and Adolescent Health Nursing. 4 Credit Hours.

Requisite: School of Nursing and Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 350. Pathophysiology/Pharmacology For Rn/Bsn. 4 Credit Hours.

This course presents the study of the physiological and biologic manifestations of disease and disease processes, and introduces the basic principles of therapeutic pharmacology. Emphasis is placed on the physiology of altered health within the context of disruptions of structure and function of the human body as a whole. Special consideration of cultural beliefs and folk medicine is included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 390. Advanced Placement Practice I for RN/BSN Students. 10 Credit Hours.

Nursing Management of the client throughout adulthood who experiences alterations and/or adaptations/maladaptions in physiologic defense mechanisms; complex alteration and/or adaptations in organ system function. The client in this course is identified as the individual, family or significant others. Course content emphasizes concepts of infection, the surgical client, immunity and altered cell growth, utilizing the nursing theories and the nursing process. Assists adult clients to adjust to multisystem alterations/adaptations/maladaptions in the endocrine, cardiovascular, respiratory, immunological and hemopoietic, nervous, musculoskeletal, digestive, and renal urinary systems. Specific models are utilized to enhance the teaching of critical thinking. Research findings are utilized to support nursing interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 400. Theories, Research and Evidence-Based Practice. 3 Credit Hours.

Course emphasis is placed on developing an understanding of the research process and application of research findings in community-based practice in multicultural settings. Course focuses on the relationship between theory, research, practice, and the development of competencies to become an informed consumer of research. Writing Credit.

Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 401. Evidence-Based Nursing Practice.. 3 Credit Hours.

This course examines evidence-based practice in nursing. Focuses on the research process; location, critical appraisal, and evaluation of evidence; application and evaluation of evidence-based practice changes; and quality improvement.

Requisite: Accelerated BSN Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

NUR 402. Global Health Disparities Research. 3 Credit Hours.

This is a 4 week intensive educational experience that prepares students to be successful conducting supervised health disparities research as part of the MHIRT program at a foreign institution, disseminating findings, and applying to graduate school. The training program is broken into a preparation phase (3 weeks prior to leaving to their host country), and a dissemination phase (1 week after they return). Students will be working as a research assistant at a foreign site for eight weeks in between the preparation and dissemination phases of this training program. Students will learn about the influence of culture and healthcare policy on health and health disparities, research design, statistics, communicating research findings and careers in health disparities research.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 403. Advanced Placement Practice II for RN/BSN Students. 10 Credit Hours.

This course focuses on the nursing process in the care of pediatric clients and families, the obstetrical client, and women's health. Emphasis is on the use of the nursing process to assist clients to adapt to health alterations requiring care in secondary health care settings. This course covers care of the pediatric client and the childbearing client and women's health.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 405. Professionalism And Career Pathways. 3 Credit Hours.

This nursing course focuses on the assessment and development of a career pathway for registered nurses seeking a Bachelor's in the Science of Nursing professional nursing practice. There will be a focus on concepts of professionalism, roles in nursing, advanced practice, diversity, culture and a critical analysis of legal, ethical and political dimensions of nursing practice.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

NUR 408. Genetics And Healthcare. 3 Credit Hours.

Exploration of basic knowledge in genomics, understanding of social, cultural and psychological implications of genetic services, health prevention and promotion.

Requisite: Nursing Only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 411. Adult Health Iii. 5 Credit Hours.

This course focuses on the adult experiencing complex multisystem alteration/adaptations in organ and system function. Emphasis is on the use of the nursing process to assist adult clients to adapt to system related insults.

Requisite: School of Nursing and Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 414. Advanced Placemment Practice III for RN/BSN students. 10 Credit Hours.

Content emphasizes concepts and themes of families and communities and the use of the nursing process to assist in promoting and maintaining health. The behavioral health focusses on psychotherapeutic processes across the life span Emphasis is on planning nursing care for individuals, families and groups and p rofessional and theraputic communication skills and techniques. Explores the influence of neuro-physiology and psychopharmacology on the development of psychiatric and mental health services and the evolution of the role of the psychiatric nurse.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 415. Perianesthesia Nursing. 3 Credit Hours.

The focus of this course is on the use of the nursing process to develop and implement nursing management strategies for patients and families undergoing a surgical and/or special procedure. Emphasis is placed on the use of a multicultural nursing perspective to plan and implement nursing interventions. This course highlights Perianesthesia nursing care of surgical patients.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 417. Pre-Immersion Course For Accelerated Option Students. 0 Credit Hours.

This course is designed to facilitate personal and professional success; this course introduces students to the purposes and processes of nursing. An emphasis is placed on study, communication, and critical thinking skills that support academic achievement. Students also examine the relationship between learning and motivation.

Components: DIL.

Grading: GRD.

Typically Offered: Spring & Summer.

NUR 418. Pre-Immersion For Traditional Option Students. 0 Credit Hours.

This course is designed to facilitate personal and professional success; this course introduces students to the purposes and processes of nursing. An emphasis is placed on study, communication, and critical thinking skills that support academic achievement. Students also examine the relationship between learning and motivation.

Requisite: Junior Status.

Components: LEC.

Grading: NON.

Typically Offered: Fall.

NUR 420. Robert Wood Johnson Mentor Program. 0 Credit Hours.

This seven-week immersion program will prepare students with the fundamentals of returning to an accelerated paced academic program. Students will explore topics that will prepare them in the area of academic success strategies, life preparedness and time management. This program will also serve as an introduction to the profession of nursing and enlighten participants to the many career opportunities and leadership roles available to them with a degree in nursing

Components: DIL.

Grading: NON.

Typically Offered: Spring & Summer.

NUR 424. Math Essentials For Bsn Students. 0 Credit Hours.

This course supports students with basic to advanced medical math concepts. Topics include calculating dosages, using scientific formulas and basic statistical principles.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 426. Leadership & Management in Nursing. 5 Credit Hours.

Analysis and synthesis of the application of professional concepts in a variety of multicultural health care delivery systems. Emphasis is placed on personal, professional, and organizational growth. Individualized and integrated clinical experiences are provided through direct clinical supervision by preceptors.

Requisite: Accelerated BSN Program.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 430. Leadership In Nursing. 3 Credit Hours.

Theoretical and applied concepts of transition to the nursing role within the healthcare setting are explored in this course. The focus is on practice issues and responsibilities in contemporary professional nursing practice. Emphasis is placed on the transition to practice and nursing care systems with increasing responsibility through discussion of practice theory and styles, empowering, mentoring, managing change and striving for excellence. Seminar discussion topics will focus on the issues of successful transition to the practice environment as new nurse.

Requisite: School of Nursing and Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 435. Clinical Express Undgr. 5.00 Credit Hours.

This course is an online orientation for clinical faculty at the School of Nursing and Health Studies. The content is specific to clinical instructors who will be supervising BSN nursing students at various clinical sites used by the School of Nursing and Health Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 440. Population Focused Nursing. 4.00 Credit Hours.

The focus is on population-focused nursing and community-oriented approaches to understanding and addressing major public health concerns across the life span. Emphasis is on assessing, planning, implementing and evaluating programs for a variety of communities both domestically and internationally. Health and disease is conceptualized as a complex interaction between individual, relationship, community and socio-economic-political level factors. Epidemiology, sociology, behavioral sciences and nursing theory and practice are integrated throughout. Special attention is given to addressing the unique needs of vulnerable populations and cultural groups, the elimination of health disparities, and social justice.

Requisite: School of Nursing and Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 448. Psychiatric Mental Health Nursing.. 4.00 Credit Hours.

The focus is on psychotherapeutic processes across the life span. Emphasis is on planning nursing care for individuals, families, and communities with a variety of psychiatric and mental health problems in various settings (inpatient, outpatient, community). Professional and therapeutic communication skills and techniques are important components of this course.

Requisite: School of Nursing and Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 453. Role Transition. 5.00 Credit Hours.

Theoretical and applied concepts of transition to the nursing role within the healthcare setting are integrated in this course. The course is a synthesis of previously learned knowledge, incorporating the components of physiological, psychological, and developmental concerns in the care of the client. Seminar discussion topics have a focus on the issues of successful transition to the practice environment as a nurse generalist, with the ability to exercise clinical reasoning and evidence-based practice.

Requisite: School of Nursing and Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 461. Health Disparities Research Practicum. 1-4 Credit Hours.

This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research. Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 487. International Health: Transcultural Nursing. 3 Credit Hours.

Collaborative clinical venture between the University of Miami, School of Nursing and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas including Medical-Surgical, Surgery, Intensive Care and/or Emergency nursing units. This course will allow students to apply and synthesize basic science knowledge and skills that foster ethical, legal and culture specific health care.

Requisite: School of Nursing Health Studies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 498. Selected Topics. 6.00 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 499. Selected Topics. 6.00 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall.**NUR 536. U.S. Health Care Crisis: Politics and Policies. 3 Credit Hours.**

This course will explore key health policy issues within the U.S., along with the politics and interest groups which shape them. Fundamental concerns within the health care system such as: cost, quality and access to care will be analyzed. Major topics of discussion will include: Medicare, Medicaid, private insurance, the nursing shortage, and prescription drugs. The politics and policies surrounding issues such as bioethics, globalization, and infectious disease will also be considered.

Requisite: Junior Status, No IP Credit.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**NUR 601. Advanced Pharmacology. 3 Credit Hours.**

Advanced practice nursing application of pharmacological and pharmacokinetics for the purpose of selecting appropriate drug therapies for diverse populations.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**NUR 602. Doctoral Level Orientation/Nur. 0 Credit Hours.**

This course provides entering doctoral students with an evaluation of their writing ability and a review of formal writing skills. Other topics pertinent to success for nursing coursework at the doctoral level are addressed.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**NUR 603. Healthcare Databases: Design, Development And Clinical Application. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall.**NUR 604. System Life Cycle/Project Management. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall.**NUR 605. Health Information Exchange. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Summer.**NUR 606. Advanced Practice Preparation. 0 Credit Hours.**

This preparatory experience provides students an opportunity to review concepts of pharmacology; physiology; and health assessment prior to beginning the Master of Science in Nursing program. Activities related to academic strategies and writing are also included, to assist in improving study and writing skills.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**NUR 607. Leadership And Professional Development Strategies For Nursing Informatics. 3 Credit Hours.**

Corequisite: NUR 604.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**NUR 608. Concepts in Advanced Practice Nursing. 3 Credit Hours.**

Major concepts necessary for advanced practice nursing. Included are: major scientific theories, health and health promotion, health policy, ethical issues, epidemiology, technology in health care, and advanced practice role competencies. Specific emphasis is placed on understanding culture and cultural diversity in health care.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**NUR 609. Professionalism in Advanced Practice Nursing. 2 Credit Hours.**

Focuses on the synthesis of concepts and principles necessary to develop leaders in advanced practice nursing specialties. Emphasis is placed on the role of the advanced practice nurse for optimal delivery of health care to clients across the life span.

Components: LEC.**Grading:** GRD.**Typically Offered:** Summer.**NUR 610. Adult Gerontology Acute Care I. 4 Credit Hours.**

Analysis of selected theories and conceptual models of nursing and their implementation in practice and research. Approaches to development of a scientific body of knowledge for nursing practice is included. (2)

Prerequisite: Graduate status.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**NUR 611. Foundations Of Anesthesia Science & Technology For Nurse Anesthetists. 5 Credit Hours.**

Introduction to the application of basic sciences to nurse anesthesia. This course includes the application of principles of physics, molecular biology, biochemistry and medicinal chemistry.

Corequisites: NUR 601, NUR 612, NUR 613. Requisite: Admission into DNP Anesthesia Program.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**NUR 612. Physiology/Pathophysiology for Advanced Practice Nursing. 3 Credit Hours.**

Analysis of physiologic and pathophysiologic mechanisms of health and illness.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.

NUR 613. Advanced Health Assessment and Diagnostic Reasoning. 3.00 Credit Hours.

Emphasis on culturally sensitive comprehensive health assessment and diagnostic reasoning related to advanced nursing practice. Special emphasis is placed on advanced health assessment; including age appropriate health screenings; prenatal, pediatric, and geriatric assessment; and interpretation of basic laboratory tests and diagnostic studies utilized in advanced nursing practice. Specialty specific seminars address issues for individual tracks within advanced practice nursing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 614. Basic Concepts In Anesthesia Nursing. 6.00 Credit Hours.

This course is an overview of fundamental knowledge and skills for entry into advanced practice anesthesia nursing. Concepts include essential techniques, monitoring and equipment, and pharmacologic interventions for common problems and conditions requiring routine surgical procedures in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

Prerequisites: NUR 601, NUR 611, NUR 612, NUR 613. Co-requisite: NUR 617.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 615. Professional Aspects of Anesthesia Nursing. 2 Credit Hours.

This course focuses on the development and current trends in nurse anesthesia practice, education, and research. Concepts include the historical, legal, legislative, and professional role issues associated with advanced practice anesthesia nursing. Professional responsibilities, ethical issues, diversity, cultural competency, quality assurance, continuing education, and professional involvement are emphasized.

Prerequisite: NUR 646. Corequisite: NUR 650.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 616. Pharmacology for Acute Care Nursing. 3 Credit Hours.

Focuses on foundational pharmacologic principles and associated application to clinical practice in acute care nursing. Integration of pharmacological concepts and interventions in safe, culturally competent, and interdisciplinary acute care advanced nursing practice are emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 617. Pharmacology For Anesthesia Nursing. 3 Credit Hours.

This course will integrate pharmacologic principles with application to clinical practice in anesthesia nursing. Integration of pharmacological, pathophysiological concepts and the autonomic nervous system, synthesizing interventions in a safe, culturally competent, interdisciplinary anesthesia nursing practice.

Prerequisites: NUR 601, NUR 611, NUR 612, NUR 613. Corequisite: NUR 614.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 619. Advanced Concepts Of Anesthesia Nursing I. 7 Credit Hours.

This course will provide an in-depth knowledge and skills of anesthesia nursing care for a variety of common problems and conditions across anesthesia specializations. Concepts include assessment, techniques, planning and pharmacologic interventions for specialty surgical procedures in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

Prerequisites: NUR 601, NUR 611, NUR 612, NUR 613, NUR 614, NUR 617.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 620. Advanced Concepts Of Anesthesia Nursing Ii. 14.00 Credit Hours.

This course will provide in-depth knowledge and skills of highly specialized problems and conditions requiring anesthesia or surgical interventions. Concepts include assessment, techniques, planning and pharmacologic interventions for regional anesthesia, pain management, care of obstetrical patients and patients with catastrophic conditions in a highly structured and guided clinical learning environment. Cultural competence and interdisciplinary anesthesia care across the lifespan is emphasized.

Prerequisites: NUR 601, NUR 611, NUR 612, NUR 613, NUR 614, NUR 617, NUR 619.

Components: CLN.

Grading: GRD.

Typically Offered: Spring.

NUR 621. Diagnostics and Nursing Interventions for Acute Care Nursing. 2-3 Credit Hours.

Selected diagnostic tests and intervention techniques essential to acute care nursing. Critical thinking and decision making related to interdisciplinary assessment of acute care patients. Cultural issues related to diagnostics and intervention.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 622. Acute Care Nursing of Adults I. 4 Credit Hours.

The first of two sequential clinical practicums designed for the development of scientific knowledge and advanced practice skills in the area of acute care nursing. Involves synthesis of concepts, knowledge and skills gained in previous courses applied to the care of the acutely ill patient. Focuses on the advanced practice of acute care nursing via the nurse practitioner/clinical nurse specialist.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 623. MATERNAL CHILD HEALTH IN PRIMARY CARE PRACTICE. 5 Credit Hours.

Theoretical and clinical bases for advanced practice nursing management of infants and children. Emphasis is placed on strategies for health maintenance and prevention of health problems and management of alterations.

Prerequisite: NUR 628.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 624. Health Care of the Aging Adult. 5.00 Credit Hours.

Development of the role of the advanced practice nurse in the health care management of the aging adult in settings ranging from primary care clinics to residential and rehabilitation including assisted living, long-term, and home care.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 625. Adult Gerontology Acute Care Ii. 7 Credit Hours.

Theoretical and clinical focus for the nurse practitioner as an advanced practice nurse in the health care management of adult populations in rehabilitative settings and residential facilities including assisted living, long term, and home care. (2:6) Prerequisite or corequisite: NUR 601.

Prerequisite: NUR 613 and 617.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 626. Advanced Concepts in Gynecological Health Care for Women. 2 Credit Hours.

Theoretical and clinical bases for the provision of complex gynecological care of women. Emphasis is on strategies for promotion of transcultural health care needs and management of alterations according to the advanced practice roles.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 627. Primary Prenatal Healthcare of Women. 1-2 Credit Hours.

Theoretical and clinical bases for providing primary prenatal care of women. Emphasis is on management strategies for promotion of transcultural health care needs according to the advanced practice role.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 628. Adult Gerontology I. 4 Credit Hours.

Theoretical and clinical bases for health care management of health alterations in the adult population. Emphasis on strategies for health maintenance and prevention of health problems, management of alterations, discharge planning and rehabilitation of individuals and aggregate population.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 630. Research Methods and Evidence-Based Practice. 3 Credit Hours.

Research process, research methods, and the analysis of data using quantitative and qualitative approaches. Focuses on understanding levels of evidence for implementing evidence-based practice and performance improvement in nursing practice and health care. Investigates research methods associated with health disparities, access to health care, and clinical outcomes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

NUR 631. Adult Gerontology Ii. 4-7 Credit Hours.

Theoretical and clinical bases for health management of health alterations in the adult population. Emphasis on strategies for health maintenance and prevention of health problems, management of alterations, discharge planning and rehabilitation of individuals and aggregate population.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 634. Perinatal Health Care. 6.00 Credit Hours.

Continuation of the application of physiologic, psychosocial, and cultural concepts to perinatal health care management. Emphasis is placed on nurse-midwifery management of intrapartum, postpartum, and neonatal clients.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 635. Innovation In Nursing Informatics. 3 Credit Hours.

Corequisite: NUR 633.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 636. Nursing Informatics Internship. 3 Credit Hours.

Corequisite: NUR 635.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 637. Capstone Practicum In Nursing Leadership In Informatics. 3 Credit Hours.

Prerequisites: NUR 604, NUR 607, NUR 608, NUR 630, NUR 633, NUR 636, NUR 658, CIS 450, CIS 685. Corequisites: NUR 603, NUR 605.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 638. Adult Gerontology Acute Care Iii. 6 Credit Hours.

Theoretical, clinical, and research basis of advanced practice nursing in the care and management of adults in primary care setting. (2:15)

Prerequisite: NUR 628.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 639. Acute Care Nursing of Adults II. 7.00 Credit Hours.

The second of two clinical practicums designed to guide the development of scientific knowledge and advanced practice skills in the area of acute care nursing. Designed to assist the student to assume the role of the Acute Care Nurse Practitioner/Clinical Nurse Specialist.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 640. Teaching and Learning Theory in Clinical Nursing Education. 3 Credit Hours.

This course covers principles and practices of teaching and learning integral to clinical nursing education and identifies the role of the faculty in teaching students with diverse learning styles and needs within a variety of clinical settings.

Components: DIL.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 641. Methods for Clinical Nursing Education. 3 Credit Hours.

The focus of this course is the organization and management of instruction for clinical nursing education. Emphasis is placed on effective strategies for the development of learning opportunities in diverse clinical settings.

Components: DIL.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 642. Evaluation in Clinical Nursing Education. 3 Credit Hours.

The course explores principles and practices of evaluation integral to clinical nursing education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 643. Practicum in Nursing Education. 5 Credit Hours.

The primary focus of this course is to provide opportunities to apply concepts and principles from the previous 3 courses of the Certificate in Nursing Education program. The course provides opportunity for laboratory, clinical, and online application of principles of teaching and learning. The course combines 42 hours didactic contact hours with 112 online practicum hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 644. Leadership and Professional Development Strategies for Nursing. 4 Credit Hours.

In this course, students will be exposed to the principles of organizational culture, dynamics, mission, vision, values, and goals as it impacts nursing. Additionally they will learn current theories of change management and resource management for nursing practice. They will explore change agent roles in project management and processes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 645. Interdisciplinary Anesthesia Nursing I. 14.00 Credit Hours.

This course is the integration and synthesis of advanced knowledge and skills for interdisciplinary anesthesia nursing care. Selected topics and clinical case studies include collaborative decision-making, effective communication, planning and evaluation for patients with complex problems and conditions across the lifespan. With continual guidance, students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

Prerequisites: NUR 601, NUR 611, NUR 612, NUR 613, NUR 614, NUR 617, NUR 619, NUR 620.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 646. Interdisciplinary Anesthesia Nursing II. 14.00 Credit Hours.

This course is the second integration and synthesis course of advanced knowledge and skills for interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. With minimal guidance students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

Prerequisites: NUR 601, NUR 611, NUR 612, NUR 613, NUR 614, NUR 617, NUR 619, NUR 620, NUR 645.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 647. Advanced Practice Nursing Integration. 7 Credit Hours.

Integration of the components of the Advanced Practice Nursing role to analyze advanced practice issues.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 648. Internship. 7.00 Credit Hours.

Integration and role synthesis of Advanced knowledge and skills in nurse midwifery care for women and infants within diverse cultural clinical settings. Selected topics include practice management and clinical case studies to include diagnosis, collaborative practice, planning and evaluations of care for normal and complex conditions for the female adolescent, reproductive age woman and infant, the mature women and their families.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 650. INTERDISCIPLINARY ANESTHESIA NURSING III. 14.00 Credit Hours.

This course is the third and final integration and synthesis course of advanced knowledge and skills of interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. With minimal guidance students assume greater responsibility for culturally competent and interdisciplinary anesthesia care.

Prerequisite: NUR 646.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 651. Qualitative Data Analysis. 3 Credit Hours.

The course is designed to help the student develop skills and understanding relating to the advanced analysis of qualitative data. The course assumes all students will either be in or nearing the analysis stages in their research. Focus is on preparation and management of text and media data for analyses; the creation and application of various types of coding to data; the distinctions in coding data evolving from different qualitative approaches; and analysis of longitudinal qualitative data. Permission required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 652. Introduction To Clinical Inquiry I. 3 Credit Hours.

Combines clinical knowledge and hands-on clinical experience in an area of the student's potential research interest. Students will practice under the supervision of an advanced practice nurse in the specialty area. Students are expected to begin the process of identifying clinical research problems.

Components: LEC.

Grading: CNC.

Typically Offered: Summer.

NUR 653. Introduction to Clinical Inquiry II. 6 Credit Hours.

Combines clinical knowledge and hands-on clinical experience in an area of the student's potential research interest. Students will practice under the supervision of an advanced practice nurse in a specialty area. There will be a focus on health care delivery systems. Students are expected to translate clinical problems into researchable questions.

Prerequisites: NUR 652, NUR 662, NUR 665, NUR 670, NUR 674, NUR 698.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 654. The Evolution Of Nursing Practice & Application Of Theory In Nursing Practice. 3 Credit Hours.

This course is an overview of the conceptual foundations of nursing science and nursing practice. Knowledge from basic and applied sciences and ethics as well as the history of the global evolution of nursing practice are examined.

Requisite: Admission to the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

NUR 655. Health Care Management, Economics, Financing, And Ethics. 3 Credit Hours.

This course is an overview of health care management, financing, ethics and core and advanced concepts of health care economics. This course will also examine issues associated with health care management, economics, and ethics.

Requisite: Admission to the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 656. Global Health. 3 Credit Hours.

This course covers diverse topics that affect the health of the population and advanced practice nursing internationally.

Requisite: Admission to the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 657. Population Based Health And Health Care Disparities. 3 Credit Hours.

This course is an overview of knowledge from nursing, public health and other disciplines for population based assessment. Population based models and frameworks from nursing, public health, and other disciplines will be explored. The importance of cultural and ethical dimensions in program development is highlighted.

Prerequisites: NUR 654, NUR 656, NUR 663, NUR 664.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 658. Structure and Processes in Health Care Organization and Health Care Policy. 3 Credit Hours.

An exploration of health care organizations and healthcare policy, and how change is effected in both. Health care policy and planning to address health care disparities at the local, state, and federal levels will be explored. Organizational diagnosis, organizational change, and ethical dimension of public policy formulations and implementation will be highlighted.

Requisite: Admission to the DNP Program or Permission of the Faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 659. Technology In Health Care. 3 Credit Hours.

An exploration of the various aspects of the evolving technology to improve and transform health care and advanced practice nursing. This course prepares DNP nursing students to design, select and use technology to support, manage, and improve patient care and health care systems.

Requisite: Admission to the DNP Program or Permission of the Faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 660. Translational Science. 3 Credit Hours.

Emphasis is on translational science which includes organizational readiness and promoting change in a health care environment. Focus is on utilizing systematic analysis to identify, plan, execute and appraise best evidence on selected topics.

Prerequisites: NUR 654, NUR 663, NUR 664.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 662. Nursing Epistemology. 4 Credit Hours.

Focus on historical and philosophical perspectives in the development of knowledge and patterns of knowing with in-depth examination of the evolution of nursing science. Analysis of concepts relevant to nursing phenomena. Approaches to scientific development in nursing with emphasis on theory building and theory generation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 663. Research I: Evaluating the Evidence for Practice. 3 Credit Hours.

This course is an analysis of evidence-based nursing practice. During the course, students acquire the knowledge base to resolve clinical practice problems and direct evidence-based practice.

Requisite: Admission to the DNP Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

NUR 664. Research II: Biostatistical Applications For Nursing Practice. 3 Credit Hours.

This course is an overview of basic statistical concepts and computer applications related to healthcare, nursing, and biomedical research. An examination of both parametric and non-parametric statistics in program evaluation, testing and process outcomes, and/or basic research studies is included.

Requisite: Admission to the DNP Program or Permission of the Faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 665. Quantitative Research Methods. 3 Credit Hours.

In-depth exploration of research methods and design for quantitative research in nursing. Emphasis on development of a research problem; quantitative research design from descriptive to randomized clinical trials; epidemiologic designs; threats to validity; sampling and power analysis; measurement including psychometric theory, data collection and management; and interpretation of data. Other topics include ethics, human subjects' protection, and translation of findings into practice.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 667. Research Practicum. 1 Credit Hour.

Student participates in an ongoing research project under the guidance of a faculty member. Conducts the practical aspects of research including: IRB application/continuing reports, data collection and management.

Prerequisite: NUR 665, NUR 670.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 670. Qualitative Methods In Research. 3 Credit Hours.

Exploration of inductive approaches to research and the use of qualitative methods including grounded theory, ethnography, focus group, and phenomenology. The techniques include unstructured and structured interviews. Discussion of techniques, analysis, and the ethical and political implications of special problems in qualitative research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 671. Scientific and Theoretical Writing. 3 Credit Hours.

Introduction to the process of scientific writing including concept analysis and publication. Critique and respond to own and peers' writing. Challenges of making revisions. Synthesize relevant literature. Other topics include: impact factor, publication process, and techniques of writing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 672. Capstone I. 3 Credit Hours.

Emphasis is on translational science which includes organizational readiness and promoting change in a health care environment. Focus is on utilizing systematic analysis to identify, plan, execute and appraise best evidence on selected topics.

Prerequisites: NUR 676, NUR 688, NUR 689.

Components: LEC.

Grading: GRD.

Typically Offered: Spring & Summer.

NUR 673. Capstone II. 3 Credit Hours.

This second capstone course is the implementation and evaluation of the project developed in Capstone I.

Prerequisite: NUR 672.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 674. Applied Statist:Gnrl Linear Mdl(Glm),Generalized Liner Mdls (Gzlm), And Gnrl Estmtng Equations (Gee). 4 Credit Hours.

Overview of GLM, GZLM, and GEE, which combine many aspects of ANOVA/ANCOVA and multiple regression models for continuous and categorical independent and dependent variables, moderation/mediation, multiple independent variables, and repeated measures of dependent variables. Computer applications using real data and standard statistical software packages will be utilized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 676. Practice Immersion Expreience I. 12.00 Credit Hours.

This course contains individually precepted learning experiences across the spectrum of advanced practice nursing in a variety of settings.

Students develop expertise within the scope of their nursing practice.

Requisite: Admission to the DNP Program or Permission of the Faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 679. Applied Statistics: Structural Equation Modeling and Hierarchical Llinear Modeling. 3 Credit Hours.

Overview of structural equation modeling (SEM) and hierarchical linear modeling (HLM) for continuous, categorical, longitudinal, and nested data. Computer applications using real data and statistical software packages (Exel, SPSS, Mplus).

Prerequisite: NUR 674.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 680. Research Ethics. 0 Credit Hours.

This is a hybrid course that addresses the ethical and responsible conduct of research, protection of human subjects, and nursing science career development.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 681. Measurement of Nursing Phenomenon. 3 Credit Hours.

Development of instruments to measure a phenomenon of concern within the domain of nursing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 682. Advanced Practice Psychopharmacology. 2 Credit Hours.

Review of common psychoactive medications, classes, uses, effects, side effects, and prescriptive implications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 683. Theoretical Bases for Advanced Practice Psychiatric Mental Health Nursing. 2 Credit Hours.

Review of theories and practice of individual, group and, family therapy; role of advanced practice mental health nursing, ethics, research, legislative practice.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 684. Advanced Practice Psychiatric Mental Health Nursing Therapeutic Interventions. 1-5 Credit Hours.

Assessment and treatment of persons with major psychiatric disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 685. Advanced Practice Psychiatric Mental Health Nursing Preceptorship. 4 Credit Hours.

Clinical preceptorship with experience in individual, and group, therapy.

Includes experiences in prescribing psychoactive medications.

Prerequisites: NUR 682, NUR 683, NUR 684.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 686. Advanced Practice Psychiatric Mental Health Nursing Preceptorship 2. 5 Credit Hours.

Clinical preceptorship with experience in individual, and family therapy.

Includes experiences in prescribing psychoactive medications.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

NUR 688. Health Systems Development And Leadership Practice Immersion Ii. 2-12 Credit Hours.

This course contains individually precepted learning experiences across the spectrum of nursing in a variety of settings. Students develop expertise within the scope of their nursing practice.

Prerequisite: NUR 676.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 689. New Method Of Implementation-Practice Immersion Experience Iii. 2 Credit Hours.

Prerequisites: NUR 676, NUR 688.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 690. Independent Study. 1-6 Credit Hours.

A in depth study of a specified area in advanced nursing of special interest to the student, under faculty guidance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 694. Clinical Practicum For Dnp Nurse Anesthesia. 6 Credit Hours.

This course is the clinical integration and synthesis of advanced knowledge and skills of interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. Students assume responsibility for culturally competent and interdisciplinary anesthesia care with minimal assistance.

Prerequisite NUR 650.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

NUR 695. Clinical Practicum For Dnp Nurse Anesthesia. 6 Credit Hours.

This course is the clinical integration and synthesis of advanced knowledge and skills of interdisciplinary anesthesia nursing care for complex problems and conditions across the lifespan. Students assume responsibility for culturally competent and interdisciplinary anesthesia care with minimal assistance.

Prerequisite: NUR 694.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

NUR 696. Crafting the Dissertation Proposal. 3 Credit Hours.

The course is designed to help students focus and refine their ideas for their dissertation proposals. Focus is on developing and refining the ideas for the dissertation, and writing the introductory/review of the literature/methods chapters. The student will also begin preparation for a grant submission. During the semester, the course coordinators will assist the student in choosing a dissertation chair who will also provide input into the proposal.

Prerequisites: NUR 670, NUR 665, NUR 662. Corequisite: NUR 671.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

NUR 697. Selected Topics. 12.00 Credit Hours.

Subject matter offerings based upon student demand and availability of faculty. Subtitles describing topics will be shown in class schedule in parentheses after selected topic notation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

NUR 698. Selected Topics. 6.00 Credit Hours.

The aim of this course is to provide a solid foundation in the basic statistical concepts used in conducting research in nursing. This course is an overview of basic statistical concepts and computer applications related to nursing research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

NUR 699. Special Topics in Nursing Research. 1-3 Credit Hours.

Directed or independent research in collaboration with a faculty member providing opportunity for participation in ongoing nursing research. Specific requirements and credit allocation determined by contractual arrangement between student and faculty member.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

NUR 700. Post Master Clinical. 12.00 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**NUR 701. Clinical Continuation. 6.00 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**NUR 810. Master's Thesis. 1-6 Credit Hours.**

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: DIS.**Grading:** SUS.**Typically Offered:** Fall & Spring.**NUR 830. Doctoral Dissertation. 1-12 Credit Hours.**

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor but not for less than a total of 12 credits. Not more than 12 hours of NUR 730 may be taken in a regular semester, nor more than six in a summer session. A student who has passed (a) qualifying examinations, and (b) is engaged in an assistantship, may still take the maximum allowable credit stated above.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall, Spring, & Summer.**NUR 850. Research in Residence. 1-3 Credit Hours.**

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.**Grading:** SUS.**Typically Offered:** Fall, Spring, & Summer.**NUR 000. Nursing. 1-30 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

Osher Lifelong Learning Inst (OSH)

OSH 100. Wealth Management. 0 Credit Hours.**Components:** LEC.**Grading:** GRD.**OSH 125. A Historic Miscellany. 0 Credit Hours.****Components:** LEC.**Grading:** NON.**OSH 126. Miami-Dade County & You. 0 Credit Hours.****Components:** LEC.**Grading:** NON.**OSH 208. Gender Continuum. 0 Credit Hours.****Components:** LEC.**Grading:** NON.**OSH 342. Literary Expatriates In Paris. 0 Credit Hours.****Components:** LEC.**Grading:** NON.**OSH 4. Osher Field Trip Event. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**OSH 406. Worl Economics - "New Boys In The Neighborhood: How New Economic Powers Are Playing A Game". 0 Credit Hours.****Components:** LEC.**Grading:** NOG.**OSH 6. Conni Gordon And Creative Thinking Using Art. 0 Credit Hours.****Components:** LEC.**Grading:** GRD.**OSH 737. Poetics Of Cinema. 0 Credit Hours.****Components:** LEC.**Grading:** NON.**OSH 738. A Historical Overview Of American Popular Song. 0 Credit Hours.****Components:** LEC.**Grading:** NON.

Pharmacology (PHA)

PHA 801. MEDICAL PHARMACOLOGY. 1-6 Credit Hours.**Components:** LEC.**Grading:** SUS.

Philosophy (PHI)

PHI 100. John Rawls Political Philosophy. 3 Credit Hours.

The study of John Rawl's Theory of Justice, Political Liberalism and Law of People and discussion of the main criticisms that raised Rawl's theory.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**PHI 101. Introduction to Philosophy. 3 Credit Hours.**

Problems concerning knowledge, mind, freedom, religion, and morality. Reading and discussion of primary sources.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**PHI 103. Introduction to Philosophy through Markets and Morals. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 104. Introduction to Philosophy and the Nature of Scientific Knowledge. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 105. Introduction to Philosophy through the Brain and Behavioral Sciences. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**PHI 106. Introduction to Philosophy and Health Sciences. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

PHI 107. Introduction to Philosophy and Law. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 108. Sexual Ethics. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 109. The Superhuman Mind: An Introduction to Philosophy of Mind. 3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 110. Critical Thinking. 3 Credit Hours.**

Principles of sound reasoning; the construction and evaluation of arguments in everyday contexts and the assessment of evidence.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**PHI 115. Social and Ethical Issues in Computing. 3 Credit Hours.**

History, social context and methods and tools of analysis. Professional and ethical responsibilities. Intellectual property. Privacy and civil liberties.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**PHI 130. Contemporary Moral Issues. 3 Credit Hours.**

An examination of the philosophical problems which arise in connection with such moral and social issues as abortion, war, suicide, civil disobedience, racial discrimination, the death penalty, and the right to privacy.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.**PHI 135. LOVE 101. 3 Credit Hours.**

Love from different ethical, psychological and neuro-scientific perspectives. Among other things we will look at what distinguishes different kinds of love from each other, how love is manifested psychologically and neuro-scientifically, what chemicals drive feelings of love and obsession and why it can be so difficult to recover from a breakup.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 200. Environmental Ethics. 3 Credit Hours.**

This course will cover theoretical and practical issues in environmental ethics, exploring the relationships between humans and the environment.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**PHI 210. Symbolic Logic. 3 Credit Hours.**

Introduction to symbolic logic and its methods.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Summer.**PHI 215. Logic and Law. 3 Credit Hours.**

Principles and techniques of logic applied to legal reasoning.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**PHI 236. Feminist Philosophy. 3 Credit Hours.**

This course is an introduction to issues in feminist philosophy, including its critique of Western philosophy and its contributions to major areas of philosophy such as ethics, social philosophy, theories of human nature, and theories of knowledge. Theories of oppression introduced at the beginning of the course inform analyses of sexism, heterosexism, racism, classism and ableism, and philosophizing about these "isms" is aided by sociocultural research. The emphasis is not only on what is contained in these topics, but also on how to think critically about them.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**PHI 237. Philosophy Of Sport. 3 Credit Hours.**

A philosophical examination of the nature and characterization of sports and of the many ethical issues they raise.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 241. History and Philosophy of Science. 3 Credit Hours.**

An introduction to the history and philosophy of science by approaching this field from historical and epistemological points of view.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 242. Self-Knowledge. 3 Credit Hours.**

How we can come to know our own minds.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 244. Philosophy of Emotions. 3 Credit Hours.**

The philosophy of emotions focusing on questions about what emotions are, whether emotions can be rational and whether they are socially constructed.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 245. Philosophical Psychology. 3 Credit Hours.**

An examination of problems in psychology that philosophical methods have traditionally been used to solve.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHI 247. Perception. 3 Credit Hours.**

An overview of the nature of sensory perception.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

PHI 248. Phenomenology. 3 Credit Hours.

A historical account of the phenomenological tradition and its significance to contemporary theorizing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 271. Ancient Philosophy. 3 Credit Hours.

This course will introduce students to Ancient Greek ideas by examining central philosophical themes, such as: Knowledge; Why Be Moral? Justice in the City/Justice in the Soul; Liberty and Social Engineering; Happiness; Friendship; Death. We will use primary texts (in translation) by Plato, Aristotle, Cicero, and Augustine of Hippo, supplemented by some selections from the Greek historian Thucydides. Some Greek vocabulary will be assigned. The final exam will consist of a 2-week-long role playing game, *The Threshold of Democracy: Athens in 403 B.C.* (Developed by the Classics department at Barnard College, and a core component of Ancient Philosophy courses at UT Austin). Students will be assigned different roles: Thrasybulus; a radical Democrat; an Oligarch; and a supporter of Socrates.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHI 272. Modern Philosophy. 3 Credit Hours.

The Renaissance through Kant.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 295. Special Topics. 1-4 Credit Hours.

Special Topics taken at other institutions with no direct equivalents.

Components: LEC.

Grading: GRD.

PHI 330. Ethics. 3 Credit Hours.

The main ethical systems and ethical concepts, an analysis of important ethical readings, and an application of ethical concepts to the individual and to society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 331. Social and Political Philosophy. 3 Credit Hours.

Relations between morality and politics, the sources and the limits of political obligation, the function of the state, the nature of law, civil disobedience and revolution.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 332. Philosophy of Law. 3 Credit Hours.

An examination of basic philosophical issues concerning the nature and function of law, with particular attention to the legal system of the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 333. Philosophical foundations of criminal law. 3 Credit Hours.

Philosophical examination of questions concerning the purpose, scope and limits of criminal law and the justification of punishment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 334. Biomedical Ethics. 3 Credit Hours.

Fundamental issues including: the allocation of medical resources, behavior control, definition of death, experimentation with human subjects, euthanasia, and abortion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 335. Professional Ethics. 3 Credit Hours.

Moral issues in business, engineering, law, and medicine. Development of moral principles to guide those in professional roles.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 336. Human Rights.. 3 Credit Hours.

This course offers philosophical, legal, and political perspectives on human rights. After a short introduction to international human rights, it surveys international human rights treaties and institutions. Next it turns to topics in human rights theory, covering some contemporary philosophical theories of human rights. The final section explores some human rights problems and controversies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 337. Environmental Ethics. 3 Credit Hours.

Theoretical and practical issues in the field of environmental ethics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 338. Philosophy and Feminism. 3 Credit Hours.

Theoretical (metaphysical and epistemological) and applied issues in feminist thought.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 340. Theory of Knowledge. 3 Credit Hours.

Analysis of the nature, sources and structure of knowledge. Possible topics include perception, skepticism, reason, truth, justification, and certainty.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 341. Philosophy of Language. 3 Credit Hours.

Theories of meaning, reference, predication, nature of signs and symbols, types and functions of discourse.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 343. Philosophy of Science. 3 Credit Hours.

Scientific theories and their relation to evidence; experimentation and its logic; explanation, the rationality of science and the growth of scientific knowledge.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 344. Philosophy of Mind. 3 Credit Hours.

The nature of mind and mental acts, events, and states and their relations to physical states of the brain and body and to behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 345. Metaphysics. 3 Credit Hours.

The basic structure and kinds of constituents of the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 346. Philosophy of Mathematics. 3 Credit Hours.

An examination of key philosophical issues concerning mathematics and the understanding of mathematical practice.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 347. Philosophy Of Social Science. 3 Credit Hours.

Examination of whether there are important differences between the social sciences and the natural sciences in terms of their methodology and objects of study.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 348. Perception, Cognition & The Brain: An Intro To Cognitive Neuroscience. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 349. Philosophy of Space and Time. 3 Credit Hours.

Time and space are notoriously difficult to think about. We seem to have an intuitive understanding of them, but it is surprisingly hard to express that understanding. To make matters worse, modern physics challenges what little grasp we thought we had on the concepts of space and time. We are told that space can be curved, and that there can fail to be an objective fact about which of two events occurred first. So we are left without even an intuitive grasp of two of the most fundamental concepts of experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 350. Philosophy of Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 351. Philosophy of Religion. 3 Credit Hours.

The nature of and grounds for religious beliefs; traditional arguments for and against the existence of God; God's attributes; reason vs. faith.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 352. Aesthetics. 3 Credit Hours.

The philosophy of art, such as defining 'art', adjudicating among competing judgments or interpretations of works of art, and understanding the metaphysical status of art objects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 353. Philosophy of Film. 3 Credit Hours.

Philosophical questions concerning the ontology and aesthetics of film.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 354. Philosophy of Literature. 3 Credit Hours.

Central philosophical issues concerning literature and the evaluation of literary works.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 355. History Of Philosophy Of Art. 3 Credit Hours.

An examination of the history of philosophical work on the arts (including literature, visual art, and music) from ancient times through the mid twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 373. Nineteenth Century Philosophy. 3 Credit Hours.

Fichte, Schelling, Hegel, Schopenhauer, Kierkegaard, Marx, Comte, Mill, Spencer, and Nietzsche.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 374. Twentieth Century Philosophy. 3 Credit Hours.

Philosophy and philosophers in the twentieth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 381. Existentialism. 3 Credit Hours.

Existentialist philosophy as seen in the works of such authors as Kierkegaard, Nietzsche, Heidegger, Sartre, Camus, and Dostoevsky.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 391. Special Studies. 3 Credit Hours.

Study of selected problems, philosophers, or movements. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 392. Special Studies. 3 Credit Hours.

Study of selected problems, philosophers, or movements. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 494. Independent Study In Philosophy. 1-3 Credit Hours.

Independent research conducted under the guidance of a faculty member. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 495. Senior Honors Thesis. 3 Credit Hours.

Directed reading and a substantial and scholarly paper.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 496. Senior Honors Thesis. 3 Credit Hours.

Directed reading and a substantial and scholarly paper.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 506. Mathematical Logic. 3 Credit Hours.

Logics, truth, proof, logical consequences, model theory, formalization, and computation. Meta-theory of first-order logic, computability theory, and Goedel's Incompleteness theorems. Related results by church, Turing, and Tarski. Discussion of their philosophical significance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 510. Formal Logic. 3 Credit Hours.

First and second-order quantification theory; metalogic.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 530. Ethical Theory. 3 Credit Hours.

G. E. Moore to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 533. Political Philosophy. 3 Credit Hours.

A survey of some central issues and developments in political philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 540. Epistemology. 3 Credit Hours.

A survey of the basic topics and questions in epistemology: knowledge acquisition and justification, perception, fallibilism, and skepticism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 541. Mind and Language. 3 Credit Hours.

Philosophical problems about signs, linguistic and mental representations, intentionality, action, and consciousness.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 543. Induction, Probability, and Scientific Method. 3 Credit Hours.

Foundations of inductive reasoning and role of experiment in science.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 545. Metaphysics. 3 Credit Hours.

A selection of topics dealing with the main problems of metaphysics: existence, modality, universals, identity and persistence through time, causation, the self and physicalism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 546. Evidence and Knowledge in Medicine. 3 Credit Hours.

Basic methodologies in medicine in the context of philosophical theories of evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 555. Philosophy Of Education. 3 Credit Hours.

Problems concerning the nature and aims of education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 560. History of Logic. 3 Credit Hours.

Aristotle, the Stoics, the Scholastics, Leibniz, Boole, DeMorgan, Peirce, Frege, and Russell and Whitehead.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 562. History of Ethics. 3 Credit Hours.

A selection of ethical theories from Aristotle to Rawls.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 570. Presocratics and Plato. 3 Credit Hours.

Fragments from the Presocratics and the dialogues of Plato.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 571. Aristotle and Hellenistic Philosophy. 3 Credit Hours.

A survey of central philosophical topics in Aristotle and Hellenistic Philosophers (Epicureans, Stoics, and Skeptics).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 572. Medieval Philosophy. 3 Credit Hours.

The patristic period through the scholasticism of the late middle ages.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 573. Early Modern Philosophy. 3 Credit Hours.

An examination of early modern philosophy from Hobbes and Descartes to Hume.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 575. Kant. 3 Credit Hours.

An examination of selected issues in Kant's theoretical or practical philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 581. Pragmatism. 3 Credit Hours.

Peirce, James, Dewey, and others.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 582. History of Analytic Philosophy. 3 Credit Hours.

The development of analytic philosophy from its beginnings in the work of Frege and Russell through logical positivism to contemporary philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 583. The Phenomenological Tradition. 3 Credit Hours.

An examination of the phenomenological movement (Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, and others) and of its impact on contemporary thought.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 591. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 592. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 593. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit. Prerequisite: Six credits in Philosophy and junior standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 594. Independent Study in Philosophy. 1-3 Credit Hours.

Directed reading on a topic or philosopher. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 606. Mathematical Logic. 3 Credit Hours.

Logics, truth, proof, logical consequences, model theory, formalization, and computation. Meta-theory of first-order logic, computability theory, and Goedel's Incompleteness theorems. Related results by Church, Turing, and Tarski. Discussion of their philosophical significance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 611. Formal Logic. 3 Credit Hours.

First and second-order quantification theory; metalogic.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 631. Ethical Theory. 3 Credit Hours.

G. E. Moore to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 634. Political Philosophy. 3 Credit Hours.

A survey of some central issues and developments in political philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 642. Epistemology. 3 Credit Hours.

A survey of the basic topics and questions in epistemology: knowledge acquisition and justification, perception, fallibilism, and skepticism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 646. Evidence and Knowledge in Medicine. 3 Credit Hours.

Basic methodologies in medicine in the context of philosophical theories of evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 647. Mind and Language. 3 Credit Hours.

Philosophical problems about signs, linguistic and mental representations, intentionality, action, and consciousness.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 648. Induction, Probability, and Scientific Method. 3 Credit Hours.

Foundations of inductive reasoning and role of experiment in science.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 649. Metaphysics. 3 Credit Hours.

A selection of topics dealing with the main problems of metaphysics: existence, modality, universals, identity and persistence through time, causation, the self and physicalism.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 655. Philosophy Of Education. 3 Credit Hours.

Problems concerning the nature and aims of education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 660. History of Logic. 3 Credit Hours.

Aristotle, the Stoics, the Scholastics, Leibniz, Boole, DeMorgan, Peirce, Frege, and Russell and Whitehead.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

PHI 662. History of Ethics. 3 Credit Hours.

A selection of ethical theories from Aristotle to Rawls.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 670. Presocratics and Plato. 3 Credit Hours.

Fragments from the Presocratics and the dialogues of Plato.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 672. Aristotle and Hellenistic Philosophy. 3 Credit Hours.

A survey of central philosophical topics in Aristotle and Hellenistic Philosophers (Epicureans, Stoics, and Skeptics).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 673. Medieval Philosophy. 3 Credit Hours.

The patristic period through the scholasticism of the late middle ages.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 674. Early Modern Philosophy. 3 Credit Hours.

An examination of early modern philosophy from Hobbes and Descartes to Hume.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 677. Kant. 3 Credit Hours.

An examination of selected issues in Kant's theoretical or practical philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 681. Pragmatism. 3 Credit Hours.

Peirce, James, Dewey, and others.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 683. The Phenomenological Tradition. 3 Credit Hours.

An examination of the phenomenological movement (Edmund Husserl, Martin Heidegger, Maurice Merleau-Ponty, and others) and of its impact on contemporary thought.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 684. History of Analytic Philosophy. 3 Credit Hours.

The development of analytic philosophy from its beginnings in the work of Frege and Russell through logical positivism to contemporary philosophy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 695. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 696. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 697. Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit. Prerequisite: Six credits in Philosophy and junior standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 698. Independent Study in Philosophy. 1-3 Credit Hours.

Directed reading on a topic or philosopher. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 701. Proseminar (First Semester). 3 Credit Hours.

Covers the core texts from the history of analytic philosophy. First semester of the year-long pro-seminar for first-year graduate students in Philosophy.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 702. Proseminar (Second Semester). 3 Credit Hours.

Covers the core texts and issues of analytic philosophy in the second half of the twentieth century. Second semester of the year-long pro-seminar for first-year graduate students in Philosophy.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 711. Topics in Logic. 3 Credit Hours.

Problems in philosophical logic; non-standard logic.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 731. Seminar in Ethics. 3 Credit Hours.

Problems in normative ethics, meta-ethics, and value theory.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHI 736. Values, Norms, and Actions. 3 Credit Hours.

The role of values and norms in practical reasoning and decision making.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 742. Seminar in Epistemology. 3 Credit Hours.

Problems concerning knowledge: skepticism, belief, certainty, truth, and justification.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 744. Seminar in Philosophy of Mind. 3 Credit Hours.

Problems concerning mental phenomena: theories of perception, action, consciousness.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 747. Seminar in Philosophy of Language. 3 Credit Hours.

Nature and uses of language; concepts of reference, truth, and meaning.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 748. Philosophy of Science. 3 Credit Hours.

Selected topics in the philosophy of science, such as realism, explanation, and conceptual and methodological issues in the special sciences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 749. Seminar in Metaphysics. 3 Credit Hours.

Problems related to the nature and kinds of being.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 751. Seminar in Philosophy of Art. 3 Credit Hours.

Problems related to beauty and the philosophy of art.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 772. Seminar in Ancient Philosophy. 3 Credit Hours.

A discussion of selected topics in ancient philosophy.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 778. Idealism. 3 Credit Hours.

An examination of Idealism, both contemporary and historical.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 795. Seminar in Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 796. Seminar in Special Topics. 3 Credit Hours.

A selected philosopher or philosophical problem. May be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 798. Independent Study in Philosophy. 1-3 Credit Hours.

Directed reading on a topic or philosopher. May be repeated for credit.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHI 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PHI 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PHI 840. Post-candidacy doctoral dissertation. 1-6 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHI 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PHI 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Physical Science (PSC)

PSC 101. Physical Science. 3 Credit Hours.

An interdisciplinary course to provide the non-science major with an understanding of some of the methods, ideas and accomplishments of Physics, Astronomy, Chemistry, Geology, and their role in the development of civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

Physical Therapy (PTS)

PTS 518. Introduction to Pilates - Gateway. 1 Credit Hour.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

PTS 523. Myofascial Release. 1 Credit Hour.

Introduction to Myofascial Release technique in rehabilitation.

Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 604. Rehabilitation Technology For Physical Therapists. 1 Credit Hour.

This course will introduce current advancements in diagnostic and therapeutic equipment used by physical therapists in clinical practice. The emphasis will be on latest rehabilitation technology such as virtual reality, neural stimulation and rehabilitation robotics. Students will observe the equipment being used on patients, get a basic understanding of its operation and have an opportunity for hands-on learning.

Components: LEC.

Grading: CNC.

Typically Offered: Fall.

PTS 605. Physical Therapy Private Practice Management. 1 Credit Hour.

Course focuses on establishing a private physical therapy practice, including initial development through marketing and management.

Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 606. Issues in Women's Health: Gynecology. 1 Credit Hour.

Introduction to physical therapy practice for evaluation and treatment of pelvic floor dysfunction. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 607. Issues in Women's Health: Obstetrics, Osteoporosis and Breast Health. 1 Credit Hour.

Introduction to physical therapy practice for evaluation and treatment of problems related to pregnancy, osteoporosis, and other disorders specific to women. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 610. Introduction To Pilates - Gateway. 1 Credit Hour.

This course provides in-depth instruction in the use of Pilates Mat to supplement physical therapy practice. This course covers the history of Pilates and Polestar education, biomechanics, and the many uses of Pilates in physical practices, as well as instruction in 18 Pilates mat exercises. Students learn to perform and teach the exercises and 4 unique class sequences.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

PTS 611. Advanced Clinical Practice: Topics in Pediatrics. 1 Credit Hour.

The course will focus on advanced topics in pediatric physical therapy. Through lecture, seminar discuss and lab experiences, topics will include: typical and atypical development over the first year, and both motor and sensory integration examination and intervention strategies. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

PTS 612. Sports Physical Therapy. 1 Credit Hour.

An overview of the general aspects of sports physical therapy practice will be provided. Topics will include the various settings, evaluations, interventions, and techniques involved in Sports physical therapy practice. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 613. Advanced Clinical Practice: Evaluation And Treatment Of The Foot And Ankle. 1 Credit Hour.

This course will review the anatomy, normal and abnormal kinesiology/ biomechanics, pathology, imaging, of the foot and ankle and discuss Physical Therapy evaluation and intervention based on evidence based practice. It will include an introduction to evaluation and negative casting for orthotics and cadaver prosection review.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 614. Certified Strength and Conditioning Specialist Preparation (NSCA). 1 Credit Hour.

Evaluation and exercise planning of athletes to help them achieve their maximum physical performance without incurring injury. Case studies, a problem-solving approach, and integration of previously learned material are emphasized. Classroom instruction, exercise performance, video analysis, and case studies are utilized. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 615. Advance Clinical Practice: Taping for the Orthopedic Population.. 1 Credit Hour.

This seminar course is designed to introduce the participant to the concepts of taping for various musculoskeletal pathologies commonly seen in the athletic population. Athletic taping and kinesiotaping principles and uses in rehabilitation will be introduced. A lab component will allow participants to practice the various taping techniques demonstrated. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 616. Clinical Research I. 3 Credit Hours.

Principles, concepts, and basic skills required to conduct clinical research in physical therapy. Topics covered include research design, sampling, bias, reliability and validity, questionnaire design, statistical computing, conceptual review of literature and the preparation of a research proposal.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 617. Abdominal Anatomy. 1 Credit Hour.

Course analyzes abdominal anatomy emphasizing structure and function. Cadaver dissection is included. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 619. Pelvic Anatomy. 1 Credit Hour.

Course analyzes the anatomy of the human pelvic area. Cadaver dissection is included. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 620. Spanish For Physical Therapists I. 1 Credit Hour.

This course is designed to familiarize the physical therapy student with Hispanic cultures and assist the physical therapy student with developing basic communication skills with this population. Emphasis will be on using basic Spanish language to teach skills to or interview the Spanish speaking patient in a health care setting. In addition, knowledge of Hispanic cultures will be integrated into the development of verbal and nonverbal communication skills with this population.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 622. Introduction to Functional Capacity Evaluations. 1 Credit Hour.

This course introduces essential components of functional capacity evaluations and establishes entry-level proficiency. The emphasis will be on cardiovascular clearance and testing, material handling testing, positional tolerance testing, spinal inclinometry, and isometric reliability measures as identified through evidence-based practice and current research. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 623. Myofascial Release. 1 Credit Hour.

Introduction to Myofascial Release technique in rehabilitation. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 624. Miofascial Release II.. 1 Credit Hour.

A follow up to the introductory course MFR I. This course focuses on a review of bioenergy followed by practice of release techniques for trunk, extremities and head and neck. Cranial techniques and rebounding are also taught. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 625. Introduction To Dry Needling Theory And Technique. 1 Credit Hour.

Course introduces the participant to the concepts of dry needling, its neuro-functional principles, and its use in a physical therapy setting. Emphasis on comparing and contrasting dry needling to acupuncture, as well as the safety, indications and contraindications of dry needling. A lab component will allow participants to practice various introductory dry needling techniques. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 627. Gateway Pilates II. 1 Credit Hour.

This two-day Pilates course will teach how to provide four new basic Pilates Mat classes. A total of 18 Gateway 2 preparatory exercises and original Pilates Mat exercises will be taught. The instructor will provide ample experiences for real time practice of each of the 4 Pilates Mat sequences, and will provide feedback to each participant pertaining to additional training and practice to become proficient teachers of the Gateway Introductory Mat work.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 629. Evaluation And Treatment Of Spinal Dysfunctions 1. 3 Credit Hours.

This course provides an in-depth exploration of the evaluation and treatment of various dysfunctions of the spines. The lumbar and sacroiliac regions will be explored. Thorough evaluation procedures will be emphasized as they relate to specific diagnosis. Treatment for the respective diagnoses will include therapeutic exercise, soft tissue stretching, and postural re-education.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 630. Foundations of Physical Therapy. 3 Credit Hours.

Historical development, philosophical foundations and contemporary practice of physical therapist as educator, consultant, administrator, and model of healthy behaviors. Health as indicated by global fitness measures will be demonstrated and experienced. Medical terminology mastered. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 631. Gross Anatomy for Physical Therapy I. 3 Credit Hours.

Gross anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 632. Gross Anatomy for Physical Therapy II. 3 Credit Hours.

Gross Anatomy with emphasis on the musculoskeletal systems and a survey of other systems that are relevant to physical therapy practice. Cadaver dissection. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 633. Communication in Physical Therapy Practice. 2 Credit Hours.

Course provides an analysis of communication skills in physical therapy clinical practice. Emphasis is placed on instruction of patients and their families, supportive staff, and health care team members. In-depth examination of patient-therapist interactions is included. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 640. Foundations Of Neuroscience. 2 Credit Hours.

The human central nervous system with emphasis on structure-function relationships, and clinical applications. The brain, spinal cord, cranial nerves, tracts, and nuclei of major systems. Central nervous systems lesions and their clinical significance are discussed. Lecture and human dissection are included. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 641. Neuroscience II. 3 Credit Hours.

The central, peripheral, and autonomic nervous systems and their physiological responses to environmental stimuli. Normal systems are contrasted with abnormal systems. The clinical significance of altered neurophysiological states is discussed. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 642. Electrotherapy. 3 Credit Hours.

This course presents the physiological rationale, indications, contraindications and the application of electrical modalities, including electrical stimulation, thermal modalities, sound modalities, compressive devices, mechanical machinery, and light therapy.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 643. Medical Pathology Seminar I. 1 Credit Hour.

Lectures and seminar discussion of pathological conditions with particular emphasis on musculoskeletal disorders. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 644. Medical Pathology Seminar II. 1 Credit Hour.

Lectures and seminar discussion of pathological conditions with particular emphasis on neuromuscular disorders. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 645. Medical Pathology Seminar III. 1 Credit Hour.

Lectures and seminar discussion of pathology conditions with particular emphasis on integumentary disorders. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 646. Medical Pathology Seminar IV. 1 Credit Hour.

Lectures and seminar discussion of pathological conditions with particular emphasis on cardiorespiratory disorders. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 650. Pharmacology. 2 Credit Hours.

Basic principles of pharmacology and pharmacotherapeutics. Contemporary drug therapies and their effects on patients undergoing rehabilitation are discussed. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 670. Clinical Skills in Physical Therapy. 3 Credit Hours.

Decision making, documentation and beginning treatment skills in functional mobility and basic exercise and massage. Indications and contraindications of massage, basic active, active assisted, active resisted range of motion and isometric exercises are learned. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 671. Therapeutic Physiology. 2 Credit Hours.

Physiological effects of exercise and training for the healthy and diseased individual. The use of exercise for joint and muscle mobility, muscle strength, and cardiopulmonary function is included. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 672. Clinical Kinesiology and Biomechanics. 3 Credit Hours.

A study of musculoskeletal structure and function, physiological and biomechanical factor, and principles underlying the kinematics and kinetic of normal and abnormal human motion. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 674. Clinical Evaluation. 3 Credit Hours.

Basic evaluation skills for patients with various diseases and dysfunctions. Skills include clinical decision making, history taking, postural and functional assessment, surface palpation, manual muscle testing, and goniometric measurement. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 675. Clinical Decision Making I. 3 Credit Hours.

Introduction to physical therapy diagnosis, the disablement model, measurement of function screening, and the Physical Therapy Guide to Practice. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 695. Selected Topics in Physical Therapy. 1-3 Credit Hours.

Topics in contemporary physical therapy clinical practice with focus on specialty areas such as neonatal pulmonary care, balance/ vestibular dysfunction, geriatrics, pediatrics, obstetrics, and gynecology. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 706. Neurological Evaluation. 2 Credit Hours.

Comprehensive evaluation of the patient with neurological dysfunction. Emphasis is placed on decision making, differential diagnosis, selection, and interpretation of examination components. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 708. Human Gait and Locomotion. 2 Credit Hours.

Principles of human gait and locomotion, including normal and pathological gait, analysis of deviations, causes and specific treatments to address movement dysfunctions. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 710. Clinical Internship I. 2 Credit Hours.

First in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.

Components: CLN.

Grading: GRD.

Typically Offered: Fall.

PTS 711. Clinical Internship II. 2 Credit Hours.

Second in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.

Components: CLN.

Grading: GRD.

Typically Offered: Fall.

PTS 714. Neurorehabilitation. 3 Credit Hours.

Practice patterns and evidence-based practices in the treatment of individuals with neurological involvement are explored. Emphasis is placed upon the integration and application of theoretical constructs, prognostic indicators, examination and evaluation procedures, and therapeutic intervention strategies utilized by physical therapists in neurological rehabilitation.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 715. Rehabilitation of the Complex Patient. 3 Credit Hours.

Rehabilitation of the complex patient, including spinal cord injury, traumatic brain injury, multi-system, and multi-organ disease.

Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 717. Clinical Research II. 3 Credit Hours.

This course is a continuation of Clinical Research I that provides the student with continued guidance in the completion of the faculty led research project begun as part of Clinical Research I. A series of lectures also provide exposure to additional topics relevant to clinical research in Physical Therapy. Potential lecture topics include data analysis, design, error, philosophy of science, and research reporting. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 718. Physical Therapy Administration. 3 Credit Hours.

Course discusses physical therapy services, departmental policies and procedures, and personnel management. Issues relevant to clinical practice and the physical therapy profession are emphasized. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 720. Biomechanical Basis of Human Movement. 3 Credit Hours.

A study of the basic biomechanical principles underlying the kinetics and kinematics of normal and abnormal human motion as well as the measurement of human movement. Prerequisite: Open to Physical Therapy PhD majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 721. Measurement of Impairment and Function in Human Movement. 3 Credit Hours.

A study of measurement tools utilized in the analysis of normal and abnormal human motion. Prerequisite: Open to Physical Therapy PhD majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 722. Pathobiology of Human Function I. 3 Credit Hours.

Pathophysiology of musculo-skeletal processes that impair human function including skeletal muscle; skin, tendons, ligaments, cartilage; bone; and cardiorespiratory. Prerequisite: Open to Physical Therapy PhD majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 724. Cardio-Respiratory Physical Therapy. 3 Credit Hours.

The skills necessary for the evaluation and treatment of patients with various cardio-respiratory diseases and dysfunctions. Inpatient and outpatient cardiac and respiratory rehabilitation is included. Research on prevention of cardio-respiratory diseases and dysfunctions as it relates to evaluative, and therapeutic methods is also discussed. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 726. Therapeutic Exercise. 3 Credit Hours.

A holistic approach to the evaluation, treatment, and management of patients with various neuromuscular diseases and dysfunctions. Appropriate therapeutic exercises interrelated with modalities and self-help devices as well as individual investigation of respective neuromuscular diseases and dysfunctions are emphasized. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 727. Prosthetics and Orthotics. 3 Credit Hours.

A holistic approach to the evaluation and management of patients with amputations and spinal cord injuries. Appropriate therapeutic exercises interrelated with self-help appliances as well as individual investigation of respective amputation and spinal cord problems are emphasized. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 728. Musculoskeletal Examination and Treatment I. 3 Credit Hours.

In-depth examination of differential diagnosis of various extremity dysfunctions with principles of examining soft tissue, bony and post-surgical problems relevant to the shoulder, elbow, wrist/hand, hip, knee, ankle, and foot. Manual therapy/joint mobilizations for each joint will also be introduced. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 729. Management of the Spine. 3 Credit Hours.

The evaluation and treatment of various spinal dysfunctions. Review and investigation of the literature relevant to the sacro-iliac, lumbar, thoracic, cervical spines, and the head and neck. Clinical evaluation and treatment procedures is included. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 730. Pediatric Physical Therapy. 2 Credit Hours.

An overview of factors and issues related to examination and treatment of children by physical therapists. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 731. Geriatric Physical Therapy. 2 Credit Hours.

An overview of factors and issues related to examination and treatment of older individuals by physical therapists. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 743. Measuring Health Outcomes. 3 Credit Hours.

An in depth analysis of the use and construction of health outcome measures. Topics covered include creating and selecting items, scaling responses, scale construction, response bias, reliability, validity, responsiveness and methods of administration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 744. Integrated Sports and Leisure. 3 Credit Hours.

Course promotes the integration of able-bodied students with the physically challenged by working together to learn common recreational activities. Sailing and camping activities are used as an educational tool for able-bodied students to learn the capabilities, physical resources, and assistance required by physically challenged individuals. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 745. Integumentary Disorders and Treatment. 2 Credit Hours.

Basic and advanced principles regarding the integumentary system and related disorders, as well as principles of wound healing and wound care therapies. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 748. Musculoskeletal Examination and Treatment II. 3 Credit Hours.

Advanced examination, evaluation, functional assessment and treatment of patients in selected specialty areas of musculoskeletal physical therapy, with emphasis on functional outcomes and evidence based treatment throughout the life span. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 755. Neuromuscular Basis of Movement. 3 Credit Hours.

Concepts of neuromuscular production and regulation of movement with emphasis on neurophysiologic substrates and mechanisms underlying motor behavior. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 760. Theories of Movement Science. 3 Credit Hours.

An in-depth review of classical theories and recent research in the movement sciences, to include the study and analysis of system theory and neurobiological substrates. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 761. Motor Learning. 3 Credit Hours.

The factors relating to, and affecting, the acquisition and performance of motor skills. Qualification of skill acquisition and performance are explored. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 762. Advanced Topics in Neurodevelopment. 3 Credit Hours.

Classical research and systems models of neurodevelopment is reviewed, analyzed, and related to current research on various areas of human development throughout the lifespan. PREREQUISITE: For Physical Therapy PhD students only.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 764. Seminars in Neuroscience. 3 Credit Hours.

This course explores the role and organization of the key units of the central and peripheral nervous systems at the molecular and cellular levels. The integrated functional physiology of systems neuroscience and behavioral neuroscience will be studied with special emphasis on neural contributions to involuntary and voluntary motor functions, perception, cognition, and learning. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 765. Health Promotion and Disease Prevention. 2 Credit Hours.

The role of physical therapists in health promotion and disease prevention. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

PTS 766. Rehabilitation of the Amputee. 3 Credit Hours.

This course examines the scientific evidence related to the evaluation, treatment and management of clients who require intervention for diabetic foot and/or dysvascular limb potentially leading to amputation, amputation surgery, prosthetic appliances, functional assessment and amputee rehabilitation. Upper limb prosthetic management will also be examined. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 767. Prosthetic Technology and Amputee Rehabilitation. 3 Credit Hours.

This course examines the current scientific evidence related to prosthetic devices with regard to evaluation, fabrication, materials, fitting and functional outcomes. Emphasis is on state-of-the-art technology and the future of prosthetic designs. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 768. Rehabilitation Engineering and Assistive Technology. 3 Credit Hours.

This course is designed for graduate students interested in developing an understanding of complementary roles of clinicians and engineers in assisting individuals with disabilities in all areas of life. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 769. Seminars in Orthotics and Prosthetic Rehabilitation. 3 Credit Hours.

Examination of current scientific evidence and clinical issues related to upper and lower limb amputees, and prosthetic and orthotic componentry and related technology. Students will discuss case studies and design appropriate devices to address the needs of the individuals in the cases. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 770. Education Principles In Physical Therapy. 1 Credit Hour.

Principles of education, direction and supervision pertaining to physical therapy patient care management. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 771. Complementary Therapies in Rehabilitation. 2 Credit Hours.

Historical development and evidence-based approach to complementary therapies in rehabilitation. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 774. Educational Administration in Physical Therapy. 3 Credit Hours.

Review of history and current issues in educational administration of physical therapy programs at the entry-level and post-graduate level. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 775. Clinical Decision Making II. 3 Credit Hours.

Integration of basic science and clinical science in developing a patient plan of care, with consideration of ethical, psychological, and economic factors. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 777. Instructional Methods in Physical Therapy Education. 3 Credit Hours.

Overview of research in the professional education field, with specific applications to physical therapy academic and clinical education. Emphasis is placed on curriculum development, competency-based instructional design, testing, and instructional evaluation methods. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 778. Teaching Practicum. 1-3 Credit Hours.

Supervised instructional design, teaching and evaluation of entry level physical therapy students. Students participate as course instructors in entry-level master's degree physical therapy curriculum. PREREQUISITE: For Physical Therapy PhD students only.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 784. Human Neuroanatomy. 3 Credit Hours.

Detailed exploration of the human nervous system with an emphasis on structure-function relationship and clinical applications. This course is designed for Physical Therapy graduate students with an interest in a professional career in teaching the anatomical sciences to students of the health professions including medical students. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PTS 785. Medical Diagnostic Tests. 2 Credit Hours.

Basic principles of medical diagnostic tests commonly encountered in physical therapy. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 790. Physical Therapy Diagnosis. 3 Credit Hours.

Study of the integration of didactic knowledge, clinical skills, and intuitive process into the formation of a clinical diagnosis which will direct treatment in physical therapy. Diagnosis as a process is compared to diagnosis in nursing, psychiatry, and medicine, and distinguished from assessment, examination, and screening. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 791. Role Seminar 1: Academic Leadership. 1 Credit Hour.

Introduction to the faculty roles in an institution of higher education, including faculty development and evaluation systems, educational leadership, and student advising.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

PTS 792. Role Seminar 2: Research. 1 Credit Hour.

Initiation of a research career and dynamics of research role development within an institution. Focus is on grant writing, funding sources, and proposal development.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

PTS 795. Clinical Research Methods I. 3 Credit Hours.

An overview of measurement and sampling issues pertaining to clinical research in Physical Therapy. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 796. Applied Statistics in Physical Therapy. 3 Credit Hours.

Basic Statistics taught from an applied perspective which includes statistical computing using SAS in a mainframe environment and interpretation of SAS output. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PTS 797. Clinical Research Methods II. 3 Credit Hours.

A course focusing on issues in research design and analysis pertaining to clinical research in Physical Therapy. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PTS 798. Research Practicum. 3 Credit Hours.

Practicum designed to familiarize the student with an area of research, to implement a pilot study in an area of interest, and to develop working relationship with a sponsoring faculty member. PREREQUISITE: For Physical Therapy PhD students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 799. Independent Study in Physical Therapy. 1-3 Credit Hours.

Each course is designed to meet the needs of graduate students for in-depth study in a particular area of special interest. Prerequisite: Open to Physical Therapy majors only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 802. Special Internship. 1-3 Credit Hours.

Supervised clinical education emphasizing clinical skills. PREREQUISITE: For Physical Therapy Majors Only.

Components: CLN.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

PTS 803. Clinical Internship Iii. 2 Credit Hours.

Third in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.

Components: CLN.

Grading: SUS.

Typically Offered: Spring.

PTS 804. Clinical Internship Iv. 2 Credit Hours.

Fourth in a series of supervised clinical education experiences emphasizing the mastery of clinical skills and professional behaviors across patient care settings. This is an 8-week clinical internship.

Components: CLN.

Grading: SUS.

Typically Offered: Spring.

PTS 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the Master's Degree after the student has enrolled for the permissible cumulative total in PTS 710. Credit not granted. May be regarded as full time residency.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 830. Pre-candidacy Dissertation.. 1-6 Credit Hours.

To be used for pre-candidacy PhD dissertation research. PREREQUISITE: For Physical Therapy PhD students only.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PTS 840. Post-candidacy Dissertation.. 1-12 Credit Hours.

The student will enroll for credits as determined by his/her advisor, but not for less than a total of 12. No more than six hours may be taken in a regular semester, nor more than three in a summer session. When a student has passed his/her qualifying exams and is engaged in an assistantship, he/she may still take the maximum allowable credit stated above. PREREQUISITE: For Physical Therapy PhD students only.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PTS 843. Measuring Health Outcomes. 3 Credit Hours.

An in depth analysis of the use and construction of instruments designed to measure health outcomes. Topics covered include creating and selecting items, scaling responses, scale construction, response bias, reliability, validity, measuring change, and methods of administration.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PTS 850. Research in Residence. 1 Credit Hour.

To establish residence for the PhD, or DPT, after the student has been enrolled for the permissible cumulative total in appropriate doctoral research or clinical practice. Credit not granted, may be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Physics (PHY)

PHY 101. College Physics I. 4 Credit Hours.

Elementary mechanics, thermal phenomena, fluids, waves. Courses 101-102-106-108 provide a ten credit 'physics with lab' sequence for premedical students and others.

Prerequisite: MTH 105 or higher. Corequisite: PHY 106.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 102. College Physics II. 4 Credit Hours.

Electromagnetism, optics, and modern physics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 103. General Physics. 3 Credit Hours.

Mechanics, waves, electromagnetism.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 106. College Physics Laboratory I. 1 Credit Hour.

Laboratory course to accompany PHY 101.

Corequisite: PHY 101.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 108. College Physics Laboratory II. 1 Credit Hour.

Laboratory course to accompany PHY 102.

Prerequisites: PHY 102 or PHY 202. Or Corequisites: PHY 102 or PHY 202.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 110. Descriptive Astronomy. 3 Credit Hours.

For students not majoring in Mathematics or a Physical Science. brief non-technical treatment of the universe and its contents. Mathematical requirements are minimal with emphasis on our present knowledge about energy and matter in space. Not for major or minor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 160. Physics of the Arts. 3 Credit Hours.

Newtonian mechanics, energy, wave motion, atoms, and electricity. Applications to music, art and communications.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 201. University Physics I. Life Sciences. 4 Credit Hours.

Calculus based introductory physics: mechanics, heat, fluids, waves, with applications from the life sciences.

Prerequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 202. University Physics II - Life Sciences.. 4 Credit Hours.

Calculus based introductory physics: electromagnetism, optics, modern physics, with applications from the life sciences.

Prerequisite: PHY 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

PHY 205. University Physics I. 3 Credit Hours.

Mechanics through gravity and harmonic motion, intended for science and engineering students.

Prerequisites: MTH 151, MTH 161, MTH 171 or MTH 141. Or Corequisites: MTH 151 WITH a "B" IN MTH 105 or MTH 108 or Placement into Calculus by MTH Placement Exam. Or Corequisites: MTH 141 OR MTH 161 and Permission Of Physics Advisor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 206. University Physics II. 3 Credit Hours.

Fluids, waves, optics, thermal phenomena.

Prerequisite: PHY 205, MTH 162 or MTH 172. Or Corequisite: MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 207. University Physics III. 3 Credit Hours.

Electromagnetism through Maxwell's equations.

Prerequisite: PHY 205, and MTH 162 or MTH 172.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 208. University Physics II Lab. 1 Credit Hour.

Laboratory to accompany PHY 206.

Prerequisite: PHY 206. Or Corequisite: PHY 206.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 209. University Physics Iii Lab. 1 Credit Hour.

Lab to accompany PHY 207.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PHY 210. Honors University Physics II-III. 5-6 Credit Hours.

Fluids, waves, optics, thermal phenomena, electromagnetism. Combines PHY 206 and 207.

Prerequisites: PHY 205, MTH 162 or MTH 172. Requisite: Written Permission from the Physics Department.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 295. Transfer Credits. 1-5 Credit Hours.

Special topics taken at other institutions but having no direct equivalents here.

Components: LEC.

Grading: GRD.

PHY 300. Challenges in Biological Physics. 3 Credit Hours.

The research interface between physics and biology; discussion of current research in biology being done by physicists. New analytical tools and techniques that apply to this interdisciplinary interface and new features of biological systems that can be addressed with them.

Components: LEC.

Grading: GRD.

PHY 306. Intermediate Laboratory. 1 Credit Hour.

Laboratory: a review of some of the fundamental experiments in classical and modern physics.

Prerequisites: PHY 209 or PHY 360. Or Corequisite: PHY 360.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

PHY 315. Mathematical Tools for Physics. 3 Credit Hours.

How to use mathematics. Series, complex algebra, vector analysis, differential equations, etc.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 321. Thermodynamics and Kinetic Theory. 3 Credit Hours.

An intermediate course in thermal phenomena, from both macroscopic and microscopic points of view.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 340. Classical Mechanics I. 3 Credit Hours.

Includes harmonic motion, orbit theory, coupled oscillations, rigid body motions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 350. Intermediate Electricity and Magnetism. 3 Credit Hours.

Includes the integral and differential forms of Maxwell's equations, circuit theory, and boundary value problems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 351. Intermediate Electricity and Magnetism II. 3 Credit Hours.

A continuation of PHY 350. Includes further application of Maxwell's equations with emphasis on radiation theory.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 360. Introduction to Modern Physics. 3 Credit Hours.

Emphasis on the experimental foundations of modern physics. Relativity, quantization, atomic structure, radiation, nuclei.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 362. Modern Physics Honors Seminar. 1 Credit Hour.

Special Topics to accompany PHY 360. Co-requisite: PHY 360.

Corequisite: PHY 360.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 401. Senior Thesis. 3 Credit Hours.**Components:** THI.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHY 402. Senior Thesis. 3 Credit Hours.****Components:** THI.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHY 500. Research. 1-3 Credit Hours.**

Project course introducing methods of research, individual investigation of current problems.

Components: THI.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHY 506. Advanced Laboratory. 1-2 Credit Hours.**

Advanced experiments such as properties of the electron, optical spectra, electrical measurements, radioactive decay, absorption, etc.

Components: LAB.**Grading:** GRD.**Typically Offered:** Spring.**PHY 513. Mathematical Techniques in Physics. 3 Credit Hours.**

Complex variables and applications. Infinite series and their uses, particularly in differential equations. Multiple integrals and Fourier series.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**PHY 516. Readings in Physics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**PHY 517. Readings in Physics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Spring.**PHY 518. Readings in Physics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHY 522. Solid State Physics. 3 Credit Hours.**

Crystal structure, quantum theory of the electronic structure of solids, mechanical, electric, magnetic and optical properties of solids.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHY 530. Plasma Physics I. 3 Credit Hours.**

Kinetic theory of plasmas, adiabatic motion of charged particles magneto fluid dynamics, transport properties of plasmas in electromagnetic fields.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHY 540. Classical Mechanics II. 3 Credit Hours.**

Lagrangian formulation, rigid body dynamics. Topics selected from fluid dynamics, non-linear oscillations, normal modes, phase plane analysis.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**PHY 545. Introduction to Astrophysics. 3 Credit Hours.**

Celestial mechanics, solar models, galaxies, distance scales, instruments.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHY 552. Optical Physics. 3 Credit Hours.**

Geometric optics, interference and diffraction, polarized light, optical pumping, coherence phenomena, applications to modern physical research.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**PHY 560. Quantum Mechanics and Modern Physics I. 3 Credit Hours.**

Introductory theory with applications to simple systems. Perturbation theory and atomic structure.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**PHY 561. Quantum Mechanics and Modern Physics II. 3 Credit Hours.**

Applications of quantum mechanics to atomic and molecular spectroscopy, quantum statistical mechanics, and nuclear physics.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**PHY 606. Advanced Laboratory. 1-2 Credit Hours.**

Advanced experiments such as properties of the electron, optical spectra, electrical measurements, radioactive decay, absorption, etc.

Components: LAB.**Grading:** GRD.**Typically Offered:** Spring.**PHY 613. Mathematical Techniques in Physics. 3 Credit Hours.**

Complex variables and applications. Infinite series and their uses, particularly in differential equations. Multiple integrals and Fourier series.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**PHY 616. Readings in Physics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**PHY 617. Readings in Physics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Spring.**PHY 618. Readings in Physics. 1-3 Credit Hours.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

PHY 622. Solid State Physics. 3 Credit Hours.

Crystal structure, quantum theory of the electronic structure of solids, mechanical, electric, magnetic and optical properties of solids.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 630. Plasma Physics I. 3 Credit Hours.

Kinetic theory of plasmas, adiabatic motion of charged particles magnetofluid dynamics, transport properties of plasmas in electromagnetic fields.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 640. Classical Mechanics II. 3 Credit Hours.

Lagrangian formulation, rigid body dynamics. Topics selected from fluid dynamics, non-linear oscillations, normal modes, phase plane analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 645. Introduction to Astrophysics. 3 Credit Hours.

Celestial mechanics, solar models, galaxies, distance scales, instruments.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 652. Optical Physics. 3 Credit Hours.

Geometric optics, interference and diffraction, polarized light, optical pumping, coherence phenomena, applications to modern physical research.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 660. Quantum Mechanics and Modern Physics I. 3 Credit Hours.

Introductory theory with applications to simple systems. Perturbation theory and atomic structure.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PHY 661. Quantum Mechanics and Modern Physics II. 3 Credit Hours.

Applications of quantum mechanics to atomic and molecular spectroscopy, quantum statistical mechanics, and nuclear physics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PHY 701. Condensed Matter Physics Seminar. 1 Credit Hour.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 713. Methods of Mathematical Physics I. 3 Credit Hours.

A continuation of PHY 515.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 717. Special Topics in Physics. 1-3 Credit Hours.

Topics are typically selected from fluid dynamics, applied mathematics, particle theory, nuclear physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 718. Special Topics in Physics. 1-3 Credit Hours.

Topics are typically selected from fluid dynamics, applied mathematics, particle theory, nuclear physics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 722. Advanced Solid State Physics. 3 Credit Hours.

Electronic structure, electron-electron interactions, phonons, many-body problems, transport properties, magnetism, superconductivity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 723. Statistical Mechanics I. 3 Credit Hours.

Equilibrium state, irreversibility, statistical description of an ensemble, entropy, partition functions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 724. Statistical Mechanics II. 3 Credit Hours.

Statistical description of many body problems, specific heats, Brownian motion in liquids and fields, non-equilibrium states, super-conductivity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 752. Electromagnetic Theory 1. 3 Credit Hours.

Electrostatics, magnetostatics, Maxwell's equations, continuous media, waves, antennas, resonant cavities, wave guides.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 753. Electromagnetic Theory II. 3 Credit Hours.

Relativistic effects, interaction of radiation with matter, multiple radiation, radiation reaction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 766. Elementary Particles. 3 Credit Hours.

The Standard Model of elementary particles. Classical theory of fields for spin 0, 1/2, 1; Feynman rules. The Standard Model Lagrangian is postulated, and some of its basic consequences are explored.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 770. Quantum Theory I. 3 Credit Hours.

Transformation theory, linear operators and vector spaces. Schrodinger's equation, rotation group and angular momentum, statistics (Bose-Einstein and Fermi-Dirac), isotopic spin, multiple structure of levels, approximation methods.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 771. Quantum Theory II. 3 Credit Hours.

One particle relativistic theory; Lorentz group; symmetries of particles; elementary scattering theory; many body problems; Green's function techniques; S-matrix.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 780. Directed Readings or Research. 1-4 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PHY 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

PHY 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PHY 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PHY 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHY 730 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PHY 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PHY 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

PHY 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Political Science (POL)

POL 100. Introduction To American National Government. 3 Credit Hours.

As one of the most influential intellectuals of the 20th century, John Rawls has become a point of reference in debates in philosophy, international relations, and political science. We will study Rawls' major works, and critiques of those writings.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 199. UMinDC Introduction to American National Government. 6 Credit Hours.

Introduction to American national government taught in Washington DC as part of the UM in DC program. Includes excursions and guest speakers active in politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 200. Introduction to World Politics. 3 Credit Hours.

Evolution of the state system. Comparative analysis of political and economic systems; introduction to major theories of governance. Forces of integration and disintegration; the global political economy; and environmental considerations.

Requisite: Plan of Summer Scholar Program.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 201. Introduction to American National Government. 3 Credit Hours.

Examination of the principles, structures, and processes of the national government of the United States. Frequent comparisons made with others countries.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 202. Introduction To Comparative Politics. 3 Credit Hours.

This course introduces students to study of comparative and international politics by examining how conflicts over these issues have played out in several different countries around the world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 203. Introduction to International Relations. 3.00 Credit Hours.

Introduction to the theory and practice of international relations. Analyzes the modern state system; globalization; diplomacy and negotiation, balance of power considerations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 213. Government and Society. 3 Credit Hours.

Examination of such key issues as the role of business in society, the nature of corporate responsibility, business ethics practices, and the interactive roles of government and business in a global society. Not for major or minor credit.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 250. Scope and Methods of Political Science. 3 Credit Hours.

The basic skills needed in political science to critically read academic journal articles and books. The application of scientific methods to the study of public life, focusing on research design and introducing students to the various methodologies used by researchers to draw descriptive and causal inference about the political world. Some methods introduced include ethnography, experimentation, the case study, and survey research.

Prerequisite: POL 199 or POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 300. The Politics of Growth Management. 3 Credit Hours.

An analysis of growth management policies and techniques. Topics include urban environmental issues, development of growth management policies, and growth management planning techniques.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 301. The Science And Practice Of Political Research. 3 Credit Hours.

Exposes students to the way in which scientific knowledge of political phenomena is currently created and evaluated.

Prerequisite: POL 201 or POL 202 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 302. Political Fiction and Film. 3 Credit Hours.

Politics as presented in films and in relevant texts such as novels and biographies.

Prerequisite: POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 305. Introduction To Political Theory. 3 Credit Hours.

Politics is organized behavior shaped by power. This brief, stripped-down, and pragmatic definition is what we will use in gaining access to the political philosophers we will study in this course. Students will have a greater understanding of arguments and texts in political philosophy.

Prerequisite: POL 199 or POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 306. Positive Political Theory. 3 Credit Hours.

Introduction to positive political theory as a study of politics using quantitative methods such as game theory, laboratory experiments, and computer simulation. The political agents involved in a given interaction are modeled as rational players guided by self-interest whose behavior can be formally explained or predicted.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 307. Political Ideologies. 3 Credit Hours.

Covers modern and contemporary political ideologies, such as Liberalism, Conservatism, and Marxism.

Prerequisite: POL 199 or POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 308. Security, Globalization, and Human Rights.. 3 Credit Hours.

Tracks the roles of power and morality in the political cultures of Great Britain, including the use of force in national security policies, the moral and political framing of global terrorism, the deployment of human rights to address recent global issues (like genocide), and the influence of religion in contemporary British politics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 309. American Political Thought. 3 Credit Hours.

This class traces the evolution of democratic thinking in America. Topics include the meaning of representation, citizenship, equality and liberty.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 310. God, Science, and Politics. 3 Credit Hours.

A study of morality and religion that addresses the competing influences of material and spiritual discourses on political regimes and practices.

The talking points for the course include the various proofs and refutations offered throughout history of God's existence, the differences and similarities of scientific and religious approaches to experience, and the ways in which moral and religious principles enlighten politics as they fold into the vocabularies of natural law and right, and contaminate the political with religious violence in the name of God.

Prerequisite: POL 199 or POL 201 or POL 202 or POL 203 or INS 101 or REL 101 or PHI 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 311. Conspiracy Theories And The Public. 3 Credit Hours.

Why do people believe in conspiracy theories? This inter-disciplinary course examines a variety of explanations for conspiratorial beliefs.
Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 313. The Constitution. 3 Credit Hours.

This course examines the US Constitution from a political and historical prospective. This is a writing intensive course.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 314. Legislative Processes. 3 Credit Hours.

Examination and analysis of the United States Congress. Emphasis on internal structure and operations, congressional roles and procedures, party leadership, external influences on congress, and incentives for congressional behavior.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 315. American Presidency. 3 Credit Hours.

Historic development of presidential power; sources of the powers of the modern presidency, institutional decision-making; how and to what degree presidential power should be controlled.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 320. Politics Of Growth Management. 3 Credit Hours.

The purposes and techniques of managing growth in our urban areas. Conducted as a seminar with lectures by the instructor augmented by class discussion.

Prerequisite: POL 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 321. Public Policy And Administration. 3 Credit Hours.

The purpose of this course is to instruct students in the problems and processes in the implementation of public policy at an introductory level.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 322. Environmental Politics and Policy. 3 Credit Hours.

Examines the federal government's policies toward the National Forests and public grasslands; water supply policies and politics of the Everglade and Far West ; global warming; U.S. air and water pollution policies and politics as well as those related to waste management; U.S. energy policies; and trade and the environment.

Prerequisite: POL 199 or POL 201, and POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

POL 323. Global Warming, Politics and the European Union. 6 Credit Hours.

The European Union (EU), and especially France to ecologically modernize their advanced economies. The course will treat the EU effort to fashion an international agreement on climate change. This class in conducted in Paris, France.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 332. Mass Media and Politics. 3 Credit Hours.

Role of media in American politics. Historical development of the media from newspapers, through radio, to television and new media such as the internet. Changing norms of news media reportage. The growth of political advertising both during and between elections; the effects of these developments on American government and on the public.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 334. Campaigns. 3 Credit Hours.

Students learn about political campaigns by becoming involved in an active campaign and studying the academic literature about elections and campaigns. Topics are media, campaign organization, voters, issues, political parties, elections, and the five elements of every campaign.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 335. Local Government. 3 Credit Hours.

Examination of city and county governments and politics. Focuses on structures, leadership, taxing and spending, the influence of state and federal governments, and "hot-button" issues of importance to South Florida communities.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 337. International Law and Organizations. 3 Credit Hours.

This course focuses on the interaction of states through various legal regimes. We will consider the role of international law and organizations in politics, and the political implications of both criminal and civil international law from the perspective of the state, the individual, and non-governmental actors. Readings, lectures, class discussions, and examinations will familiarize the students with the parameters and limitations as well as the policy and practice of international law.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 341. Nationalism, Ethnicity, and Political Conflict. 3 Credit Hours.

Examines theories of ethnic and national conflict focusing on contemporary issues throughout the world.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 342. State and Local Government and Politics. 3 Credit Hours.

State constitutions, political parties, legislatures, executives court systems, administrative systems and services, financial problems, city and county governments, local-state, federal-state and interstate relations. Special emphasis on governments in Florida.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 343. Government In Metropolitan Areas. 3 Credit Hours.

This course will introduce the student to the organization and functions of counties and municipalities in the United States. On occasion guest speakers will be featured. We will examine Miami-Dade County as a concrete example of the course content.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 344. Gender and Politics. 3 Credit Hours.

Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality & reproductive health, gender-based violence, work & the family, and access to education.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 345. The United States and Asia. 3 Credit Hours.

Political, economic, and security aspects of America's relations with the Asian-Pacific area. Trade and alliance relationships. Actions and interactions of Asian states, their alignments with each other; the impact of these alignments on their relationships with the United States and in the global balance of power.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 346. U.S.-Latin American Relations. 3 Credit Hours.

Systematic survey of U.S.-Latin American relations highlighting contending paradigms in the study of hemispheric relations. Examines issues in East-West and North-South relations and political economy of Brazil, Mexico, and Argentina. Considers alternative U.S. foreign policies.

Prerequisite: POL 202 or POL 203, and INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 347. American Foreign Policy. 3 Credit Hours.

This course investigates how American primacy came to be, what its consequences are, and what will drive American foreign policy in the future. Students use social science to evaluate claims and understand the world, improve their ability to advance and defend arguments, and develop a broad base of knowledge about American foreign policy history and issues.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 348. United States Relations with the Middle East. 3 Credit Hours.

Evolution of American relations with the Middle East. Analysis of the motivations and calculations, including domestic and external sources of policy-making and implementation. Emphasis on post-World War II period, with particular attention to the current administration.

Prerequisite: POL 199 or POL 201, and POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 349. U. S. Defense Policy. 3 Credit Hours.

Examination of key problems of national security in the post-Cold War environment. Emphasis on the structure and functioning of the US defense establishment and its interactions with its most probable adversaries and allies. Consideration of the constraints on, and options open to, policy planners, and with the institutional elements of the decision making process.

Prerequisite: POL 199 or POL 201, and POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 351. Public Opinion. 3 Credit Hours.

Political functions of public opinion; opinion dynamics in the U.S.A.; quantitative analysis of elements in opinion change; principles of political control via mass media in the U.S.A.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 352. Political Parties. 3 Credit Hours.

Analysis of political organizations and electoral processes in the United States: their history, current status, and present trends. Consideration of the organization, control, and finances of political parties and pressure groups, their characteristic practices, and their relationship to political democracy.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 353. Interest Groups and Lobbying. 3 Credit Hours.

Analysis of lobbying and political interest groups in the United States; history, current status, and present trends. The organizations, control, and finances of pressure groups, their characteristic practices, and their relationship to democracy. Also, lobbying by citizens and groups more broadly, including the role of campaign contributions.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 354. The CIA and the World of Intelligence. 3 Credit Hours.

What the CIA does, how it does it, and the ways in which the CIA works with other intelligence agencies. Topics explored include: notable intelligence successes and failures, key intelligence issues, and ethical debates about intelligence activities including covert action.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 360. Congressional Representation. 3 Credit Hours.

Examination of how and when citizens influence legislators' behavior. How legislators' floor behavior reflects citizens' preferences and how these preferences influence the formation of electoral coalitions.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 367. The Historical Roots of American Imperialism. 3 Credit Hours.

Examines the assertive and exploitative aspects of U.S. foreign policy.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 370. Global Energy Politics. 3 Credit Hours.

Energy use throughout history has shaped humanity's politics and economics; the politics of the depletion of fossil fuels; global warming; "green" alternative energies: solar; wind; waves; civilian nuclear power.

Prerequisite: POL 201 or POL 203.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 372. Introduction to Criminal Justice. 3 Credit Hours.

Selected topics in criminal law with an emphasis on constitutional criminal procedure and post 9/11 developments in federal criminal law: constitutional principles covering investigation and arrest, racial profiling, warrant-less searches, controversial interrogation techniques, rights of "enemy combatants" and the imposition of capital punishment.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 373. Constitutional Law I. 3 Credit Hours.

A study of the development of the principles of American Constitutional Law, with a course focus upon those constitutional principles developed from the original document. Areas of study include judicial review, separation of powers, the Commerce Clause, the Contract Clause, and the Due Process Clauses.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 374. Constitutional Law II. 3 Credit Hours.

This course will cover some of the 27 amendments to the U.S. Constitution. It will mainly focus on the constitutional limits placed on the national and state governments by the Bill of Rights and the Fourteenth Amendment. This study of the historical, political and legal development of constitutional law in the area of civil liberties will be done in large part by reading and discussing the major U.S. Supreme Court opinions related to these amendments and others.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

POL 380. Comparative Political Analysis. 3 Credit Hours.

An introduction to the techniques of comparative political analysis by applying major social scientific arguments to the question: Why do some countries develop stable democracies and others do not? Students will pursue their own research projects seeking to answer this question in the context of a country or countries of their choice.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 381. West European Politics (Previous Title: European Politics and Government). 3 Credit Hours.

Examination of political and economic developments in western European countries.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 382. Government and Politics of the Federal Republic of Germany. 3 Credit Hours.

An examination of Germany's political system, its political parties, and the country's economic, social and foreign policies.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 384. Postcommunist Russian Politics. 3 Credit Hours.

Examines the demise of the USSR and the tumultuous post-communist transition in Russia from Gorbachev to Putin and Medvedev. The foundations of state power, the political party system, civil society, petro-state capitalism, endemic corruption, current politics, and Russian nationalism are examined through the lens of western and Russian political science theories.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 385. Politics and Society in Latin America. 3 Credit Hours.

Introduction to the politics of Latin American countries focusing on 20th century history, the impact of the Cold War and home-grown social struggles, economic development models, the difficulties of democratic consolidation, U.S.- Latin America relations, the emergence of new political actors such as women's and indigenous movements, and current political constellations. The course combines a study of thematic issues with case studies.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 386. Democratic Consolidation. 3 Credit Hours.

Explore the general concept of "democratic consolidation" which has become a timely topic in the discourse of today's foreign policy. We will examine the central theoretical concepts that frame the discourse and then examine several case studies.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 387. Politics of the Middle East. 3 Credit Hours.

Comparative analysis of the political development of the Middle East in terms of nations and as a region. Particular stress is on the relationships within the region and with other regions of the world.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 388. Politics Of Israel. 3 Credit Hours.

It is the purpose of this course to examine the Israeli system. Three themes will structure this investigation. The first considers the complex, and evolving, identity questions and politics that attend Jewishness, Zionism and being Israeli. The second investigates legitimacy, the nature and dynamics of the Israeli political system. And the third engages the multidimensional nature of Israeli security.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 389. Special Topics in Comparative Politics. 3 Credit Hours.

A lecture course in Comparative Politics, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 390. Special Topics in American Politics. 3 Credit Hours.

A lecture course in American Politics, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 391. Special Topics in International Relations. 3 Credit Hours.

A lecture course in International Relations, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 392. International Terrorism. 3 Credit Hours.

Study of phenomenon of low-intensity warfare known as international terrorism in all its variations: state, state-sponsored, state-supported, domestic revolutionary terrorism and counter-terrorism. Also examines governmental policies of countering terrorism.

Prerequisite: POL 202 or POL 203, and INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 393. Special Topics in Public Administration, Policy, and Law. 3 Credit Hours.

A lecture course in Public Administration, Policy, and Law, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 201.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 394. Special Topics in Political Theory and Methods. 3 Credit Hours.

A lecture course in Political Theory and Methods, designed to give the student a greater degree of knowledge of a particular subject within this subfield. This topic may be repeated for credit.

Prerequisite: POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 395. Transfer Credit In Political Theory And Methods. 1-9 Credit Hours.

Course for which there is no direct UM equivalent.

Components: LEC.

Grading: GRD.

POL 396. TRANSFER CREDIT IN PUBLIC ADMINISTRATION, POLICY, AND LAW. 1-9 Credit Hours.

Interdisciplinary workshops will treat different policy issues with a view toward developing a theory of deliberate social change. The scenario will include the stance and role of the change agent and the institutional forms involved in changing urban settings.

Components: LEC.

Grading: GRD.

POL 397. Transfer Credits In International Relations. 1-9 Credit Hours.

Course for which there is no direct UM equivalent.

Components: LEC.

Grading: GRD.

POL 398. Transfer Credit In Comparative Politics. 1-9 Credit Hours.

Course for which there is no direct UM equivalent.

Components: LEC.

Grading: GRD.

POL 399. Transfer Credit In American Politics. 1-9 Credit Hours.

Course for which there is no direct UM equivalent

Components: LEC.

Grading: GRD.

POL 400. The 2012 Election. 3 Credit Hours.

An interdisciplinary approach to the 2012 elections. Topics include voter turnout, campaign strategy, racial politics, and voting laws.

Components: LEC.

Grading: GRD.

POL 401. The Election. 3 Credit Hours.

In a democracy, the actions of the government are based on the wishes of the citizenry. We will examine the vital role that elections play in in this process, specifically focusing on the issues and events surrounding the on-going elections.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 491. Immigration Reform And The 2014 Election. 3 Credit Hours.

This is a unique experience that will include high-profile guest speakers. The course encourages active student participation through social media. We will examine the debate on immigration including both documented and undocumented workers. The course examines the impact of recent waves of immigration on U.S. society, market, workforce, education, media, culture, healthcare, and law enforcement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 499. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 501. Budget and Financial Management and Administration. 3 Credit Hours.

Role of the budget in shaping public policy; managing public revenues; budgetary theory, politics, and fiscal management. Examples from state, municipal and federal governments.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 506. From Plato Through Rawls. 3 Credit Hours.

Political thought of the past with more recent insights and concepts, often drawn from the work of theorists who question what is taken for granted in traditional political theory.

Prerequisite: POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 507. Politics, Sociology, & Economy in Contemporary Brazil. 3 Credit Hours.

Examines the social, economic, and cultural transformations shaping contemporary Brazilian politics.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 510. Political Analysis. 3 Credit Hours.

This course focuses on the use of statistics to conduct quantitative research (i.e., statistics) in political science and public administration. The course emphasizes hands-on data work. Students will learn how to perform political analyses – and present findings in an appropriate manner – using SPSS statistical software.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 512. Advanced Political Analysis. 3 Credit Hours.

This course teaches students how to do social science research using the applied techniques of statistics and case study analysis while exposing them to research in the leading sub-fields of political science. Students will produce an original paper that evaluates an academic question using empirical social science evidence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 513. Models of Politics. 3 Credit Hours.

Hands-on examination of the process by which quantitative and qualitative models are constructed in political science. The course focuses on the creative aspect of model building and diverse forms of theory construction.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 514. Art and Politics. 3 Credit Hours.

Explores the issues of, political legitimacy, international relations, and concepts of justice by examine the interrelatedness of works of art and politics.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 515. Media Content Analysis. 3 Credit Hours.

There are few facets of our lives which are not directly affected by media content. From cell phones to televisions, the media is with us all the time. But what messages are contained in the mass media? What methods can we employ to study media content scientifically? This course will explore methods of analyzing media sources including movies, newspapers, magazines, and television. Course topics will include political bias, campaign coverage, and news content. Students will design their own projects and implement their own coding strategies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 516. Experiments in Political Science. 3 Credit Hours.

Examines the experimental method in the study of politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 517. Introductory Statistical Methods In Political Science. 3 Credit Hours.

The tools needed to manipulate and analyze quantitative data rigorously so you may answer questions of political interest. First in a two-course sequence (followed by POL 518).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 518. Advanced Statistical Methods In Political Science. 3 Credit Hours.

The maximum likelihood framework for statistical inference in the study of politics. Second in a two-course sequence (preceded by POL 517).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 519. Introduction To Game Theory For Political Science. 3 Credit Hours.

The rudiments of non-cooperative game theory. Mainly intended for political science students, but presents applications from other academic disciplines such as economics, business administration, sociology, and psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 520. Internship. 3 Credit Hours.

Provides advanced political science majors with an opportunity to participate in a structured, supervised internship. 25-35 page research paper required.

Requisite: Plan of Political Science.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 521. Public Affairs Internship. 3 Credit Hours.

Opportunity for the advanced student specializing in public administration to participate in an administrative capacity in an agency of state or local government. Periodic conferences with adviser and paper required.

Requisite: Plan of Political Science.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 522. Introduction to Graduate Public Administration. 3 Credit Hours.

Introduction to concepts, issues, problems, theories and process in the field of public administration and/or public management.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 523. Problems in Public and Non-Profit Management. 3 Credit Hours.

Nature of the power vested in administrative bodies and problems involved in management procedures. Special emphasis on local or non-profit administration.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 524. Non-Profit Organizations: Law, Policy, and Management. 3 Credit Hours.

This course teaches students the essential requirements for creation and operation of tax-exempt nonprofit organization in accordance with state and federal law. The course covers a wide range of relevant topics including guidelines for charitable giving and charitable solicitation, pitfalls that can result in personal liability for officers and directors, and statutory constraints on legislative lobbying and political activities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 525. Comparative Public Policy and Administration. 3 Credit Hours.

Comparison and analysis of the organizational and managerial policy problems of developed and developing nations. The administrative process will be considered within the institutional and cultural framework of each nation. Case studies will be used to focus on transition from traditional to modern techniques of public management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 526. Administrative Law. 3 Credit Hours.

Administrative law is the study of the legal relationship of government agencies to legislatures, courts, and private parties. The course examines the legal dimensions of bureaucratic power and procedures as well as constitutional and statutory constraints on regulators and administrators. Topics include rule making, adjudication, investigation and enforcement, political controls on agencies, judicial review of agency decisions, governmental liability and immunity, public records and open meetings laws. Both federal law and Florida law are covered. The course assumes a basic knowledge of the American legal system, constitutional law and bureaucracy.

Prerequisite: POL 201 or POL 199.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 527. Comparative Political Institutions. 3 Credit Hours.

The concept of institutionalism by studying three major sets of democratic institutions: electoral systems, legislatures, and political regimes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 528. Advanced Seminar on Electoral Behavior. 3 Credit Hours.

This seminar examines the opinions that Americans have and how those opinions are expressed through participation in elections. At the end of the semester we will also examine other forms of political participation (e.g., interest groups).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 529. Conducting U.S. Elections. 3 Credit Hours.

Fair and free democratic elections are the heart of US democracy. This course will examine who gets to vote, whether election laws and rules are fair (and fairly implemented), and proposals to reform the way elections are run.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 530. Intelligence and National Security Decision Making. 3 Credit Hours.

This course will study the US national security community structure and decision making process. The course will look at the National Security Council, the principal national security agencies (such as the CIA, Defense Department, and State Department), how they interact, and their roles in dividing and executing policy. We will also examine the role and function of senior policy decision makers such as the President. We will study recent policy challenges such as Iraq and Afghanistan as examples of National Security policy.

Prerequisite: POL 199 or POL 201, and POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 531. Global Environmental Politics. 3 Credit Hours.

Examination of the environment within the context of economic globalization. Contrasts the international trading regime and those regimes designed to protect the environment, with specific attention to the issues of global warming and bio-diversity.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 533. Courts and Controversy. 3 Credit Hours.

Course places the students in the role of advocate, justice, or court observer for the purposes of arguing and deciding current or recent Supreme Court cases.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 535. Comparative Legal Systems. 3 Credit Hours.

Considers the institutional and political roles of Courts from a comparative perspective. With a focus on judicial independence and judicial review, will consider the juridical systems of a variety of countries and regions including the US, the EU, Germany, France, Great Britain, Chile, Argentina, Russia, The Asian-Pacific Rim, South Africa, Israel, Central America and the Middle East.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 536. U.S. Health Care Crisis: Politics and Policies. 3 Credit Hours.

This seminar will explore the politics and policies of healthcare in the United States. Our examination of the current crisis in cost and coverage will draw on experience from the debates on comprehensive and incremental reform over the past decade. In addition, we will explore the politics and policies of other health and science issues. Students will be expected to attend every class and be actively involved in class discussions. There will be two examinations, one at mid-term and a final based on readings and course discussions.

Requisite: Junior Status, No IP Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 541. Philosophy of Law. 3 Credit Hours.

Case-based study of jurisprudence designed to illuminate and explain philosophies of law. Examination of theories of free expression; bio-ethical matters; theories of punishment and legal responsibility; and the placement of religious discourses in liberal systems of law. Special attention to cases involving fundamental rights and liberties; the role of the individual and the state in civil society; and the capacities of individual to be legally competent in contemporary systems of law.

Prerequisite: POL 199 or POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 543. Urban Politics. 3 Credit Hours.

Examination of sources of political power in urban areas and how they influence the policies pursued in those areas. Analysis of the role of economic power, protest actions, neighborhood groups, and voting to evaluate whether there is a bias in urban politics that systematically favors some groups over other and, if so, how likely it is that the bias can be overcome.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 544. Chinese Foreign Policy. 3 Credit Hours.

International relations of the People's Republic of China, in theory and in practice. Structure and context of foreign policy decision-making; domestic influences on the foreign policy making process. China as a global and regional actor.

Prerequisite: POL 203 or INS 101.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 545. Environmental Policy Making. 3 Credit Hours.

Examination of different ethical approaches to the environment; the federal government's management of natural resources; selected environmental policies; international environmental policy issues. Topics include federal management of national grazing lands, national forests, and minerals in the public domain. Analyzes environmental policies such as air, water, toxic wastes, energy, and environmentally-related issues in international trade and national security.

Prerequisite: POL 199 or POL 201, and POL 203 or INS 101.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

POL 547. Congressional Representation. 3 Credit Hours.

This course examines how and when citizens influence legislators' behavior. More specifically, we examine how legislators' floor behavior reflects citizens' preferences and how these preferences influence the manner in which legislators build electoral coalitions.

Prerequisite: POL 199 or POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

POL 548. Civic Participation and Democracy. 3 Credit Hours.

Citizens participate in the governing process by communicating their preferences and pressuring the government to respond. In this course we examine these various mechanisms of "civic participation", and discuss the meaning and consequences of participatory democracy. The course focuses on the contemporary United States, but we will devote some time to discuss civic participation in other countries as well.

Prerequisite: POL 201 or POL 199.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 550. Advanced Seminar on American Politics. 3 Credit Hours.

This seminar provides students with a survey of significant research on major topics in American Politics. We will read influential works of the past, as well as recent cutting-edge research. Particular attention will be paid to discussing the methods and theories used in the research we will read. The purpose of the course is to acquaint students with the literature on American Politics, while also providing an opportunity for students to develop skills in critically assessing and skillfully conducting social science research.

Prerequisite: POL 201 or POL 199.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 551. Productivity in the Public and Non-Profit Sectors. 3 Credit Hours.

Definitions and measures of productivity. Evaluation of government programs, and methods of productivity improvement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 553. The Environmental Movement: Groups, Beliefs and Values. 3 Credit Hours.

Exploration of the origins and political impact of environmentalism in the United States and, to a lesser extent, in the global context. Impact of democratic participation on environmental politics.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 555. Total Quality Public Service Management: Achieving High Performance Government. 3 Credit Hours.

Examination of the theory and practice of Total Quality Management (TQM) in the government and non-profit sector. Focuses on budgetary, customer service, employee and process improvements that facilitate increased public and non-profit performance. Special emphasis to TQM's contribution to improved service delivery.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 556. Politics and Ethics. 3 Credit Hours.

Personal, professional, organizational, and societal levels of ethical analysis. Ethical theories will be reviewed and applied to actual cases that focus on public policy and/or the officials who create and implement it. Profiles of moral exemplars in public life will be examined.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 557. Ethical and Managerial Issues in Government, Business and Non-Profit Organization.. 3 Credit Hours.

Governments at all levels in this country-national (Larry Craig, David Vitter, Mark Foley, Bill Clinton, Randy Cunnigham, Tom DeLay, William Jefferson, James Traficant, Robert Torricelli, Jack Abramoff), state (former Illinois, Louisiana, New York, Ohio and Arizona governors), and local (Miami, Providence city officials; Miami-Dade, Broward, and Palm Beach counties) have encountered scandals involving ethical wrongdoing. Business (Enron, Worldcom) and nonprofit organizations (Boy Scouts, United Way) have faced similar problems. Countless less visible examples of unethical and ethical behavior occur in organizations daily. This course examines the causes and consequences of such actions and the managerial strategies and competencies needed to effectively cope with the ethical issues confronting individuals and organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 558. From Electronic Government To Digital Governance. 3 Credit Hours.

Graduate and advanced undergraduate seminar explores the transition from electronic government (e-gov) to digital or d-governance, emphasizing political participation, citizen-centric public administration and the proliferation of global information technologies and social media.

Prerequisite: POL 201 or POL 199.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 563. Senior Thesis. 3 Credit Hours.

General reading, preparation of research design and collection of information for senior thesis.

Requisite: Plan of Political Science.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

POL 564. Senior Thesis II. 3 Credit Hours.

Continuation of POL 563: writing and defense of the theses.

Requisite: Plan of Political Science.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

POL 565. The World Before European Domination. 3 Credit Hours.

Examines the historical roots of the contemporary international system, and questions the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 569. Lgbti Politics. 3 Credit Hours.

Describes and explains global variance in government policies of interest to lesbian, gay, bisexual, transgender and intersex citizens including sodomy laws, anti-discrimination ordinances, same-sex marriage and adoption, military service, and the right to change one's sex or identify as neither male nor female. POL 344 or WGS 344 Strongly Recommended

Components: LEC.

Grading: GRD.

POL 570. Uniting States in International Perspective. 3 Credit Hours.

How states form and fragment; The main actors in nation formation; the elements of continuity and change; the impact outsiders can have on the process.

Prerequisite: POL 199 or POL 201, and POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 571. Sex, Babies, and the State. 3 Credit Hours.

In one of the most profound revolutions of the past century, gender roles have irreversibly changed and equal rights for women and men has become a stated goal in western societies, even if not the reality. This course examines policies on reproduction, work and the family in advanced industrialized countries including Latin American Countries.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 575. The Politics of Civil- Military Relations. 3 Credit Hours.

Course examines the relationship between states and their soldiers across various historical periods and regional contexts, and how this relationship has been altered in an era where the viability of old structures of state authority are no longer self-evident.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 576. On Violence: The Politics of Extremes. 3 Credit Hours.

Literary and theoretical treatments are considered for what they can tell us about the causes, characteristics and consequences of violence. These insights are enlisted to help us understand violence enacted by states against their societies, societies against states, and within society itself.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 577. Security in South Asia: The Conflicts of Afghanistan, Pakistan and India. 3 Credit Hours.

The security system of South Asia's northern reaches and the current conflict involving Afghanistan, Pakistan, and India: considerations of sovereignty and the role of frontiers in world politics.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 578. ENERGY & SECURITY IN EURASIA. 3 Credit Hours.

Engages the intersection of energy and security within the contested space of Eurasia.

Prerequisite: POL 202 or POL 203, and INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 579. The politics of post-communist transactions. 3 Credit Hours.

Examination of the creation, breakdown, and aftermath of communist governments in Eastern Europe and the USSR. Develops a theoretical framework for understanding cross-national patterns of post-communist development in the context of country-specific experiences.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 580. Ethnicity, Nationalism and Secession. 3 Credit Hours.

Examination of the creation, breakdown, and aftermath of communist governments in Eastern Europe and the Soviet Union. Using empirical evidence from four case studies, develops a theoretical framework for understanding cross-national patterns of post-communist development in the context of country-specific experiences.

Prerequisite: POL 202 or POL 203, and INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 581. Comparative Political Economy of Post-Industrial Democracies. 3 Credit Hours.

This seminar examines four key turning points in the development of capitalism: the industrial revolution, the aftermath of the depression and world wars, the oil crisis of the 1970's, and today's "globalization". We will compare the relationships between government and the economy in Western Europe, Canada, the U.S., Australia, New Zealand, and Japan in each period, and attempt to evaluate why these countries react similarly or differently to identical changes in world economy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 582. Political Economy of Development. 3 Credit Hours.

Overview of the principal theoretical paradigms of the development process Comparative analysis of issues such as the role of the state, strategies of industrialization, changes in social structure, basic needs and the trade-offs between growth and equity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 584. Contemporary Latin American Politics. 3 Credit Hours.

This course assumes a basic knowledge of Latin American politics, and is designed to foster deeper understanding of political processes in the region and to provide an overview of key debates among political scientists specializing in Latin America. We discuss issues related to democratic consolidation, political participation, representation and governance.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 585. Post-Communist Russian Foreign Policy. 3 Credit Hours.

Exploration of the various forms of political movements in Latin America, including parties, populists and radical groups. Examines diverse means of organizing and mobilizing support, the range of goals sought, and the conditions that give rise to the various movements. Special attention to the contemporary revival of populism in the region and its implications for democracy. Prerequisite: POL 211 and 212 or graduate standing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 586. Conflict in the Middle East and Africa. 3 Credit Hours.

Introduction to major paradigms for the explanation of war and conflict in two of the most unstable regions of the world. Reading and class discussions on select cases of current and past conflicts in each region in order to discern patterns of conflict within and across regions, gain a clearer understanding of what drives violent conflict, and assess strategies of resolution.

Prerequisite: POL 202 or POL 203, and INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 588. Politics in China. 3 Credit Hours.

Development and nature of Chinese domestic politics in theory and practice; problems of political stability and conflict; the role of historical and cultural traditions, institutions, social, economic and personality factors in Chinese politics; process of change and problems of leadership succession; the significance of changes in the character and style of Chinese leadership.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 590. Directed Reading. 1-3 Credit Hours.

Provides an opportunity for students to organize an independent study with a particular tenure-line faculty member. A student may only sign up if s/he has found a professor who has agreed to work with him/her. This course does not count for credit in a 500-level seminar.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 591. International Security. 3 Credit Hours.

Analysis and evaluation of approaches to international conflict, resolution, reduction and stabilization such as international organization, law, collective security, balance of power, functionalism, world government, morality, and conscience. Special emphasis on recent problems and efforts at institutionalizing social control.

Prerequisite: POL 203 or INS 101.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 592. International Political Economy. 3 Credit Hours.

This course introduces students to the study of International Political Economy (IPE). It combines a focus on the main theoretical and methodological approaches used in the study of IPE with the analysis of historical and contemporary issues.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 593. International Relations of the Middle East. 3 Credit Hours.

Regional and inter-regional analysis of the foreign relations of Middle Eastern nations, domestic and geopolitical factors.

Prerequisite: POL 203 or INS 101, and POL 387.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 594. European Security. 3 Credit Hours.

Examines regional security in Europe, focusing on NATO expansion, EU expansion, Russian foreign policy, and related issues.

Prerequisite: POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 595. Special Topics In Political Theory And Methods. 1-3 Credit Hours.

A seminar in Political Theory and Methods; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 596. Special Topics In Public Administration, Policy And Law. 1-3 Credit Hours.

A seminar in Public Policy, Administration and Law; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 597. Special Topics In International Relations. 1-3 Credit Hours.

A seminar in International Relations; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 598. Special Topics In Comparative Politics. 1-3 Credit Hours.

A seminar in Comparative Politics; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: LEC.

Grading: GRD.

POL 599. Special Topics in American Politics. 3 Credit Hours.

A seminar in Comparative Politics; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Prerequisite: POL 199 or POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 601. Budget and Financial Management and Administration. 3 Credit Hours.

Role of the budget in shaping public policy; managing public revenues; budgetary theory, politics, and fiscal management. Examples from state, municipal and federal governments.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 602. Congressional Representation. 3 Credit Hours.

Examination of how and when citizens influence legislators' behavior. How legislators' floor behavior reflects citizens' preferences and how these preferences influence the formation of electoral coalitions.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 603. Special Topics In Comparative Politics. 3 Credit Hours.

A seminar in comparative politics, designed to give students a greater degree of knowledge of a particular subject, and to develop ability in the techniques of individual research and group discussion.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 604. The World Before European Domination. 3 Credit Hours.

Examines the historical roots of the contemporary international system, and questions the standard Eurocentric perspective on the rise of the West to a dominant position in the global system.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 605. Sex, Babies, & The State. 3 Credit Hours.

Examines policies on reproduction, work, and the family in a variety of national, with specific emphasis on Latin America.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 606. From Plato to Rawls. 3 Credit Hours.

Political thought of the past with more recent insights and concepts, often drawn from the work of theorists who question what is taken for granted in traditional political theory.

Prerequisite: POL 201 or POL 202 or POL 203 or INS 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 607. Politics, Sociology, and Economy in Contemporary Brazil. 3 Credit Hours.

Examines the social, economic, and cultural transformations shaping contemporary Brazilian politics.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 610. Political Analysis. 3 Credit Hours.

This course focuses on the use of statistics to conduct quantitative research (i.e., statistics) in political science and public administration. The course emphasizes hands-on data work. Students will learn how to perform political analyses – and present findings in an appropriate manner – using SPSS statistical software.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 614. Art and Politics. 3 Credit Hours.

Explores the relationship between narratives, aesthetics, and the political/social world.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 615. Media Content Analysis. 3 Credit Hours.

There are few facets of our lives which are not directly affected by media content. From cell phones to televisions, the media is with us all the time. But what messages are contained in the mass media? What methods can we employ to study media content scientifically? This course will explore methods of analyzing media sources including movies, newspapers, magazines, and television. Course topics will include political bias, campaign coverage, and news content. Students will design their own projects and implement their own coding strategies.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POL 616. Experiments in Political Science. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 617. Introductory Statistical Methods In Political Science. 3 Credit Hours.

The tools needed to manipulate and analyze quantitative data rigorously so you may answer questions of political interest. First in a two-course sequence (followed by POL 618).

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 618. Advanced Statistical Methods in Political Science. 3 Credit Hours.

The maximum likelihood framework for statistical inference in the study of politics. Second in a two-course sequence (preceded by POL 617).

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 619. Introduction To Game Theory For Political Science. 3 Credit Hours.

The rudiments of non-cooperative game theory. Mainly intended for political science students, but presents applications from other academic disciplines such as economics, business administration, sociology, and psychology.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 620. Internship. 3 Credit Hours.

Provides advanced political science majors with an opportunity to participate in a structured, supervised internship. 25-35 page research paper required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 621. Public Affairs Internship. 3 Credit Hours.

Opportunity for the advanced student specializing in public administration to participate in an administrative capacity in an agency of state or local government. Periodic conferences with adviser and paper required.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 622. Introduction to Graduate Public Administration. 3 Credit Hours.

Introduction to concepts, issues, problems, theories and process in the field of public administration and/or public management.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 624. Non-Profit Organizations: Law, Policy, and Management. 3 Credit Hours.

This course teaches students the essential requirements for creation and operation of tax-exempt nonprofit organization in accordance with state and federal law. The course covers a wide range of relevant topics including guidelines for charitable giving and charitable solicitation, pitfalls that can result in personal liability for officers and directors, and statutory constraints on legislative lobbying and political activities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 625. Comparative Public Policy and Administration. 3 Credit Hours.

Comparison and analysis of the organizational and managerial policy problems of developed and developing nations. The administrative process will be considered within the institutional and cultural framework of each nation. Case studies will be used to focus on transition from traditional to modern techniques of public management.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 626. Administrative Law. 3 Credit Hours.

Administrative law is the study of the legal relationship of government agencies to legislatures, courts, and private parties. The course examines the legal dimensions of bureaucratic power and procedures as well as constitutional and statutory constraints on regulators and administrators. Topics include rule making, adjudication, investigation and enforcement, political controls on agencies, judicial review of agency decisions, governmental liability and immunity, public records and open meetings laws. Both federal law and Florida law are covered. The course assumes a basic knowledge of the American legal system, constitutional law and bureaucracy.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 627. Comparative Political Institutions. 3 Credit Hours.

The concept of institutionalism by studying three major sets of democratic institutions: electoral systems, legislatures, and political regimes.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 629. Conducting U.S. Elections. 3 Credit Hours.

Fair and free democratic elections are the heart of US democracy. This course will examine who gets to vote, whether election laws and rules are fair (and fairly implemented), and proposals to reform the way elections are run.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 630. Intelligence and National Security. 3 Credit Hours.

This course will study the US national security community structure and decision making process. The course will look at the National Security Council, the principal national security agencies (such as the CIA, Defense Department, and State Department), how they interact, and their roles in dividing and executing policy. We will also examine the role and function of senior policy decision makers such as the President. We will study recent policy challenges such as Iraq and Afghanistan as examples of National Security policy.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 631. Global Environment Politics. 3 Credit Hours.

Examination of the environment within the context of economic globalization. Contrasts the international trading regime and those regimes designed to protect the environment, with specific attention to the issues of global warming and biodiversity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 635. Comparative Legal Systems. 3 Credit Hours.

Considers the institutional and political roles of Courts from a comparative perspective. With a focus on judicial independence and judicial review, will consider the juridical systems of a variety of countries and regions including the US, the EU, Germany, France, Great Britain, Chile, Argentina, Russia, The Asian-Pacific Rim, South Africa, Israel, Central America and the Middle East.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 636. U.S. Health Care Crisis: Politics and Policies. 3 Credit Hours.

This seminar will explore the politics and policies of healthcare in the United States. Our examination of the current crisis in cost and coverage will draw on experience from the debates on comprehensive and incremental reform over the past decade. In addition, we will explore the politics and policies of other health and science issues. Students will be expected to attend every class and be actively involved in class discussions. There will be two examinations, one at mid-term and a final based on readings and course discussions.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 641. Philosophy of Law. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 643. Urban Politics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 644. Chinese Foreign Policy. 3 Credit Hours.

International relations of the People's Republic of China, in theory and in practice. Structure and context of foreign policy decision-making; domestic influences on the foreign policy making process. China as a global and regional actor.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 645. Environmental Policy Making. 3 Credit Hours.

Examination of different ethical approaches to the environment; the federal government's management of natural resources; selected environmental policies; international environmental policy issues. Topics include federal management of national grazing lands, national forests, and minerals in the public domain. Analyzes environmental policies such as air, water, toxic wastes, energy, and environmentally-related issues in international trade and national security.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

POL 646. Public Policy Analysis and Administration. 3 Credit Hours.

Examination of public policy issue areas including education, health, welfare, urban mass transit. Limits to effectiveness of federal, state and local governments in providing services. Techniques for analyzing the effectiveness of public policies; research techniques for the assessment of future policy alternatives.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

POL 647. Personnel Administration. 3 Credit Hours.

Modern personnel administration: job analysis and design, evaluation and appraisal, recruitment and interviewing, training and development, wages and benefits, and health and safety. Unionization, regulation of wages, hours and working conditions, financial security for workers, and job anti-discrimination legislation. Manpower planning.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 648. Civic Participation & Democracy. 3 Credit Hours.

Citizens participate in the governing process by communicating their preferences and pressuring the government to respond. In this course we examine these various mechanisms of "civic participation", and discuss the meaning and consequences of participatory democracy. The course focuses on the contemporary United States, but we will devote some time to discuss civic participation in other countries as well.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 650. Advanced Seminar On American Politics. 3 Credit Hours.

This seminar provides students with a survey of significant research on major topics in American Politics. We will read influential works of the past, as well as recent cutting-edge research. Particular attention will be paid to discussing the methods and theories used in the research we will read. The purpose of the course is to acquaint students with the literature on American Politics, while also providing an opportunity for students to develop skills in critically assessing and skillfully conducting social science research.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 651. Productivity in the Public and Non-Profit Sectors. 3 Credit Hours.

Definitions and measures of productivity. Evaluation of government programs, and methods of productivity improvement.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 652. Total Quality Public Service Management: Achieving High Performance Government. 3 Credit Hours.

Examination of the theory and practice of Total Quality Management (TQM) in the government and non-profit sector. Focuses on budgetary, customer service, employee and process improvements that facilitate increased public and non-profit performance. Special emphasis to TQM's contribution to improved service delivery.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 653. The Environmental Movement: Groups, Beliefs and Values. 3 Credit Hours.

Exploration of the origins and political impact of environmentalism in the United States and, to a lesser extent, in the global context. Impact of democratic participation on environmental politics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 654. Politics and Ethics. 3 Credit Hours.

Personal, professional, organizational, and societal levels of ethical analysis. Ethical theories will be reviewed and applied to actual cases that focus on public policy and/or the officials who create and implement it. Profiles of moral exemplars in public life will be examined.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 655. Public Policy and Health. 3 Credit Hours.

Development of public policy at the federal, state and local level. Policy process, models of policy analysis, policy development in several government service areas, and plans for policy change. Special emphasis on health policy formulation, implementation and the use of epidemiological tools in health policy analysis.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

POL 656. Public Service Internship. 3-6 Credit Hours.

Individual on-the-job work experience; arranged and monitored by a faculty member.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 657. Ethical and Managerial Issues in Government, Business and Non-Profit Organization.. 3 Credit Hours.

Governments at all levels in this country-national (Larry Craig, David Vitter, Mark Foley, Bill Clinton, Randy Cunnigham, Tom DeLay, William Jefferson, James Traffcant, Robert Torricelli, Jack Abramoff), state (former Illinois, Louisiana, New York, Ohio and Arizona governors), and local (Miami, Providence city officials; Miami-Dade, Broward, and Palm Beach counties) have encountered scandals involving ethical wrongdoing. Business (Enron, Worldcom) and nonprofit organizations (Boy Scouts, United Way) have faced similar problems. Countless less visible examples of unethical and ethical behavior occur in organizations daily. This course examines the causes and consequences of such actions and the managerial strategies and competencies needed to effectively cope with the ethical issues confronting individuals and organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 658. From Electronic Government To Digital Governance. 3 Credit Hours.

Graduate and advanced undergraduate seminar explores the transition from electronic government (e-gov) to digital or d-governance, emphasizing political participation, citizen-centric public administration and the proliferation of global information technologies and social media.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

POL 669. LBGTI Politics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 670. Uniting States In International Perspective. 3 Credit Hours.

How states form and fragment; the main actors in nation formation; the elements of continuity and change; the impact outsiders can have on the process.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 671. Political Environment of Business. 3 Credit Hours.

Examines government-business-society relations with emphasis on the social, economic, political, technological, ethical, and ecological environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 672. Program Planning, Research and Evaluation in Criminal Justice and Corrections, I. 3 Credit Hours.

Identification of long-term goals and intermediate objectives in the criminal justice process. Formulation of operations, evaluation techniques and the relationships among research, evaluation and management decisions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 673. Program Planning, Research and Evaluation in Criminal Justice and Corrections, II. 3 Credit Hours.

Continuation of POL 672. Topics include types of evaluation and the design of evaluative studies. POL 672 and POL 673 are designed to facilitate the formulation and execution of a thesis.

Prerequisite: POL 672.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 675. The Politics of Civil- Military Relations. 3 Credit Hours.

Course examines the relationship between states and their soldiers across various historical periods and regional contexts, and how this relationship has been altered in an era where the viability of old structures of state authority are no longer self-evident.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 676. On Violence The Politics Of Extremes. 3 Credit Hours.

Literary and theoretical treatments are considered for what they can tell us about the causes, characteristics and consequences of violence. These insights are enlisted to help us understand violence enacted by states against their societies, societies against states, and within society itself.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 677. Security In South Asia. 3 Credit Hours.

The security system of South Asia's northern reaches and the current conflict involving Afghanistan, Pakistan, and India: considerations of sovereignty and the role of frontiers in world politics.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 678. Energy & Security In Eurasia. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 680. Ethnicity, Nationalism, & Secession. 3 Credit Hours.

Examination of the creation, breakdown, and aftermath of communist governments in Eastern Europe and the Soviet Union. Using empirical evidence from four case studies, develops a theoretical framework for understanding cross-national patterns of post-communist development in the context of country specific experiences

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 681. Comparative Political Economy Of Post -Industrial Democracies. 3 Credit Hours.

This seminar examines four key turning points in the development of capitalism: the industrial revolution, the aftermath of the depression and world wars, the oil crisis of the 1970's, and today's "globalization". We will compare the relationships between government and the economy in Western Europe, Canada, the U.S., Australia, New Zealand, and Japan in each period, and attempt to evaluate why these countries react similarly or differently to identical changes in world economy.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 682. Political Economy of Development. 3 Credit Hours.

Overview of the principal theoretical paradigms of the development process Comparative analysis of issues such as the role of the state, strategies of industrialization, changes in social structure, basic needs and the trade-offs between growth and equity.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 683. Seminar: Topics in the Comparative Study of the Foreign Policy of China. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 684. Contemporary Latin American Politics. 3 Credit Hours.

This course assumes a basic knowledge of Latin American politics, and is designed to foster deeper understanding of political processes in the region and to provide an overview of key debates among political scientists specializing in Latin America. We discuss issues related to democratic consolidation, political participation, representation and governance.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 685. Seminar in the Dynamics of Soviet Society. 3 Credit Hours.

Forces and factors that shape and continue to influence the development of social, political and economic institutions in the Former Soviet Union and their evolving role in decision making.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 686. Conflict In The Middle East & Africa. 3 Credit Hours.

Introduction to major paradigms for the explanation of war and conflict in two of the most unstable regions of the world. Reading and class discussions on select cases of current and past conflicts in each region in order to discern patterns of conflict within and across regions, gain a clearer understanding of what drives violent conflict, and assess strategies of resolution.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 688. Politics In China. 3 Credit Hours.

Development and nature of Chinese domestic politics in theory and practice; problems of political stability and conflict; the role of historical and cultural traditions, institutions, social, economic and personality factors in Chinese politics; process of change and problems of leadership succession; the significance of changes in the character and style of Chinese leadership.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 690. Directed Readings. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 691. International Security. 3 Credit Hours.

Analysis and evaluation of approaches to international conflict, resolution, reduction and stabilization such as international organization, law, collective security, balance of power, functionalism, world government, morality, and conscience. Special emphasis on recent problems and efforts at institutionalizing social control.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 692. International Political Economy. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 693. International Relations Of The Middle East. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 694. European Security. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 695. Special Topics In Political Theory And Methods. 1-3 Credit Hours.

A seminar in Political Theory and Methods; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 696. Special Topics In Public Administration, Policy And Law. 1-3 Credit Hours.

A seminar in Public Policy, Administration and Law; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

POL 697. Special Topics In International Relations. 3 Credit Hours.

Requisite: Graduate Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 698. Special Topics. 3 Credit Hours.

A seminar in Comparative Politics; designed to give the student a greater degree of insight and knowledge of a particular subject and to develop ability in the techniques of individual research, group discussion and analysis. The senior seminars may be taken in any sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 699. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POL 810. Master's Thesis. 3-6 Credit Hours.

Designed for student working on masters' theses. Not to exceed six credit hours, as determined by student's advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POL 820. Research in Residence. 0 Credit Hours.

Research in residence for thesis or master's degree after the student has enrolled for the permissible cumulative total in POL 710 (usually six credits). Credit not granted; regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Portuguese (POR)

POR 100. Business Portuguese for Spanish Speakers. 3 Credit Hours.

Introduction to commercial vocabulary, economic, technical, and diplomatic terminology in Portuguese for Spanish Speakers. Composition based on models of business correspondence directed to Portuguese-speaking countries or firms.

Components: LEC.

Grading: CNC.

Typically Offered: Spring.

POR 101. Elementary Portuguese I. 3 Credit Hours.

Drill in pronunciation, fundamental grammatical principles, simple reading and translation, oral and written exercises. Normally, not open to students who have completed two years of Portuguese. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 102. Elementary Portuguese II. 3 Credit Hours.

Continuation of POR 101. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 105. Beginning Portuguese for Spanish Speakers. 3 Credit Hours.

The equivalent of one year of beginning-level college Portuguese, this course is specifically intended for students who have completed three or more years of high school Spanish or one year of Spanish at another university. Also intended for heritage and native speakers of Romance Languages, or students with one or more years of college study of Spanish, Italian, or French. Closed to native speakers of Portuguese.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

POR 201. Intermediate Portuguese I. 3 Credit Hours.

Integrated grammar review. Diverse selection of readings: stories, plays, essays, interviews. Practice in speaking and in writing. Class conducted in Portuguese. Not open to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POR 202. Intermediate Portuguese II. 3 Credit Hours.

Intensive preparation for 300-level work through various genres (portraits, descriptions, short stories, film reviews, magazines, a novel). Workshop format, the course also develops conversational skills. Students complete a number of written projects (including an analytic paper). Class conducted in Portuguese. Closed to native speakers.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

POR 301. Interpreting Literary And Cultural Texts In Portuguese. 3 Credit Hours.

Tools for the interpretation and analysis of literary and cultural materials from the Portuguese-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to native speakers formally educated in Portuguese.

Prerequisite: POR 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 310. Brazilian Women Writers in Translation. 3 Credit Hours.

Selected contemporary Brazilian women writers. Conducted in English. Emphasis on representations of nationality, race, class, ethnicity, gender, and sexuality. May be used to fulfill the humanities literature requirement; writing credit.

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 321. Studies in Luso-Brazilian Literary Themes. 3 Credit Hours.

The study of literature through thematic readings. Writing credit. May be repeated for credit if topics vary.

Prerequisite: POR 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 322. Topics in Luso-Brazilian Cultures. 3 Credit Hours.

Cultural issues in the Portuguese-speaking world. Topics include media, religion, language in society, popular and mass culture, the arts, immigration, social movements, race, ethnicity, and gender. Writing credit. May be repeated for credit if topics vary.

Prerequisite: POR 212 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 353. Brazilian Poetry. 3 Credit Hours.

Brazilian poetry from colonial times to the present. Emphasis on major figures. Taught in Portuguese. Humanities literature credit; writing credit.

Prerequisite: POR 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 354. The Modern Brazilian Novel. 3 Credit Hours.

The Brazilian novel since 1865. Emphasis on major works. Conducted in Portuguese. POR minors must complete all written assignments in Portuguese. Others may opt to write in English, Portuguese, or Spanish. Fulfills humanities literature requirement; writing credit.

Prerequisite: POR 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 363. Contemporary Lusophone Film. 3 Credit Hours.

Portuguese, Brazilian, and Lusophone African cinema from the 1950s to the present. POR minors must complete all written assignments in Portuguese; Others may opt to write in English, Portuguese, or Spanish. Conducted in Portuguese. Fulfills Humanities literature requirement; writing credit.

Prerequisite: POR 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 364. The Brazilian Short Story. 3 Credit Hours.

The Brazilian short story since 1890. Conducted in Portuguese. POR minors must complete all written assignments in Portuguese. Others may opt to write in English, Portuguese, or Spanish. Fulfills Humanities literature requirement; writing credit.

Prerequisite: POR 212 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 391. Directed Readings. 1-3 Credit Hours.

Individual work on a topic not covered in the regular curriculum. May be repeated on a different topic.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 395. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 396. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 397. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 398. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 399. Transfer Credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

POR 591. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 592. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 593. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 625. Portuguese for Graduate Research. 0 Credit Hours.

Grammatical structuring, verb tenses, and word families necessary for reading text with minimal use of a dictionary. May fulfill the Foreign Language Reading Competency Requirement (consult your graduate advisor).

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 635. Portuguese For Graduate Students. 3.00 Credit Hours.

Portuguese 635 is designed to enhance graduate student's communication skills in the Portuguese language, at the low advanced level of proficiency. It is intended principally for those students who will be carrying out research in areas related to the Lusophone world.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

POR 691. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

POR 692. Directed Readings in Portuguese. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Program In Biomedical Sciences (PIB)

PIB 700. Journal Club. 1 Credit Hour.

All PIBS students are required to attend one journal club or seminar each week.

Components: SEM.

Grading: SUS.

Typically Offered: Fall & Spring.

PIB 701. Introduction to Biomedical Sciences. 5 Credit Hours.

This course surveys fundamentals of molecular and cellular biology that underly all modern biomedical research. Lectures are organized into modules that cover Proteins and DNA, Gene Expression, Signaling and Membranes, Cells, and Development. A final module covers immunology, organ systems, and genetics. Experimental techniques are emphasized throughout, with the first week of the course devoted to a bootcamp on common biomedical methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PIB 702. Scientific Reasoning. 3 Credit Hours.

This course teaches scientific reasoning by critical reading of primary research papers in a small-group setting. Multiple small groups are offered every week and students can choose from different topics related to lectures in the companion PIB 701 course. Research papers are discussed in two 1-hour sessions each week.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PIB 731. Laboratory Research. 1-6 Credit Hours.

Laboratory rotations familiarize students with a variety of modern techniques in biomedicine and potential mentors for their dissertation projects. One credit is awarded per rotation.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PIB 780. Research Ethics. 1 Credit Hour.

The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of scientific integrity. This program should be an integral part of the proposed training effort.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PIB 782. Professional Development: Skills for Success I. 1 Credit Hour.

This workshop will teach students the basics on how to: manage your career, choose a rotation lab / mentor, read a scientific paper, write a lab report and present in the journal club and lab meetings.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

PIB 783. Professional Development: Skills for Success II. 1 Credit Hour.

This workshop will teach students the basics on how to: write a fellowship and scientific paper as well as the proper and ethical handling of research data.

Components: LEC.

Grading: SUS.

Typically Offered: Spring.

PIB 830. Doctoral Dissertation. 1-12 Credit Hours.

Required for all PhD candidates. First-year students generally take one credit of doctoral dissertation in their first summer semester then continue in program specific dissertation credit through graduation.

Components: THI.

Grading: SUS.

Typically Offered: Summer.

Psychology (PSY)

PSY 106. Freshman Advising Contact Term (Fact). 1 Credit Hour.

Educates students about the structure and function of a research university, introduces them to the academic rules and regulations of the University of Miami and the Department of Psychology, enables them to think critically about their own graduation plan, and prepares them to enter the professional world.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 110. Introduction to Psychology. 3 Credit Hours.

A survey of modern scientific psychology. Topics include learning, memory, perception, cognition, personality, motivation, emotion, development, abnormal psychology, and social psychology. Participation in a small number of experiments is required to ensure that students become acquainted first hand with the experimental laboratory methods used in Psychology. Students may choose to satisfy this requirement by writing a small number of methodology papers instead.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 175. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 190. Faculty Overview Of Research And Undergraduate Mentoring(Forum). 1 Credit Hour.

Critical discussion of research reports in psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 206. Transfer To The University Of Miami(Tums). 1 Credit Hour.

Educates students about the structure and function of a research university, introduces them to the academic rules and regulations of the University of Miami and the Department of Psychology, enables them to think critically about their own graduation plan, integrates them into the social atmosphere of the University, and prepares them to enter the professional world.

Requisite: Permission of a UASP advisor, C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 210. Social Psychology. 3 Credit Hours.

The major theories, methods and research findings in social psychology. Attitude formation and change, person perception, interpersonal attraction, aggression, group structure, leadership, conformity and mass phenomena. Emphasizes the individual as the basic unit of analysis (compare SOC 302).

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 220. Psychobiology. 3 Credit Hours.

Behavior viewed from a biological perspective. Survey of biological factors subserving sensation, perception, sleep, emotions, motivation, learning, memory, and development

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 230. Child And Adolescent Development. 3 Credit Hours.

Survey of significant aspects of growth and development throughout the lifespan. Emphasis placed on childhood and adolescence.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 240. Abnormal Psychology. 3 Credit Hours.

Diagnostic formulations of the clinical syndromes; theories of psychopathological states.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 250. Cognitive Psychology. 3 Credit Hours.

Survey of theory and research on human information processing and cognitive processes.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 260. Personality Psychology. 3 Credit Hours.

A survey of the area of personality, including the relation of personality to general psychology, history of theory and research in the field, definition, assessment, and research findings in major substantive areas.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 270. Industrial And Organizational Psychology. 3 Credit Hours.

Applications of psychology in business, industry, and to organizational effectiveness in general. Supervisory, leadership, morale, personnel selection, training, human factors engineering, and consumer psychology.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 271. Stress Management. 3 Credit Hours.

Physiology and psychology of stress, with emphasis on mind-body (stress-health) connection. Integrates scientific knowledge with practice techniques such as muscle relaxation, cognitive restructuring, meditation, anger management, yoga, exercise, assertiveness training, and social support.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 275. Special Topics. 1-3 Credit Hours.

Prerequisite: C- or higher in PSY 110.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 280. Introduction To Research Projects I. 1-3 Credit Hours.

Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Prerequisite: C- or higher in PSY 110. Requisite: Permission of a UASP advisor.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 290. Introduction To Research Methods. 3 Credit Hours.

An introduction to research methods in psychology. We will discuss the scientific concepts, principles, and ways of thinking that are central to the study of psychology. Topics to be covered include the goals of psychological research, ethical issues in the design and implementation of research studies, research design strategies and types of measurement, and methods of presenting data. A variety of in-class assignments will provide students with the opportunity to reflect upon the ways in which research is conducted, presented, and interpreted.

Prerequisite: C- or higher in PSY 110, MTH 101 or mathematics placement above MTH 101. Corequisite: PSY 291. Requisite: PSY or NEU major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 291. Introduction To Biobehavioral Statistics. 3 Credit Hours.

The basics of descriptive and inferential statistics, but the focus will be on the latter. We will cover only enough descriptive statistics to enable us to introduce the inferential concepts of regression, t-tests ANOVA and Chi Square.

Prerequisite: C- or Higher in PSY 110, MTH 101 or mathematics placement above MTH 101. Corequisite: PSY 290. Requisite: PSY or NEU Major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 292. Introduction To Biobehavioral Statistics For Non-Majors. 3 Credit Hours.

The basics of descriptive and inferential statistics, but the focus will be on the latter. Descriptive statistics to introduce the inferential concepts of regression, t-tests ANOVA and Chi Square.

Prerequisite: C- or higher in PSY 110 and MTH 101 or math placement above MTH 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 305. Introduction To Research And Graduate School. 1 Credit Hour.

Introduction to research and graduate school in psychology and psychology-related fields. The course will focus on different opportunities available to students at the University and on the graduate school application process.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 310. Attitudes And Persuasion. 3 Credit Hours.

An analysis of the major theories and research findings relating to attitude formation and change, including a review of widely used persuasion techniques.

Requisite: 2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 291 or PSY 292, and 3 credits in MKT, CAD, COM, COS, CNJ, CPR, or CVJ courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 311. Emotion. 3 Credit Hours.

Theory and research concerning the development, arousal, and expression of emotional reaction.

Requisite: 2.5 PSY GPA, 12 credits in PSY courses including PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 291 or PSY 292, and 3 credits in BIL courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 312. Psychology Of Gender. 3 Credit Hours.

Psychological theories and research related to understanding issues of gender across the lifespan.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 313. Romantic Relations. 3 Credit Hours.

An introduction to how social scientists think about, study, and intervene with romantic relationships.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 320. Psychology Of Drugs And Behavior. 3 Credit Hours.

The psychological and physiological effects of drugs. Includes psychosocial aspects of drug use and the treatment and prevention of abuse. An introduction to psychopharmacology.

Requisite: 2.5 PSY GPA, 12 credits in PSY courses including PSY 220 and PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 291 or PSY 292, and 3 credits in BIL 150 or higher or CHM 111 or higher.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 330. Psychology Of Language Development. 3 Credit Hours.

Developmental sequences in the acquisition of language; the scientific endeavor to understand language learning.

Requisite: 2.5 GPA and 12 Credits in PSY courses including PSY 230, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 331. Psychology Of Adulthood And Aging. 3 Credit Hours.

Major developments during the middle and later years of adulthood including changes in family and peer relationships, cognitive changes, physical changes, psychological aspects of death and dying.

Requisite: 2.5 GPA and 12 Credits in PSY courses including PSY 230, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 345. Abnormal Child Psychology. 3 Credit Hours.

Reviews definitions, theories, and causes of mental and cognitive disorders in youth, including anxiety, depression, conduct problems, and learning and intellectual disabilities.

Requisite: 2.5 GPA and 12 Credits in PSY courses including PSY 230, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 355. Psychology Of Thinking And Learning In Children. 3 Credit Hours.

Development of perceptions, thought, and language processes throughout the lifespan with an emphasis on early and middle childhood.

Requisite: 2.5 GPA and 12 Credits in PSY courses including PSY 230, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 356. Psychology Of Intellectual And Developmental Disabilities. 3 Credit Hours.

The etiological, social, and psychological aspects of intellectual and developmental disabilities.

Requisite: 2.5 PSY GPA and 12 credits in PSY courses including PSY 230 and PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 230 and PSY 291 or PSY 292, and 3 credits in BIL or TAL courses.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 360. Personality Theory. 3 Credit Hours.

The role of structure, development, dynamics, individual differences, assessments, and deviations.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 370. Psychology Of Human Sexual Behavior. 3 Credit Hours.

Interaction of biological and social factors in normal sexual development, and behavior patterns; etiologies of dysfunctions, paraphilias and gender-identity disorders; assessment and intervention procedures.

Requisite: 2.5 PSY GPA and 12 credits in PSY courses including PSY 291 or PSY 292 or 2.5 PSY GPA, 9 credits in PSY courses including PSY 291 or PSY 292, and 3 credits in BIL 150 or higher, CHM 103 or higher or HCS 212.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 375. Special Topics. 1-3 Credit Hours.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 380. Introduction To Research Projects II. 1-3 Credit Hours.

Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings.

Requisite: Permission of a UASP advisor, 2.5 PSY GPA, and 12 credits in PSY courses including PSY 291 or PSY 292.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 390. Intermediate Research Methods And Biobehavioral Statistics. 3 Credit Hours.

Students will conduct two (or more) pre-planned experiments. For each experiment, students will analyze the data and write up the components of a research report. In addition, students will receive detailed feedback on the assignments they submit, as an aid to improving their writing skills, reinforcing and reviewing their knowledge of research design and methodology, and expanding their understanding of statistical analyses as well as their interpretation and presentation.

Requisite: 2.5 GPA and 12 Credits in PSY including PSY 290 and PSY 291 or PSY 292 or 9 credits in PSY including PSY 290, and PSY 291 or PSY 292, BIL 268 or NEU 280, NEU 380 or NEU 480.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 391. Tests And Measurements. 3 Credit Hours.

Theory and principles of construction, use, evaluation, and interpretation of psychological tests and testing procedures.

Requisite: 2.5 GPA, 12 Credits in PSY including PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 410. Social Interaction Processes. 3 Credit Hours.

An in-depth analysis of variables leading to, and processes involved in, human social interactions ranging from superficial encounters to intimate relationships.

Requisite: 2.5 PSY GPA and 15 credits in PSY courses including PSY 210, PSY 291 or PSY 292 and PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 411. Relationships And Health. 3 Credit Hours.

Interpersonal processes that play out in the course of chronic physical illnesses. An integrated foundation on theories and concepts of interpersonal relationships in psychology and a comprehensive introduction to how these theories and concepts can be applied to relationships among family members dealing with physical illnesses. Students will be introduced to diverse perspectives on interpersonal relationships and to a broad perspective on physical illnesses as "family" diseases, across the illness trajectory.

Requisite: 2.5 PSY GPA and 15 credits in PSY courses including PSY 291 or PSY 292 and PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 425. Psychobiology. 3 Credit Hours.

Basic neuroanatomy, neurophysiology, and neurochemistry followed by an introduction to the physiological bases of sensation, motor systems, motivation, emotion, learning and memory.

Requisite: 2.5 PSY GPA, 15 PSY credits including PSY 220, PSY 290, PSY 291 or PSY 292 or 2.5 PSY GPA, 12 Credits in PSY including PSY 290, and PSY 291 or PSY 292, BIL 150.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 426. Health Psychology. 3 Credit Hours.

The psychosomatic and biopsychosocial models of illness.

Requisite: 2.5 PSY GPA, 15 credits in PSY courses including PSY 220, PSY 290, and PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 430. Psychology Of Infancy. 3 Credit Hours.

Perceptual, motor, cognitive and social development during the first two years of life. Specialized research methods and assessment procedures.

Requisite: 2.5 PSY GPA; 15 PSY credits, including PSY 230, PSY 291 or PSY 292, PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 431. Psychology Of Social And Emotional Development. 3 Credit Hours.

Social and emotional growth; topics include family and peer relationships, sex roles, self-control, and moral development.

Requisite: 2.5 PSY GPA; 15 PSY credits, including PSY 230, PSY 291 or PSY 292, PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 432. Prenatal Development. 3 Credit Hours.

A detailed understanding of prenatal development including conception, embryonic and fetal development, and birth. The effects and interplay of genetic and environmental factors on the health and well-being of the developing baby will be discussed throughout the course. The important role of preconception and prenatal care will also be discussed.

Requisite: 2.5 PSY GPA; 15 PSY Credits including PSY 230, PSY 290, PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 455. Evolution And Sex. 3 Credit Hours.

A biological/evolutionary approach to the study of human sexuality and cognition. The evolution of sexual reproduction and the evolution of the two sexes. Initial discussions will introduce the theory of evolution by natural selection and address the different levels at which selection operates. Building on this foundation, the class will focus on why sex evolved and the myriad physiological and psychological adaptations that evolved as a consequence. Topics to be covered include sexual selection, mate selection, pregnancy, and parent-offspring conflict.

Requisite: 2.5 PSY GPA, 15 credits in PSY courses including PSY 290 and PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 460. Psychology Of Religion. 3 Credit Hours.

Contemporary psychological theory and research on religious belief, experience, and behavior. Topics include the biological bases of religion, religious development, and the links of religion to health and well-being.

Requisite: 2.5 PSY GPA; 15 PSY credits, including PSY 291 or PSY 292, PSY 390, REL 101.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 461. Motivation. 3 Credit Hours.

Experimental evidence relating to theories of motivation.

Requisite: 2.5 PSY GPA, 15 credits in PSY courses including PSY 290 and PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 470. History And Systems Of Psychology. 3 Credit Hours.

Development of psychology as a science.

Requisite: 2.5 PSY GPA and 15 credits in PSY courses, including PSY 291 or PSY 292, PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 474. Special Topics. 1-3 Credit Hours.

Requisite: 2.5 PSY GPA, 15 credits in PSY courses including PSY 290 and PSY 291 or PSY 292.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 480. Research With Writing Credit. 1-3 Credit Hours.

Students assist on a research project in psychology under supervision of a faculty member. Activities include library research, data collection and management, and attendance at research team meetings. Students are also expected to complete a writing component that fulfills the University's criteria to receive writing credit.

Requisite: Permission of a UASP advisor, 2.5 PSY GPA and 15 credits in PSY courses including PSY 291 or PSY 292, PSY 390.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 490. Advanced Research Methods. 3 Credit Hours.

Students will develop, conduct and write up two research projects: (i) a project that uses descriptive methods and associated statistical techniques and (ii) a project that uses experimental methods and associated statistical techniques. These projects will integrate the concepts and skills learned in the Introductory and Intermediate Methods courses as well as the Introductory and Intermediate Statistics courses. Students will be asked to select a research topic and first develop a survey to examine the relationship between two predictor variables and an outcome variable. They will collect and analyze their data using correlational techniques (e.g., regression analyses) and will write up a methods and results section. Next, students will turn their descriptive study into an experiment. They will collect and analyze their data and write up a publishable research report that includes the findings from both the descriptive and experimental studies. The project will serve as a capstone, requiring them to find and critically evaluate relevant literature on their topic of choice, design a study taking into account time demands, sample characteristics and their effect on the hypotheses they are able to test, decide on instrument selection, consider potential extraneous and confounding variables (and how they will handle them if at all), select appropriate analyses for their data and hypotheses, and then present the results of their work in both poster and research report format.

Requisite: 2.5 PSY GPA, 15 PSY credits including PSY 291 or PSY 292, and PSY 390, Senior Status, BS in Psychology major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 491. Advanced Biobehavioral Statistics. 3 Credit Hours.

This course builds upon the material covered in PSY 390. After a brief review, analysis of variance and multiple regression will be covered using a general linear model (GLM) approach. The goal is to prepare students for graduate level work in applied statistics.

Requisite: 2.5 PSY GPA and 15 credits in PSY courses, including PSY 291 or PSY 292, PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 520. Psychoneuroimmunology. 3 Credit Hours.

This course is designed to present some of the basic information necessary to interpret the current literature in psychoneuroimmunology (PNI) and to design research in this area.

Requisite: 2.8 PSY GPA; 18 credits in PSY, including PSY 390.

Components: LEC.

Grading: GRD.

PSY 540. Culture, Values, Religiosity, And Mental Illness. 3 Credit Hours.

Cultural differences in the manifestation, course, and outcome of serious mental disorders; the relationship between chronic mental disorders and ethnicity, religious values, family cohesion, attributions of control, and world view; cultural differences in societies' reactions to and treatment of mentally ill patients.

Components: LEC.

Grading: GRD.

PSY 575. Special Topics. 1-3 Credit Hours.

Requisite: 2.8 PSY GPA, 18 PSY credits including PSY 390.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 580. Senior Honors In Psychology I. 3 Credit Hours.

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Requisite: Permission of UASP and faculty required, 3.5 Major GPA, 3.3 Combined GPA, PSY or NEU major, 18 PSY credits, including PSY 390.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 581. Senior Honors In Psychology II. 3 Credit Hours.

Students work closely with a faculty member to design a unique research study and write a scientific paper to report on the results. Limited to undergraduate students only.

Requisite: Permission of UASP and faculty required, 18 PSY credits including PSY 580.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 601. Issues in Professional Development and Research.. 1 Credit Hour.

Seminar addressing issues such as structure of academic systems and progress through them, time management, library search systems, professional journals, how to structure curriculum vitae, procedures and rules in human subject research, professional meetings and presentations, extramural funding opportunities, professional writing style, ethical issues.

Requisite: Plan of Graduate Psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 602. Scientific writing and grantsmanship. 3 Credit Hours.

Writing and organizational skills for professional development in social and behavioral sciences. Mechanism of extramural funding and grant review, including grantsmanship.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 603. Neuroanatomy. 3 Credit Hours.

Functional neuroanatomy for individuals engaged in basic neuroscience and psychological research. Gross anatomy, identification of pathways and circuits, and physiological functions of neuroanatomical systems. Clinical examples and case histories of neuroanatomical disorders. Laboratory exercises including brain dissections, examination of brain models and atlases, and internet neuroanatomy websites.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 604. Cognition and Emotion. 3 Credit Hours.

Study of basic cognitive processes of attention and memory, the function of emotions, and the role of cognitive mechanisms in the processing of affective information.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 605. Cognitive Neuroscience. 3 Credit Hours.

Brain mechanisms in cognition and behavior, including sensory encoding and perception, attention, motivation, emotion, learning/memory, language, executive functions, and mental disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 606. Biobehavioral Processes and Disease in Health Psychology. 3 Credit Hours.

Central nervous system, cardiovascular, endocrine, immune, and other biological processes examined in the context of behavioral medicine and health psychology research. Discussion of basic mechanisms in physiological regulation and dysregulation of the cardiovascular and immune systems, with specific reference to cardiovascular behavioral medicine and psychoneuroimmunology.

Prerequisite: PSY 610.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 609. Psychopharmacology. 3 Credit Hours.

Basic methods and current issues in psychopharmacology.

Prerequisite: PSY 605.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 610. Behavioral Medicine: Overview of Basic Science, Public Health & Clinical Trial Approaches. 3 Credit Hours.

Overview of biobehavioral, psychosocial and sociocultural factors in pathogenesis, prevention and treatment of physical disorders.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 613. Psychoneuroimmunology. 3 Credit Hours.

Structural and functional aspects of the immune system that are sensitive to neural and psychological processes. Interactions between the nervous and immune systems are examined in relation to empirical associations between psychological factors (i.e., stress) and immune-mediated processes in diseases such as cancer and AIDS.

Prerequisite: PSY 605.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 614. Diversity issues in psychology. 3 Credit Hours.

Overview of diversity issues including race, religion, gender, age, sexual orientation, physical disability and socioeconomic status as they relate to psychological research and clinical practice.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 615. Foundations of neuropsychology. 3 Credit Hours.

Mechanisms of neurological and psychiatric disorders, including developmental disorders, dementia, aphasia, amnesia, stroke, traumatic brain injury, and loss of general intelligence. Clinical tools for neuropsychological assessment, forensics, and genetic screening.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 616. Biobehavioral Processes and Clinical Research Applications in Health Psychology. 3 Credit Hours.

Conduct of clinical research and examination of biobehavioral processes in health psychology. Lectures, readings and assignments deal with clinical research involving pathology, assessment and intervention-based functions with applications focused on health and disease conceptualized at multiple levels of prevention.

Prerequisite: PSY 606 and PSY 610.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 620. Developmental Psychology. 3 Credit Hours.

Emphasis on applied research and interventions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 621. Theories of Development. 3 Credit Hours.

Theoretical aspects of psychological development throughout the life span.

Prerequisite: PSY 620.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 622. Cognitive Development. 3 Credit Hours.

Theories of cognitive development across infancy, childhood, and adolescence. Topics include measurement approaches, normative development, individual differences, etiological factors and contextual influences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 623. Language Development. 3 Credit Hours.

Theories of receptive and expressive language development across childhood. Topics include measurement approaches, normative development, individual differences, etiological factors and contextual influences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 624. Social Development. 3 Credit Hours.

The theoretical and empirical literature on typical and atypical social development-including emotional development and social cognition-in infants, children, and adolescents. Topics include measurement approaches, individual differences and contextual influences.

Prerequisite: PSY 620.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 625. Social Psychology. 3 Credit Hours.

Overview of the major substantive areas and theories of social psychology. Emphasis on applications to health-related concerns.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 631. Psychological Statistics, Research Methods, and Design. 3 Credit Hours.

Statistics for experimental design with uncorrelated independent variables. Review of t-tests; designs and applications of analysis of variance; including one-way, factorial, repeated-measures, and mixed designs; post hoc comparisons among means.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 632. Multiple Regression and Multivariate Statistics. 3 Credit Hours.

Techniques for the analysis of multiple quantitative measurements including multiple regression, multivariate analysis of variance, discriminant analysis and canonical correlation. Computer application of these techniques to the behavioral sciences.

Prerequisite: PSY 630 or EPS 568, and EPS 653.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 633. structural equation modeling. 3 Credit Hours.

Structural equation modeling. Specific and testing explicit theory based models of covariances among variables. Structural models, path analysis, measurement models, and confirmatory factor analysis, particularly related to hypotheses about causal relations, change over time, and comparisons across diverse populations.

Prerequisite: PSY 632.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 634. Hierarchical Linear Evaluation. 3 Credit Hours.

Hierarchical linear modeling. Multi-level modeling of nested and non-independent data. Application of multi-level modeling to social science and behavioral data, including computer laboratory exercises.

Prerequisite: PSY 632.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 636. Research Methods With Children And Adolescents. 3 Credit Hours.

Concepts and research design approaches for the measurement and analysis of data across developmental stages from infancy through adolescence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 638. Psychology of Infant Development. 3 Credit Hours.

Theory, research, and methodology pertaining to psychological development in the first two years of life. Applied research on infancy as it pertains to individual differences in cognitive, social, and emotional development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 639. Autism And Developmental Disabilities. 3 Credit Hours.

Developmental disabilities with an emphasis on autism. Biological, social, cognitive and emotional concomitants. History, etiology, assessment, and individual differences.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 640. Adult Psychopathology. 3 Credit Hours.

Theories, models, history, and research relevant to various patterns of problematic behavior, with a focus on adults. The influences of family systems as well as cultural and other diversity factors (e.g., ethnicity, sexual orientation) are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 641. Child and Adolescent Psychopathology. 3 Credit Hours.

Theories, models, and research relevant to the development and the course of behavioral disorders and other problems (e.g., maltreatment, exposure to violence and poverty) that emerge in childhood and adolescence. The influences of family and peer systems as well as cultural and other diversity factors (e.g., ethnicity, sexual orientation) are included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 642. Advanced Adult Psychopathology. 3 Credit Hours.

Theory and research on risk factors and etiological models of mental disorders. Socioenvironmental (cultural, social support, life events), psychological (temperament, cognitive biases), and biological (genes, neurotransmitters) models of risk, research methodology, and design are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 643. Behavioral Medicine and Developmental Disabilities. 3 Credit Hours.

Processes influencing diagnosis and management of developmental disabilities: genetics, embryology/fetology, physical growth and development, nutrition, hearing and speech pathology, family dynamics, cognition and psycho-educational assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 645. Introduction to Psychological Evaluation. 3 Credit Hours.

Measurement theory; introduction to the administration and interpretation of widely-used intelligence and personality tests, with attention to issues of ethics and diversity.

Requisite: Plan of Graduate Psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 646. Psychological Evaluation of Adults. 3 Credit Hours.

Issues of diversity, ethics, and personality theory as they pertain to psychological evaluation of adults. Emphases on the use of projective and objective personality assessment methods.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 647. Psychological Evaluation of Children and Families. 3 Credit Hours.

Clinical and developmental theory and methods pertaining to the evaluation of children, adolescents, and families including intelligence tests, structured diagnostic instruments, personality and behavioral check lists, observational formats, interviewing, and projective assessment. Attention to issues of ethics and diversity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 648. Psychological Evaluation in Physical Disorders. 3 Credit Hours.

Administration, interpretation, and psychometric evaluation of psychological tools and procedures used in the evaluation of physical disorders. Attention to issues of ethics and diversity.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 650. Laboratory in Clinical Psychology. 0 Credit Hours.

Practical training in clinical skills such as assessment, interviewing, and case conceptualization. Laboratory to be used in conjunction with courses such as PSY 640 and PSY 645

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 656. Introduction to Evidence-Based Psychological Treatments. 3 Credit Hours.

Theories, history, and techniques of psychological and behavioral therapies, with emphasis on evidence-based approaches.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 657. Introduction to Psychotherapy, Ethics, and Professional Issues. 3 Credit Hours.

Introductory experience in clinical interviewing, therapeutic communication, ethics, and case conceptualization. Consideration of client-and-therapist culture, gender, and diversity are also emphasized.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 660. Evidence-Based Psychological Intervention with Children and Families. 3 Credit Hours.

Theories, history, and techniques of psychological and behavioral therapies, with emphasis on evidence-based approaches with children, adolescents, and families. Understanding normative and deviant development, with attention to issues of diversity, ethics, and domestic violence.

Prerequisite: PSY 656.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 661. Interventions in Pediatric Psychology. 3 Credit Hours.

Pediatric psychology and basic learning theory. Medical and behavioral aspects of child and adolescent health disorders, psychological assessment, and evidence-based treatment approaches.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 662. Health Psychology Interventions. 3 Credit Hours.

Clinical interventions and research relevant to health problems and lifestyle, with emphasis on critical evaluations of past research and the design and implementation of intervention protocols. The origins of health psychology and the role of the health psychologist in medical systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 670. Practicum in Clinical Psychology. 1-3 Credit Hours.

Supervised experience in evaluating and treating psychological problems of children, adolescents, families, and/or adults behavior. For students placed at the U.M. Psychological Services Clinic there is a weekly case conference that focuses on ethics case conceptualization. Course may be repeated for credit.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 671. Practicum in Clinical Psychology II. 0 Credit Hours.

Continuation of PSY 670.

Corequisite: PSY 645.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

PSY 672. Advanced Practicum in Clinical Psychology. 1-3 Credit Hours.

Advanced experience in special clinical techniques and clinical supervision. Primarily for post-internship clinical students. The advisor may direct that PSY 672 be repeated, but no more than six credits may be applied toward a degree.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 680. Research. 1-4 Credit Hours.

Investigation of an original problem.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 681. Research. 1-4 Credit Hours.

Investigation of an original problem.

Components: IND.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

PSY 683. Special Topics. 3 Credit Hours.

Topics in selected areas of specialization.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 684. Readings in Psychology. 3 Credit Hours.

Supervised readings in selected topics.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 685. Seminar in Clinical Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 687. Seminar in Clinical Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 688. Seminar in Developmental Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 690. Seminar in Developmental Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 692. Seminar in Personality. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

PSY 693. Seminar in Behavioral Medicine. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

PSY 694. Seminar in Behavioral Medicine. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 697. Seminar in Biological Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 698. Seminar in Quantitative Psychology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

PSY 804. Internship in Clinical Psychology. 1 Credit Hour.

Supervised internship in clinical psychology. May not be counted as part of the 90 hours required for the Ph.D. degree.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 805. Postdoctoral Practicum. 1-3 Credit Hours.

Advanced clinical psychology training for individuals who have completed a clinical psychology Ph.D. or PsyD. from an APA-accredited doctoral program. Supervision of clinical activity by licensed faculty members.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

PSY 806. Summer Research Practicum. 1 Credit Hour.

Faculty-supervised research during the summer for students in the Psychology Ph.D. Program.

Components: THI.

Grading: GRD.

Typically Offered: Summer.

PSY 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PSY 820. Research in Residence. 1 Credit Hour.

Research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in PSY 810 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 825. Continuous Registration--Master's Study. 1 Credit Hour.

To establish residence for non-thesis master's students who are preparing for major examinations. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

PSY 830. Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PSY 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of PSY 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

PSY 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Public Health (BPH)

BPH 202. Introductory Statistics In Health Care. 3 Credit Hours.

Application of descriptive and inferential statistics. Principles and methods of summarizing data including tables, graphs, percentile ranks, central tendency, variability, normal distribution. Basic concepts of probability, hypothesis testing, and analysis of variance. Examples and problems from nursing, health sciences, and public health.

Corequisite: MTH 101. Or Requisite: ALEKS > or = 55 or SAT Score > or = 630 or ACT > or = 28.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BPH 206. Introduction To Public Health. 3 Credit Hours.

Introduction to all aspects of public health, including health services administration, and policy.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

BPH 208. Introductory Epidemiology. 3 Credit Hours.

This course is a general introduction to epidemiology, definition of concepts and natural history of disease and levels of prevention. It also covers measures of morbidity and mortality. Epidemiologic aspects of infectious and chronic diseases.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BPH 301. Human Sexuality And Vulnerable Populations. 3 Credit Hours.

The study of human sexuality via multidisciplinary theoretical perspectives and research. Students will examine the complex relationships of the physiological, psychological, cultural, gender, religious, historical, and political aspects of human sexuality. Human sexuality in the context of health disparities will form the foundation for the course. WRITING COURSE.

Prerequisite: BPH 206. Or Requisite: Junior Status.

Components: LEC.

Grading: GRD.

BPH 303. Hiv/Aids And Health Maintenance For Health Care Providers. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**BPH 305. Issues In Health Disparities. 3 Credit Hours.**

This course will be an introduction to the general research on health systems and health disparities. Emphasis will be placed on social, biological, economic, and social policy issues that impact on the health of minority populations. Concepts associated with epidemiology, poverty, racism, public policy, and international politics will be explored. WRITING COURSE.

Prerequisite: BPH 206. Or Requisite: Junior Status.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BPH 306. Principles Of Nutrition. 3 Credit Hours.**

Principles of nutrition integrated with cultural dietary patterns for client adaptation across the lifespan.

Requisite: Sophomore Status or Permission of Instructor.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BPH 309. Health & Environ.. 3 Credit Hours.**

This course examines health issues, scientific understanding of causes and possible future approaches to control of the major environmental health problems. Topics include how the body reacts to environmental pollutants; physical, chemical, and biological agents of environmental contamination; vectors for dissemination; susceptible populations; the scientific bases for policy decisions and emerging global environmental health problems.

Prerequisite: BPH 206.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BPH 310. Global Health. 3 Credit Hours.**

Introduction to the concepts of global health and the critical links between public health and social and economic development. Determinants of health and patterns of disease and health outcomes across the global are critically examined. The course reviews the determinants of health status in terms of biology, demography, epidemiology, culture, sociology, economics, and politics. Key concerns regarding reproductive health, child survival, nutrition, communicable diseases, and chronic diseases are examined. Health care delivery in developed vs. undeveloped regions of the world are emphasized.

Prerequisite: BPH 206.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**BPH 317. Theories In Growth And Development. 3 Credit Hours.**

Application of growth and development theories through the lifespan with a case study approach to issues commonly encountered nursing practice in a variety of clinical settings.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall & Spring.**BPH 319. Contemporary Issues In Bioethics For Health Care. 3 Credit Hours.**

Prerequisite: BPH 206.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**BPH 321. Health Promotion And Disease Prevention. 3 Credit Hours.**

The focus of this course is on the understanding and implementation of strategies aimed at promoting health and preventing disease. It also focuses on optimal health maintenance and wellness support for individuals, families, and communities. The content of the course includes health across the lifespan and resources associated with health promotion. Common health alternations will be discussed, as well as socio-cultural perceptions of health and illness.

Prerequisite: BPH 206.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BPH 322. Introduction To Health Policy. 3 Credit Hours.**

This course provides an introduction to the organization, delivery, and financing of health care in the United States. We will consider policy challenges created by the structure of the health care system, including access to care, quality of care, and cost growth. Major areas of focus will include public insurance programs, private insurance, the uninsured, health disparities, and implementation of health care reform legislation.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**BPH 352. Biological Principles Of Public Health. 3 Credit Hours.**

This course examines the biological basis and pathogenesis of diseases from a public health perspective and describes the impact on populations. This course also presents the basic scientific and biomedical concepts of modern public health problems and explores in depth mechanisms and models of the major categories of disease. The biologic principles presented in this course are foundations to developing and implementing public health disease prevention, control, or management programs.

Prerequisites: BPH 206, BIL 150, BIL 151, CHM 103 or CHM 111, CHM 105 or CHM 113.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**BPH 355. Global Nutrition. 3 Credit Hours.**

This course examines nutrition related public health issues in the global setting. Nutrition related morbidity and mortality, etiologic factors, and population-focused strategies to address these issues are covered. Food relief and nutrition policies and programs at the local, national and international levels are examined. Current scientific research in international nutrition is reviewed from an epidemiological perspective.

Prerequisite: BPH 206.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

BPH 402. Global Health Disparities Research. 3 Credit Hours.

This is a 4 week intensive educational experience that prepares students to be successful conducting supervised health disparities research as part of the MHIRT program at a foreign institution, disseminating findings, and applying to graduate school. The training program is broken into a preparation phase (3 weeks prior to leaving to their host country), and a dissemination phase (1 week after they return). Students will be working as a research assistant at a foreign site for eight weeks in between the preparation and dissemination phases of this training program. Students will learn about the influence of culture and healthcare policy on health and health disparities, research design, statistics, communicating research findings and careers in health disparities research.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

BPH 419. Contemporary Health Issues In South Florida. 3 Credit Hours.

This course will provide students with an in-depth look at public health topics relevant to communities in South Florida. Emphasis will be placed on the social, cultural, and policy issues that impact the health of vulnerable populations in our community. Interdisciplinary researcher knowledge and practice from the University of Miami and other relevant institutions will be highlighted.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

BPH 461. Practicum In Health Disparities Research. 1-4 Credit Hours.

This course is designed to provide opportunities for students across all levels of higher education to participate in health disparities research. Students will be mentored by a health disparities researcher with an active research project. Objectives will be established by the research mentor and the student according to educational level, interests and opportunities. Students will be incorporated into the research team and expected to attend project meetings. They will also be expected to participate in scholarly work that could contribute to the success of the project. Examples of scholarly work include co-authoring research papers and presentations, developing recruitment materials, assisting in compiling/developing data collection measures, or any other product deemed appropriate by the mentor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BPH 465. Public Health Statistics And Data Management. 3 Credit Hours.

This course is designed to give students an opportunity to apply basic principles of statistics and data management in public health. Students will learn to use statistical techniques to answer questions relating to the morbidity and mortality of health conditions and the efficacy and effectiveness of public health interventions.

Prerequisites: BPH 202 or HCS 202, NUR 202, BPH 206 or HCS 206.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

BPH 487. Global Health Practicum. 3 Credit Hours.

Collaborative clinical venture between UM/SON and an International School of Nursing. Students will exchange supervised western clinical experiences, knowledge and skills for the care of clients and families in specialty areas, including MedSurg, ICU and/or Emergency nursing units. Students will apply and synthesize basic science knowledge and skills that foster ethical, legal, and culturally specific health care.

Prerequisite: BPH 206.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

BPH 490. Field Practicum In Community Health. 3 Credit Hours.

This course provides students with field experiences in community health. During the didactic portion of the course, students will be introduced to the basic principles and methods used in community health assessment, program development, program implementation, and evaluation. During the field experience component of the course students will work under the supervision of lead faculty to apply the knowledge and skills they obtained during their course of study to address a public health issue.

Prerequisites: BPH 206, BPH 208, BPH 309, BPH 310, BPH 321, BPH 322, BPH 352, BPH 465. Requisite: Must be in BSPH Program.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

BPH 499. Selected Topics. 6.00 Credit Hours.

Offerings will vary by semester based upon student demand and availability of faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSMAS General (RSM)

RSM 500. Research Diving Techniques. 3 Credit Hours.

This course is designed to introduce students to the practices and policies of scientific diving. The object is to prepare students to use SCUBA as a research tool for the marine sciences. The course content will qualify students as RESE ARCH DIVERS under the UM/RSMAS Scientific Diving Program and will meet the standards set by the American Academy of Underwater Sciences (AAUS).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 512. Statistics for Environmental Management. 3 Credit Hours.

This course covers the statistical theory, tools, and methods required for management analysis and improvement, emphasizing marine science applications.

Components: THI.

Grading: GRD.

Typically Offered: Fall.

RSM 520. Climate and Society. 3 Credit Hours.

This course is designed to provide students from different disciplinary backgrounds with an overview of physical processes, general concepts and policy debates surrounding climate issues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 521. Object-Oriented Programming And Agent-Based Modelling. 3 Credit Hours.

"Hands-on training in object-oriented programming using Java, including Java statistical packages, and in the development of agent-based and individual-based simulation models for ecological, physiological, social, economic and physical sciences. Course includes introductions to cellular automata and models based on social and behavioral networks. No prior programming experience required."

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 545. Scientific Communication. 0 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 560. Investigating Nature through Science Teacher Active Research (INSTAR) in Physical Science. 2 Credit Hours.

This is a graduate level marine science course that provides a hands-on approach to education focused on geological and meteorological research in South Florida environment. The course provides training in marine science content, field techniques, state-of-the-art field, computer technology, and science educational reform measures. Participants work collaboratively with marine and atmospheric scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: geology, hydrology and meteorology. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 561. INSTAR for Physical Sciences Follow-up. 1 Credit Hour.

This is a follow-up course for participants in MGG 560 and is designed to test the application of the methods learned in MGG 560 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in MGG 560.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 562. Investigating Nature through Science Teacher Active Research in Biological Science. 2 Credit Hours.

This is a graduate level marine science course that provides a hands-on approach to education focused on marine science research and technology in South Florida coastal environments. The course provides training in marine science content, field techniques, state-of-the-art field and computer technology, and science educational reform measures. Participants work collaboratively with marine scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: coral reefs and marine fisheries. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 563. INSTAR Biological Sciences Follow-up. 1 Credit Hour.

This is a follow-up course for participants in RSM 562 and is designed to test the application of the methods learned in RSM 562 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in RSM 562.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 565. Fish Ecology and Oceanography. 3 Credit Hours.

This course is intended to introduce students to key biological, ecological, oceanographic, and climatic processes of direct relevance to fishery species, with a view toward development of an ecosystem perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 566. Polar Science. 3 Credit Hours.

The course covers the physical, chemical and biological components of the polar oceans, atmosphere and coastal regions. The interactions between ocean, ice, atmosphere and land are discussed in detail not only in terms of local relationships, with links to the climate system.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 567. Motorboat Operator Certificate Course. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

RSM 570. Carbon and Climate. 3 Credit Hours.

This course is designed to provide students from different disciplinary backgrounds with an overview of the underlying processes, concepts, and policy debates surrounding the issue of carbon emissions and climate change. Individual faculty from RSMAS and elsewhere will lecture on cutting-edge research areas. Topics covered include: climate modeling; and climate policy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 571. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 572. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 573. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 574. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 575. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 600. Research Diving Techniques. 3 Credit Hours.

This course is designed to introduce students to the practices and policies of scientific diving. The object is to prepare students to use SCUBA as a research tool for the marine sciences. The course content will qualify students as RESEARCH DIVERS under the UM/RSMAS Scientific Diving Program and will meet the standards set by the American Academy of Underwater Sciences (AAUS).

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 612. Statistics for Environmental Management. 3 Credit Hours.

This course covers the statistical theory, tools, and methods required for management analysis and improvement, emphasizing marine science applications.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 620. Climate and Society. 3 Credit Hours.

This course is designed to provide students from different disciplinary backgrounds with an overview of physical processes, general concepts and policy debates surrounding climate issues.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 621. Object-Oriented Programming And Agent-Based Modelling. 3 Credit Hours.

"Hands-on training in object-oriented programming using Java, including Java statistical packages, and in the development of agent-based and individual-based simulation models for ecological, physiological, social, economic and physical sciences. Course includes introductions to cellular automata and models based on social and behavioral networks. No prior programming experience required."

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 645. Scientific Communication. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 660. Investigating Nature through Science Teacher Active Research (INSTAR) in Physical Science. 2 Credit Hours.

This is a graduate level marine science course that provides a hands-on approach to education focused on geological and meteorological research in South Florida environment. The course provides training in marine science content, field techniques, state-of-the-art field, computer technology, and science educational reform measures. Participants work collaboratively with marine and atmospheric scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: geology, hydrology and meteorology. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 661. INSTAR for Physical Sciences Follow-up. 1 Credit Hour.

This is a follow-up course for participants in MGG 560 and is designed to test the application of the methods learned in MGG 560 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in MGG 560.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 662. Investigating Nature through Science Teacher Active Research in Biological Science. 2 Credit Hours.

This is a graduate level marine science course that provides a hands-on approach to education focused on marine science research and technology in South Florida coastal environments. The course provides training in marine science content, field techniques, state-of-the-art field and computer technology, and science educational reform measures. Participants work collaboratively with marine scientists to bring cutting edge marine science content and research to the classroom focusing on the following coastal themes: coral reefs and marine fisheries. The course will be applicable to all graduate and qualified undergraduate marine science students, per-service teachers in colleges of education, and in-service teachers in school systems throughout the country.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 663. INSTAR Biological Sciences Follow-up. 1 Credit Hour.

This is a follow-up course for participants in RSM 562 and is designed to test the application of the methods learned in RSM 562 to the teaching of high school students. Participants are expected to show evidence of teaching material learned in RSM 562.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

RSM 665. Fish Ecology and Oceanography. 3 Credit Hours.

This course is intended to introduce students to key biological, ecological, oceanographic, and climatic processes of direct relevance to fishery species, with a view toward development of an ecosystem perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 666. Polar Science. 3 Credit Hours.

The course covers the physical, chemical and biological components of the polar oceans, atmosphere and coastal regions. The interactions between ocean, ice, atmosphere and land are discussed in detail not only in terms of local relationships, with links to the climate system.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 667. Motorboat Operator Certificate Course. 1 Credit Hour.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

RSM 670. Carbon and Climate. 3 Credit Hours.

This course is designed to provide students from different disciplinary backgrounds with an overview of the underlying processes, concepts, and policy debates surrounding the issue of carbon emissions and climate change. Individual faculty from RSMAS and elsewhere will lecture on cutting-edge research areas. Topics covered include: climate modeling; and climate policy.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 671. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 672. Special Topics. 1-4 Credit Hours.

Lectures and research projects in special topics related to Marine and Atmospheric Science.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 673. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 674. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 675. Special Topics. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 700. Research Ethics. 0 Credit Hours.

The NIH Guide for Grants and Contracts stipulates that Institutions receiving support for National Research Service Award Training Grants are required to develop a program in the principles of Scientific Integrity. The University of Miami Rosenstiel School has chosen to respond to this requirement with this course. This course must be taken during the first semester in the Department or Program. This is a six-hour course and will be given in two sessions of three hours each.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

RSM 720. Object-oriented Programming and Agent-based Modeling. 3 Credit Hours.

Basics of object-oriented programming using Java, including Java statistical packages, and hands-on development of agent-based simulation models for social, economic, biological and physical sciences. Includes introductions to automaton and individual-based models.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

RSM 771. Advanced Studies. 1-4 Credit Hours.

Supervised study or advanced special topics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

RSM 772. Advanced Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 773. Advanced Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 774. Advanced Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 775. Advanced Studies. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 780. Directed Readings. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

RSM 781. Directed Readings. 1-3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Fall, Spring, & Summer.

Radiology (RAD)

RAD 101. SURVEY. 3 Credit Hours.**Components:** LEC.**Grading:** GRD.**Typically Offered:** Spring.

Real Estate Development (RED)

RED 601. Introduction to Real Estate Development and Urbanism.. 3 Credit Hours.

Fundamentals of real estate development of urban places, including the many challenges of the development process such as analyzing market sectors and development opportunities, comprehending the development context of regulation, public policy and politics, raising investment capital, assembling land, program formulation, building types, construction management, marketing, and sales.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**RED 610. Financing Urban Real Estate Development. 3 Credit Hours.**

Concepts and techniques for analyzing financial decisions in property development and investment including: real estate economics and investment performance measurement, leasing and property income streams, pro forma analysis, basics of equity and debt valuation, income tax and leverage considerations, mortgages, and deal structures. Emphasis financing individual projects.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**RED 620. Real Estate Law. 3 Credit Hours.**

Fundamentals of law and the entitlement process, including contractual aspects of real estate development, finance, management and ethical issues and a real-world overview of the review and approvals process.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**RED 630. Market Analysis for Urban Markets. 3 Credit Hours.**

Identification of critical market factors that determine development opportunities. Topics include business and construction cycles, regional and urban growth trends, commercial and industrial location theories, and advanced demographic analysis and projection techniques to project and analyze occupancy, rental growth, absorption, and competitive supply.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**RED 640. National Charrette Institute (NCI). 1 Credit Hour.****Components:** LEC.**Grading:** GRD.**Typically Offered:** Spring.**RED 650. Complex Urban Real Estate Transactions. 6 Credit Hours.**

Real estate finance, law, and deal structuring from the perspective of developers. Using the case study method, the course explores the legal components and the skills needed for drafting the documentation involved in sophisticated real property transactions, as well as complex original financings. prerequisite: Successful completion of Real Estate Finance and Real Estate Law.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**RED 660. Urban Infill, Preservation & Mixed Use Development.. 3 Credit Hours.**

Builds students' competencies for infill and redevelopment practice focusing on: mixed-use development, transit oriented development, barriers and solutions for urban infill development, urban site analysis, repositioning of urban land, vacant and underutilized properties, long-term land leases, tax incentives, historic preservation, public-private partnerships, business improvement districts, tax increment financing, community (re)development districts, parking strategies, and urban housing types.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**RED 670. Construction and Project Management. 3 Credit Hours.**

Management of construction projects including legal considerations and techniques of management science applied to construction. Includes engineering methods of cost and time estimating, and exercises in applications of engineering economics, flow charts, tracking progress, construction contracts, indemnity agreements, and network planning techniques including CPM and PERT.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**RED 680. Entrepreneurship: Building A Real Estate Development Company. 3 Credit Hours.**

Focuses on management and business practices for building new urban real estate firms capable of leading the industry and assuming competitive advantages over conventional models.

Components: LEC.**Grading:** GRD.**Typically Offered:** Spring.**RED 690. Integrated Real Estate Development Case Studies Practicum. 3 Credit Hours.**

Students integrate and apply their learning and skills to complex problem-solving involving a series of intensive real world cases of urban real estate development. Focuses on project feasibility and helps hone the required set of development skills.

Components: LEC.**Grading:** GRD.**Typically Offered:** Summer.

RED 699. Capstone: Real Estate Development and Urbanism Charrette. 3 Credit Hours.

An intensive real estate development and urban design studio in which students are part of a multi-disciplinary team on an urban development project. Focuses on comprehensive analysis, project planning, feasibility and program development through the application of advanced development skills in an urban context.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

Religious Studies (REL)

REL 100. Introduction To Hinduism. 3 Credit Hours.

Introduces academic ways of studying religious traditions, and, in particular the tradition(s) of Hindu practice. A religious tradition with contested dates of origins, Indic religious practices that now fall under the term "Hindu" are documented as early as 1500 BCE. The ideas, philosophies and practices that are called Hinduism today grew and diversified through periods of regional empire in the Indian subcontinent, through Indian expansion into the Indian Ocean region, during the arrival and colonization of Persian and European powers in India, and into the modern period of Indian democracy - and beyond. Today, Hindu practices are part of the landscape not only in India, but in Europe, Africa, the Middle East, Southeast Asia and the Americas, too.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 101. Introduction to Religion. 3 Credit Hours.

An overview of religious perspectives concerning ultimate reality, humankind, and the world, with special attention to major Asian and Abrahamic religions.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 102. Problem of God. 3 Credit Hours.

Contemporary religious issues related to the concept of God. Foundational to this course is an examination of the religious dimension of human experience and consciousness in relation to a number of historical and contemporary problems and challenges. This course approaches the problem of God? from the angle of human experience, focusing on the various historical, social, and existential determinants of belief. Topics include: globalized religion, the challenge of atheism and humanism, the impact of secularization on religion, and an exploration of the historical, social, and theological images of creation and the divine.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 103. One God: Judaism, Christianity, Islam. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 105. One Goal: Transforming the Self in Asian Religions. 3 Credit Hours.

A selective survey of some of the continent's major religious traditions that attempts to provide a sense of their diversity, including a hint of their internal diversity. We will encounter major figures, doctrines, and ethical precepts, but special attention will be paid to one key element shared that distinguishes them from their Abrahamic counterparts (Judaism, Christianity, and Islam): the one goal of self-transformation and the techniques for achieving it. Here we will find the differences among traditions thrown into stark relief even as we encounter surprising parallels and continuities. Along the way students will be exposed to major concepts and approaches to the academic study of religion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 109. Anthropology of Religion. 3 Credit Hours.

Through themes such as myth, word and text, symbol, gender, pilgrimage, embodiment, and ritual, students learn about lived religion through anthropological research and field methods. The course also exposes introductory-level students to diverse world religious traditions: Korean folk religion, Indonesian Islam, Hinduism in diaspora, Judaism across cultures, Japanese temple Shinto traditions, and more.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 111. Introduction to the Old Testament / Hebrew Scriptures. 3 Credit Hours.

The history and literature of ancient Israel and early Judaism.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 121. Introduction to the New Testament. 3 Credit Hours.

The history and literature of the early Christian movement.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 131. Religion in America. 3 Credit Hours.

The history of religion in the U.S. from the pre-colonial period to the present. Includes study of the religion of Native Americans, African Americans, Asian Americans, women, Protestants, Catholics, Jews, and cults.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 151. Religion and Moral Choices. 3 Credit Hours.

Religious responses to dilemmas raised by issues such as capital punishment, biotechnology, abortion, euthanasia, and war.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 161. Religion and Medicine: Health Care as Spiritual Practice. 3 Credit Hours.

An exploration of the history of medical care and the history of medicine as calling, as well as the changing professionalism of health care; the role of virtue ethics in the practice of medicine; the tensions between religion and medicine; the place of personal religious beliefs in health care; and the changing landscape of health, holism, healing, faith, and the science of medicine.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 171. Introduction to Islam. 3 Credit Hours.

History of Islam, the Qur'an, and the systematization of Islamic law. Emergence of the theological schools, the mystical and philosophical traditions, and the spread of Islamic civilization.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 181. Asian Religions. 3 Credit Hours.

The religions of Asia loom large in American popular consciousness, yet are at best dimly understood. This course will peel back the platitudes of fortune cookies and "Eastern wisdom" to reveal the richness of Asian religious traditions in their cultural contexts. Students in this highly selective survey will be exposed to some of the major traditions of South and East Asia, gaining a familiarity with their ideas, practices, and sacred figures as well as certain key issues and categories in the academic study of religion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 231. Jewish Civilization and Being Jewish. 3 Credit Hours.

Introduction to Jewish Civilization from Abraham to present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 232. A Global History of Christianity. 3 Credit Hours.

A survey of the historical development of Christianity from the first century to the present, focusing on the major theological and institutional issues considered in their social and cultural contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 236. Cults and New Religious Movements in America. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 238. Holy War and Toleration in Western Religious Traditions. 3 Credit Hours.

An exploration of concepts of Holy War and Just War and of traditions of tolerance and intolerance in Judaism, Christianity, and Islam, from ancient times to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 239. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious or Historical Traditions subject area).

Components: LEC.

Grading: GRD.

REL 250. Spiritual, Not Religious: Spirituality in the 21st Century. 3 Credit Hours.

An examination of the spiritual outlets and the fabric of religious life in the 21st century, including the New Age movement, the rise of yoga as a spiritual practice, the growth of the self-help phenomenon, the influence of spiritually-oriented figures like Oprah, and the adaptation of religious practice to spiritual seeking. In particular, we will filter this discussion through the experience of the growing percentage of relatively young Americans have no affiliation with religious institutions, many of whom feel attracted to an uncoordinated and decentralized spirituality directed by an individual's life and practice, rather than a church or particular religion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 252. Religion and Human Sexuality. 3 Credit Hours.

The relationship between religious concepts and sexual values as the religious traditions of the United States confront contemporary sexual ethics and behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 259. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Issues or Problems subject area).

Components: LEC.

Grading: GRD.

REL 268. Religion in Modern Israel. 3 Credit Hours.

The role of religious values and institutions in modern Israel, with particular attention to religious elements in nationalism, legal traditions, and the political and educational systems.

Components: LEC.

Grading: GRD.

REL 281. Introduction To Buddhism. 3 Credit Hours.

The Buddhist tradition from a variety of angles and in several cultural contexts. We will attend to the ideas for which Buddhism is famous, while situating Buddhist practitioners in their social contexts at key historical moments. Throughout we will give attention to the issue of our own perspective and what it means to think across the porous borders of culture in an interrelated world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 288. Chinese Religions. 3 Credit Hours.

Over the last generation, China has largely thrown off communist ideology, becoming an economic powerhouse that will shape the 21st century. Alongside economic growth has come a rediscovery and revitalization of its religious heritage. But what is this religious heritage? What makes it unique? What does it offer? And how does this heritage shape China's religious scene today? This course addresses these questions through a survey of Chinese religion focusing on the "Three Teachings"-Confucianism, Daoism, and Buddhism-as well as popular religion. We will examine their development and mutual interaction, attending to their thought and practice as well as their historical and social context. Students will gain not only a familiarity with the religious traditions of China, but also cultivate their ability to think historically and to balance sympathetic and critical understanding.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 291. Introduction to Hinduism. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 300. Dance & Embodied Knowledge in India. 3 Credit Hours.

This is an experimental interdisciplinary course in dance, religion, and Asian studies. In this course, we will experience and analyze the nature of embodied knowledge and the creative power of performance within the Indian context, and in transnational South Asian communities. We will be asking the question "how and what performance creates," in both practice and theory. We will explore ways in which the body "knows" and participates in ritual and religious knowledge, specifically through the classical Indian dance style of Bharata Natyam. One class period per week will be spent learning basic movements of Bharata Natyam dance, culminating in performance of "Pushpanjali," choreographed dance piece in praise of the Hindu deity Ganesha. Time permitting, we will learn excerpts of "Sarasijakshulu Shabdham," an expressive item celebrating the Hindu deity Krishna. The other two class periods each week will frame dance movement with discussions of Sanskrit aesthetic theory (rasa), Hindu devotionalism (bhakti), Hindu mythology (from which Bharata Natyam choreography draws), yoga, and Western performance theories and theories of the body. We will pay particular attention to the differences in which the body and dance are perceived in myth, sculpture/image, aesthetic theories, and dance itself in literature, film, and our own studio experiences.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 301. Ancient Greece. 3 Credit Hours.

Greek civilization from the Late Bronze Age to the end of Greek independence at the battle of Chaeronea in 338 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 302. The Hellenistic Age. 3 Credit Hours.

Conquests of Alexander the Great and the spread of Greek culture in the Near East under Alexander's successors until the death of Cleopatra in 31 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 303. The Roman Republic. 3 Credit Hours.

Roman civilization from the establishment of the Republic until the Battle of Actium in 31 B.C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 304. The Roman Empire. 3 Credit Hours.

Roman civilization from the reign of Augustus in 27 B.C.E. to the Fall of Rome in 476 C.E.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 305. The Ancient Near East: Religion and Culture. 3 Credit Hours.

Historical and cultural forces in the major religions of the ancient Near East, from 3000 to 300 B. C. E. Cultural achievements such as the Epic of Gilgamesh, the pyramids and the Bible.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 306. Religion and Culture in Ancient Egypt. 3 Credit Hours.

A survey of religion and culture in Ancient Egypt from pre-dynastic times to the Roman era.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 307. Religion and Culture in Pre-Islamic Arabia. 3 Credit Hours.

A survey of religion and culture in Arabia from prehistory to the coming of Islam.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 308. Where Does Christianity Come From? The Greco-Roman Context of Early Christianity. 3 Credit Hours.

The Greco-Roman world in which the first Christians lived, with particular emphasis given to the historical, moral, political, religious, rhetorical, and social contexts of early Christianity.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 311. Prophecy and Prophetic Literature in the Hebrew Bible. 3 Credit Hours.

Prophecy in ancient Israel and Judah and the prophetic literature of the Hebrew Bible in relation to its ancient near-eastern historical, religious, and social context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 312. Torah and Ancient Law. 3 Credit Hours.

The first five books of the Hebrew Bible (Genesis, Exodus, Leviticus, Numbers, Deuteronomy) in relation to their ancient Near Eastern historical, cultural, and religious context.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 314. The Rise of Judaism. 3 Credit Hours.

The history and literature of early Judaism, covering the period from the fall of Jerusalem in 587/586 BCE to the beginnings of rabbinic Judaism and the formation of the Mishnah (ca.200 CE).

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 315. Jewish Mysticism. 3 Credit Hours.

A survey of the major ideas and texts dealing with Jewish Mysticism (Kabbalah, Hassidism).

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 319. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Literature or Texts subject area).

Components: LEC.

Grading: GRD.

REL 321. Jesus and the Gospels. 3 Credit Hours.

An examination of the Jesus tradition, focusing on the formative period of the first two centuries. Special emphasis on the four New Testament Gospels, with a survey of the treatment of Jesus in other documents, both Christian and non-Christian.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 322. Paul the Apostle: Letters and Controversies. 3 Credit Hours.

The heritage, writings, and legacy of the apostle Paul. Careful analysis of the Pauline corpus (especially Romans), with particular attention given to the radically different interpretations of Paul in both ancient and modern thought.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 324. The bible and modern film.. 3 Credit Hours.

The diverse ways in which contemporary cinematic arts interpret and depict narratives from the Bible and the ancient Mediterranean world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 325. Jesus in Myth and History. 3 Credit Hours.

Changing concepts of Jesus in Western culture, as they emerge in literature, art, and films.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 326. The Bible in History. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 330. Caribbean Religion. 3 Credit Hours.

Caribbean Religion with an emphasis on African Diaspora and Creole religions. The religious traditions we will cover include: Rastafarianism, Regla de Ocha (Santeria), Voodoo, Espiritismo, Regla de Palo, and Obeah.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

REL 331. Religions of Asia. 3 Credit Hours.

The major religions of South and East Asia including Hinduism, Buddhism, Confucianism, Taoism, and Shinto.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 332. Judaism, Christianity, and Islam. 3 Credit Hours.

Completes the study of world religions begun in REL 331, but emphasizes the religions of the West. Religions studied: Zoroastrianism, Sikhism, Judaism, Christianity, and Islam. May be taken without having had REL 331.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 334. The American Jewish Experience: Hollywood and Popular Culture. 3 Credit Hours.

Analysis and interpretation of the image of the Jew and the Jewish experience in American cinema, with emphasis on how the experience and attitudes of Americans in general and the American Jewish community in particular have been reflected on the screen from the pre-World War II period until the present and on the tension between maintaining an ethnic identity and assimilating.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 335. American Religion in Modern Film. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 336. The American Encounter with Asian Religions. 3 Credit Hours.

A study of inter-cultural interaction and inter-religious encounter focusing on the history of American responses to Asian religions from 1784 to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 338. Latin American and U.S. Latino/a Religion. 3 Credit Hours.

The roots of Latino/a religion in Indigenous, African, and Spanish culture and religiosity. Issues of race, identity, politics, and culture will feature prominently throughout the course.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

REL 339. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious or Historical Traditions subject area).

Components: LEC.

Grading: GRD.

REL 341. Modern Religious Thought I. 3 Credit Hours.

The main currents and major figures in Western religious thought from the beginnings of the Enlightenment to the middle of the nineteenth century.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 342. Modern Religious Thought II. 3 Credit Hours.

Western religious thought from the middle of the nineteenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 343. Saints and Sinners: Introduction to Catholicism. 3 Credit Hours.

This course considers contemporary forms of Catholic piety, social ethics, political action, and theology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 345. Religion and Gender. 3 Credit Hours.

The influence of Western religion on the status and role of women.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 347. Experiencing Religion: Conversion. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 348. Reformation Europe. 3 Credit Hours.

The religious, political, cultural, social, and economic forces that produced a schism in 16th-century Western Christendom. Note: May be taken for credit in only one department as REL 348 or HIS 328.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 349. All Roads Lead To Rome: A Multi-Disciplinary Approach To Religion And Rome. 3 Credit Hours.

This course examines Rome's role as importer, exporter, cultivator, and transformer of religion and the religious life, giving attention to both the past and the present. Students will increase their awareness of the important elements of the major religions discussed in class—their myths, symbols, rituals, doctrines, moral codes, and artistic expressions—and the ways in which Rome has influenced them.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 350. Current Issues in Religion. 3 Credit Hours.

Individual study and group discussion of the relevance of religion to contemporary issues such as race conflict, women's rights, intermarriage, refugees, media, prejudice, and counter culture groups.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 351. Religious Issues in Death and Dying. 3 Credit Hours.

Major religious perspectives on the experience of death and the nature of the dying process.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

REL 352. Religion and Science. 3 Credit Hours.

The religious and ethical issues created by modern science and technology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 353. Religion and American Politics. 3 Credit Hours.

Religious and ethical issues at debate in the American political scene.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 354. Religion and the Problem of Evil. 3 Credit Hours.

Major religious perspectives on the origin and nature of evil and human suffering.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 355. Religion and Its Interpreters. 3 Credit Hours.

Nineteenth and twentieth century Western interpretations of religion including anthropological, sociological, psychological, theological, literary, and feminist approaches.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 356. Myth and Religion. 3 Credit Hours.

How humans use language to form and communicate conceptions of reality, focusing on the highly elusive concept "myth"; special attention to the concept's usefulness for thinking about religion.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 357. Gender, Power, Gods. 3 Credit Hours.

The relationship between sex, gender, and ethics in Judaism, Christianity, Islam and Hinduism. Topics covered include feminism, race and ethnicity, homosexuality, transexuality, and masculinity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 358. The Color of God: Race and Religion. 3 Credit Hours.

This course will examine the role of race and ethnicity within the discipline of religious studies. We will emphasize the manner in which racial and ethnic identity have contributed to religious identity, and the way in which religion has functioned within the struggles of racially and ethnically marginalized peoples. This course will focus on the Americas and draw from diverse racial, ethnic, and religious traditions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 359. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Issues or Problems subject area).

Components: LEC.

Grading: GRD.

REL 360. Religion and Bioethics. 3 Credit Hours.

The implications of religious thought for contemporary problems of biomedical ethics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 361. "Religion and Youth in Contemporary America". 3 Credit Hours.

An interdisciplinary examination of the role of religion in the lives of teenagers and college students in contemporary America.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 362. The Sanctity Of Life: Selected Themes From The Ancient World To The Present. 3 Credit Hours.

This course examines the religious foundation of the idea that human life is "sacred" and considers a wide range of historical and ethical issues associated with this central concept of Western thought. It explores the meaning of the multi-faceted phrase "sanctity of life," including its implications for such ethical and legal concerns as conception, birth, and termination of life; human dignity and human rights; the quality of life; and social justice. Some of the issues considered will include bigotry and prejudice; economic and social injustice; euthanasia, infanticide, and suicide; genocide, holy war, jihad, terrorism, and violence; health care and its cost; human trafficking and slavery; martyrdom and self-martyrdom; social-stratification; aging, death, disposal of the body; and the afterlife, especially in Dante's *Inferno*. We will examine how "life" is defined and described in different cultures at different times in history, and how various religions have influenced these matters.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 363. Religion and Science Fiction: Dystopia, Faith, and the Future. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 370. Islam in Modern Times. 3 Credit Hours.

Islam's encounter with the west, the impact of modernization on the Muslim World, and the rise of Islamic Fundamentalism. Islam in America and the Afro-American Islamic movements will also be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 371. Islam And Gender. 3 Credit Hours.

Gender issues such as homosexuality, masculinity, femininity, modesty, virginity, sexuality and its control, and veiling in Islam.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 375. Democracy and Religion in Israel and Palestine. 3 Credit Hours.

Israel's evolution as a nation and a society by focusing on the impact of religion on ethnicity, culture, and democracy.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 376. Shi'ism: Religion, Culture, and History. 3 Credit Hours.

The religious, cultural, and historical aspects of Twelver Shi'ism. The course has a film component.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 377. Sufism: Islamic Mysticism. 3 Credit Hours.

The doctrines, practices, teachings, and history of Sufism, the mystical dimension of Islam.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 378. Religion and Civic Engagement. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 380. Archaeology of Palestine from Prehistory to Islam. 3 Credit Hours.

A survey and analysis of the major archaeological excavations and surveys of Palestine.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 383. Activist Bodhisattvas: Buddhist Ethics And Social Engagement. 3 Credit Hours.

One of the most important developments in modern Buddhism has been the turn toward social engagement and activism. Across Asia and beyond, Buddhist organizations and movements have emerged that consider improving society to be an intrinsic Buddhist concern alongside the classic focus on perfecting the self. Where does this development come from? To what degree is it a departure from previous tradition? How do these movements reconceive and rearticulate Buddhist teachings and practices to address the problems of their societies and the global community? What perspectives does socially engaged Buddhism offer to others movements seeking to address the ills of our time? This course will explore these questions through a consideration of selected examples drawn from several Buddhist traditions

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 384. Karma. 3 Credit Hours.

Karma is one of the most central doctrines of Buddhism and by far the most viral. Through lip jars, pop songs, and TV shows, the concept has become familiar to many. But what is karma? How does it work? What does it mean to live in a karmic universe? This course will examine these questions through a consideration of Buddhist doctrine, ritual, ethics, and narrative.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 388. Living Stories: Narrative In Asian Traditions. 3 Credit Hours.

In popular culture, Asian religions are referred to as "Eastern Philosophy." Yet, philosophical doctrine is only one part of Asian religious traditions and for many not the most prominent. Oftentimes narrative, key stories or modes of storytelling, occupies a more central role. But what is that role? How do narratives transmit religious ideas and values and inform ritual life? How do they evolve over time? And how do religious individuals and communities drawn upon them to work in the world? This course will address these questions through a focus on a few narratives selected Asian religions, such as Hinduism, Buddhism, and Confucianism. We will attend to these stories as living phenomena that evolve over time and play a vital role in their communities and also as something that those communities live with as they make their way through the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 391. Bollywood and Beyond: Religion, Gender and Politics in South Asian Film. 3 Credit Hours.

Themes in Indian society through the lens of Indian cinema - both Bollywood and the regional film industry. The important themes covered are: the complex narratives of caste, myth, politics, gender, sexuality, and the challenges of modernity in India.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

REL 401. Supervised Reading in Religious Literature or Texts. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 402. Supervised Reading in Religious or Historical Traditions. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

REL 403. Supervised Reading in Religious Issues or Problems. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

Components: THI.

Grading: GRD.

Typically Offered: Spring.

REL 404. Special Topics in Religious Literature or Texts. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 405. Special Topics in Religious or Historical Traditions. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 406. Special Topics in Religious Issues or Problems. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 407. Special Projects in Religious Literature or Texts. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 408. Special Projects in Religious or Historical Traditions. 3 Credit Hours.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 409. Special Projects in Religious Issues or Problems. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 419. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Literature or Texts subject area).

Components: LEC.

Grading: GRD.

REL 439. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious or Historical Traditions subject area).

Components: LEC.

Grading: GRD.

REL 450. Psychology of Religion. 3 Credit Hours.

Contemporary psychological theory and research on religious belief, experience, and behavior. Topics include the biological bases of religion, religious development, and the links of religion to health and well-being.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 451. Ethics and Genetics. 3 Credit Hours.

Pressing social, ethical, and legal issues raised by our constantly increasing knowledge of genetics, and the applications of this knowledge already available or being proposed. Access to and use of personal genetic information; race and genetics; the diagnosis and treatment of inherited diseases; new modalities of healthcare delivery becoming available through genetics; the current state of stem cell research; genetically modified animals and plants as sources of food, medicines, and fuel; and the use of genomics.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 459. Transfer Credits. 1-4 Credit Hours.

Courses taken at other institutions with no direct equivalents (Religious Issues or Problems subject area).

Components: LEC.

Grading: GRD.

REL 491. Sr. Honors Thesis. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 492. Sr. Honors Thesis II. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

REL 499. Method and Theory in the Study of Religion. 3 Credit Hours.

An examination of central issues and texts in the academic study of religion, with special focus on the rise of the discipline, its axioms, and its several schools of interpretation.

Requisite: Must be in a Plan of Religious Studies or Religious Studies and Health Care.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 501. Supervised Reading in Religious Literature or Texts. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 502. Supervised Reading in Religious or Historical Traditions. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 503. Supervised Reading in Religious Issues or Problems. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 505. Seminar in Ancient Studies. 3 Credit Hours.

Various topics in Greek and Roman Studies.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 510. Seminar in Hebrew Bible and Ancient Judaism. 3 Credit Hours.

Selected topics in Hebrew Bible and Ancient Judaism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 520. Seminar in New Testament and Early Christianity. 3 Credit Hours.

Selected topics in New Testament and Early Christianity.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 530. Seminar in Religious or Historical Traditions. 1-3 Credit Hours.

Selected topics in religious or historical traditions.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 550. Seminar in Religious Ethics. 3 Credit Hours.

Selected issues in religious ethics and their social implications.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 560. Seminar in Contemporary Religious Issues. 1-3 Credit Hours.

Selected topics in contemporary religious issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 601. Supervised Reading in Religious Literature or Texts. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious literature or texts.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 602. Supervised Reading in Religious or Historical Traditions. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious or historical traditions.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 603. Supervised Reading in Religious Issues or Problems. 1-3 Credit Hours.

Independent study to enable students to read extensively in an area of personal interest in religious issues or problems.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 605. Seminar in Ancient Studies. 3 Credit Hours.

Various topics in Greek and Roman Studies.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 610. Seminar in Hebrew Bible and Ancient Judaism. 3 Credit Hours.

Selected topics in Hebrew Bible and Ancient Judaism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 620. Seminar in New Testament and Early Christianity. 3 Credit Hours.

Selected topics in New Testament and Early Christianity.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 630. Seminar in Religious or Historical Traditions. 1-3 Credit Hours.

Selected topics in religious or historical traditions.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 650. Seminar in Religious Ethics. 3 Credit Hours.

Selected issues in religious ethics and their social implications.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

REL 660. Seminar in Contemporary Religious Issues. 1-3 Credit Hours.

Selected topics in contemporary religious issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

Research Training (RST)

RST 401. Responsible Conduct of Research. 0 Credit Hours.

Components: THI.

Grading: CNC.

Typically Offered: Fall & Spring.

RST 402. Responsible Conduct of Research. 0 Credit Hours.

Components: THI.

Grading: CNC.

Typically Offered: Fall & Spring.

RST 411. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 412. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 501. Responsible Conduct of Research. 0 Credit Hours.

Online research ethics training via CITI Program Responsible Conduct of Research course.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

RST 502. Responsible Conduct of Research. 0 Credit Hours.

Research ethics training via Ethics Programs Responsible Conduct of Research classroom course.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

RST 511. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 512. Responsible Conduct Of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 601. Responsible Conduct of Research. 0 Credit Hours.

Online research ethics training via CITI Program Responsible Conduct of Research course.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

RST 602. Responsible Conduct of Research. 0 Credit Hours.

Research ethics training via Ethics Programs Responsible Conduct of Research classroom course.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

RST 611. Responsible Conduct of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 612. Responsible Conduct Of Research. 0 Credit Hours.

Components: DIL.

Grading: GRD.

Typically Offered: Fall & Spring.

RST 720. Research Ethics. 3 Credit Hours.

Course focuses on topics related to what is sometimes called the "responsible conduct of research" (RCR). It covers the landscape of "scientific integrity" - both the principles and day-to-day practicalities of research ethics. The course is inter-disciplinary in its approach. Readings and other materials used as part of the course draw on the examples from many academic fields, and are intended to have application to any academic or professional area of study in which research is conducted.

Components: THI.

Grading: SUS.

Typically Offered: Fall.

Sociology (SOC)

SOC 101. Introduction to Sociology. 3 Credit Hours.

Organization of human society, processes of change, and society's influence on individual behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 103. Social Problems. 3 Credit Hours.

Causes, scope, and possible solutions of social problems in American society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 210. Introduction to Social Research. 3 Credit Hours.

Purposes, methods, and techniques of social investigation.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 211. Quantitative Methods for Sociologists. 3 Credit Hours.

Data analytic techniques to analyze sociological topics. Emphasis is on basic graphic displays, measures of center and variation, chi-square, ANOVA, correlations, and regression.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 212. Quantitative Methods Lab. 1 Credit Hour.

Statistical lab associated with SOC 211, PSY 291, PSY 292 introduces the use of computer statistical packages for analyzing quantitative data.

Corequisite: SOC 211 or PSY 291 or PSY 292.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 217. DRUG ABUSE. 3 Credit Hours.

Components: LEC.

Grading: GRD.

SOC 270. Deviant Behavior. 3 Credit Hours.

General deviance concepts, theories of deviance and non-criminal deviance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 271. Criminal Justice. 3 Credit Hours.

A survey of the criminal justice system in the United States with an emphasis on the interrelationships between law enforcement, the courts, and corrections.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 291. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 292. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 293. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 301. Social Organization. 3 Credit Hours.

Roles, organization, personality and values as components of formal and informal groups.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 302. Social Psychology: Sociological Perspective. 3 Credit Hours.

The influence of human groups and social processes on individual behavior, and personality.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 303. Social Inequalities. 3 Credit Hours.

Social ranking by class, status, and power. Stratification by age, sex or minority group membership.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 304. Dynamics of Poverty in the United States. 3 Credit Hours.

Examines trends in the incidence and causes of major types of poverty among the urban underclass, the homeless, migrant laborers, the working poor. Also explores policy-related solutions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 305. Globalization And Society. 3 Credit Hours.

Concepts and theories that are currently in use to understand globalization both as a process and as a structure: social aspects and narratives of globalization, and theoretical sociological models as scaffolding for understanding many of the disparate characteristics of globalization. Globalization as it spans disciplinary divisions and its understanding: the emergence of novel economic forms and practices as a pivotal driving force for globalization. Human migrations and their consequences on cultural identity and diffusion, and the role of technology in the creation and consolidation the global world. New and complex structures of socioeconomic inequality at national and at transnational levels, the disproportionately important roles that women play in these new structures of inequality, and the social forces and movements that have emerged to resist globalization or to alter it in important ways.

Prerequisite: SOC 305.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SOC 306. Wealth And Poverty In Contemporary America. 3 Credit Hours.

The causes and consequences of rapidly changing patterns of concentration of socioeconomic resources, such as wealth and income in America. This changing concentration is associated with the proliferation of impoverishment and privilege in America. Analyzes macro-economic changes, demographic shifts, technological advances, and evolving ideological postures as sources of these trends.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 320. Social Epidemiology: Illness and Death in Society. 3 Credit Hours.

Theories, issues and methods of study pertinent to illness and death in society. Social factors implicated in patterns of mental and physical health and mortality.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 321. Applied Health Policy. 3 Credit Hours.

Role of public and private institutions in health promotion, health care delivery, and health insurance. Explains how and why government and society attempt to influence health-related behaviors and the resulting effects on individuals' lives.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 332. Collective Behavior. 3 Credit Hours.

Classical theories, issues, and research on fads, fashions, riots, crowd behavior, social movements and other forms of collective behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 335. LGBTQ Communities. 3 Credit Hours.

Sociology of Lesbian, Gay, Bisexual, Transgendered and Queer communities and identities. This course examines the history, methods, theory and concepts of social science research on these topics over the last half century and examines contemporary issues.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 340. Sociology of Religion. 3 Credit Hours.

Social foundations of religion, growth and change within religious institutions and relationships of religion to other institutions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 341. Social and Cultural Change. 3 Credit Hours.

Survey of major theories of change; analysis of the processes and mechanisms of change. Contemporary transitions in the underdeveloped regions of the world.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 342. Contemporary Latin American Societies. 3 Credit Hours.

Social characteristics of Latin American societies and their comparison with North American society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 345. Population and Society. 3 Credit Hours.

Demographic analysis of fertility, mortality, sex-age structure, migration, urbanization and population control.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 350. Sociology of the Family. 3 Credit Hours.

Examines definitions, history and larger social structures in which family relations are embedded.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 351. Business and Society. 3 Credit Hours.

This course explores the influence of business objectives, values, and ethics on American culture, moral standards, and societal institutions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 352. Sport and Society. 3 Credit Hours.

Sport as an expression of, and shaper of U.S. society; cross cultural and historical comparisons; specialization, player rights, violence, and the "winning" psychology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 359. The Sociology of Human Sexuality. 3 Credit Hours.

A socio-historical survey of sexual ideologies, attitudes and behavior in human societies, with emphasis on social and biological factors.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 365. Internship. 3 Credit Hours.

Prescribed study and supervised work in various types of organizations and institutions.

Components: DIS.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 368. Violence in America. 3 Credit Hours.

Violence in historical, international and situational contexts, including the major explanations of violence, and factors associated with violent crime.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 370. Juvenile Delinquency. 3 Credit Hours.

The extent and nature of juvenile delinquency. The juvenile justice system, correctional institutions for delinquents, community treatment and prevention programs.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 371. Criminology. 3 Credit Hours.

Social, cultural and individual factors in the etiology of crime; the consequences of criminal behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 372. Criminology: Police and Community. 3 Credit Hours.

The police in U.S. society. Interaction with groups and institutions.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SOC 373. Criminology: Courts and Society. 3 Credit Hours.

The courts and judicial functions in U.S. society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 374. Criminology: Corrections. 3 Credit Hours.

Corrections in the U.S. society; philosophies of rehabilitation, punishment, and incapacitation.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 375. Sociology of Mental Health and Illness. 3 Credit Hours.

An introduction to sociological theories and research regarding the definition, experience, and treatment of mental illness.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 377. Sociology of Drug Abuse. 3 Credit Hours.

The epidemiology and etiology of drug abuse, treatment and prevention, societal reaction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 378. Criminology: Law and Society. 3 Credit Hours.

Function of law in a complex social structure.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 380. Sociology of Gender. 3 Credit Hours.

Social and historical construction of gender. Discussion of gender and various social institutions and categories.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 381. Aging in Society. 3 Credit Hours.

Basis for understanding the social aspects of aging, diversity in the lives of older adults (e.g., family, health, work and retirement, wealth and poverty, death and dying), and public policy that affects us all.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 383. Sociology of Education. 3 Credit Hours.

Course focuses on the institution of education. Assesses its structure, processes, and interaction patterns within it. Also examines its impact on socioeconomic inequality along race, class, and gender lines.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 384. Medical Sociology. 3 Credit Hours.

Sociological aspects of health care, patient behavior, medical institutions.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 385. U. S. Latinos. 3 Credit Hours.

Sociological perspectives are employed in the examination of the historical, social, economic, and cultural experiences of Latino/as in the United States.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 386. U. S. Immigration. 3 Credit Hours.

The major sociological debates in the field of immigration with an emphasis on recent immigrants to the U.S.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 387. Race and Ethnic Relations. 3 Credit Hours.

The influence of racial distinctions on individual and social behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 388. The Black Ghetto in Urban Society. 3 Credit Hours.

This course examines the origin and evolution of the "ghetto" as a concept and the social and historical significance of the ghetto in understanding the development of black community life in urban America.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 389. The Black Athlete in White America. 3 Credit Hours.

The impact of racism on sport in the United States with a specific focus on the Black Athlete. Drawing upon the literature on race and sport in America, the course takes a historical view of the social context in which black athletes have competed and excelled in their craft against tremendous odds both inside and outside of sport competition.

Prerequisite: SOC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 390. Directed Studies. 1-3 Credit Hours.

Individually supervised readings or research on special topics offered by arrangement with instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 391. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 401. Sociological Theory. 3 Credit Hours.

Classical sociological concepts and theory from the eighteenth century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 410. Social Research Practicum. 1-3 Credit Hours.

Each student will work directly with a designated faculty mentor to obtain general research training, data analysis techniques, and technical writing skills. As part of the research practicum, students will work in collaboration with their faculty mentor to prepare a journal-length research manuscript and assemble related research materials to gain practical knowledge of the scientific research process. This one-on-one experience will also enhance students' training in sociology and provide them with useful analysis and writing skills when they enter the job market.

Prerequisites: SOC 101, SOC 210, SOC 211, SOC 212.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 470. Theories of Deviant Behavior. 3 Credit Hours.

Social, cultural, and individual factors involved in the etiology of deviance and crime. Strain and control theories, learning theory, conflict and interaction theories.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SOC 480. Health Disparities In The U.S.. 3 Credit Hours.

Comprehensive examination of U.S. health disparities based on race and ethnicity, gender, socioeconomic status, sexual orientation, and the environment. Draws theoretical perspectives from multiple disciplines. The most pressing US health disparities put into historical context to identify priorities for their elimination.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

SOC 487. Race, Ethnicity, and Criminal Justice. 3 Credit Hours.

Discussion of race and ethnicity, crime and justice. Examination and evaluation of theory, research and the justice system.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SOC 488. Gender and Crime. 3 Credit Hours.

Examination of gender, power, and crime, including feminist theories and the criminal justice system.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 490. Directed Studies in Sociology. 1-3 Credit Hours.

Supervised independent study on special topics. Arrangement with individual faculty.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 491. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 492. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 493. Special Topics. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 498. Senior Honors Thesis in Sociology or Criminology I. 3-6 Credit Hours.

Independent research project.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 499. Senior Honors Thesis in Sociology or Criminology II. 3-6 Credit Hours.

Independent research project.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 511. Sociological Statistics. 3 Credit Hours.

Probability theory, descriptive statistics and tests of independence.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 590. Dir Studies In Soc. 1-3 Credit Hours.**Components:** THI.**Grading:** GRD.**SOC 601. Classical Sociological Theory. 3 Credit Hours.**

The focus of this course is the work of Comte, Durkheim, Marx, Weber, and Parsons, along with more recent perspectives such as symbolic interactionism, phenomenology, ethnomethodology, and critical theory.

Components: SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 602. Contemporary Sociological Theory. 3 Credit Hours.**

Recent developments in social theory, such as, for example, the work of Giddens, Habermas, Derrida, Bourdieu, Baudrillard, and Lyotard, along with important themes such as feminism, integration, the linguistic turn, habitus, (anti)foundationalism, and symbolic violence.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 603. Special Topic: Sociology Of Knowledge-Science And Technology. 3 Credit Hours.**

To address the debates over the nature of social science and technology. In addition to the theoretical disputes, the applications, critiques, and politics of scientific inquiry and technology use will be the focus of attention.

Requisite: Graduate Status.

Components: SEM.**Grading:** GRD.**Typically Offered:** Fall & Spring.**SOC 604. Proseminar in Sociology. 1 Credit Hour.**

Introduction to Sociology: the research process, departmental resources, and the graduate program.

Components: SEM.**Grading:** GRD.**Typically Offered:** Fall.**SOC 609. SOCIAL STATISTICS. 3 Credit Hours.**

Probability theory, descriptive statistics and tests of independence.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 610. Advanced Research Methods. 3 Credit Hours.**

Quantitative techniques for the measurement of theoretical constructs, the consequences of technique selection, and the relationships between method and underlying theory.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 611. Advanced Sociological Statistical Analysis I. 3 Credit Hours.**

Multiple linear regression and regression diagnostics using Stata, analysis of categorical dependent variables, count dependent variables, simultaneous equations, and panel data models. Some topics may not be covered and others may be added at the discretion of the instructor.

Components: LEC.**Grading:** GRD.**Typically Offered:** Fall.**SOC 612. Sociological Statistics II. 3 Credit Hours.**

Advanced statistical analysis techniques covering topics such as hierarchical linear models (HLM), structural equation models (SEM), instrumental variables (IV), factor analysis, propensity score matching (PSM), and nonparametric methods. Some topics may not be covered and others may be added at the discretion of the instructor.

Components: SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 613. Qualitative Research Methods. 3 Credit Hours.**

In-depth introduction to qualitative, inductive methods, with emphases on grounded theory and action research. Focus on qualitative interviewing (including focus groups) and participant observation for the collection of data in naturalistic social settings, with simultaneous data analysis; qualitative methods in mixed-methods research introduced. Covers ties between methods and theory, additional basic methods used in qualitative research, and typical analytic approaches; touch on more esoteric methods; study current issues and debates relevant to this set of approaches to generating knowledge.

Components: SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 614. Evaluation Research. 3 Credit Hours.**

Conceptualizing, designing, conducting, and interpreting the results of evaluation research programs in health and human service agencies.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 615. Class Structure and Social Stratification. 3 Credit Hours.**

Theoretical and research approaches to class structure and social stratification, with a focus on the U.S. Examines the conflict perspective(s) and major alternative views including economic class, status and power, gender and race.

Components: LEC.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 616. Social Psychology: Sociological Perspectives. 3 Credit Hours.**

Theories and research addressing the mutual influence between social groups and structures, on the one hand, and individual selves and behaviors, on the other. Balance emphasis between symbolic interactionist and structural approaches, with attention to additional related, yet distinct theoretical perspectives.

Components: SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.**SOC 617. Social Organization. 3 Credit Hours.**

Examines theories of organization and work, discrimination, technology and job design, bureaucracy, productivity and organizational culture, responsible organizations, and alienation.

Components: SEM.**Grading:** GRD.**Typically Offered:** Offered by Announcement Only.

SOC 620. Social Epidemiology. 3 Credit Hours.

Theories, issues and methods of study pertinent to health and illness in society. Social factors implicated in patterns of disease occurrence.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 622. Teaching Seminar in Sociology. 3 Credit Hours.

Pedagogical techniques for teaching Sociology at the college/university level.

Components: SEM.

Grading: GRD.

Typically Offered: Fall.

SOC 632. Social Psychology of Health and Illness. 3 Credit Hours.

Social and psychological factors affecting susceptibility to illness, health related beliefs and behaviors: the doctor-patient relationship: evaluation of health care systems and patient compliance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 635. Medical Sociology: Issues in Research and Theory.. 3 Credit Hours.

Examination of health, illness, and health care from sociological perspectives. Includes social-structural, interpretive, and critical approaches, as various authors have used these to address specific issues. Phenomena to be examined range from macro (e.g. population patterns of mortality and morbidity, health care policy) to micro (e.g. the subjective experience of illness). Related theories and methodologies discussed. Focus varies somewhat by instructor and as issues emerge in the discipline.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 636. Health Diversity Across The Life Course. 3 Credit Hours.

Diversity in health across the life course from broad sociological and cross-disciplinary theoretical traditions. Key questions in medical sociology will be addressed to discover the impact of the life course processes on the health or vitality of diverse individuals and diverse populations, with a focus on inequality and the elements of time and history.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 650. Social Analysis of Race Relations. 3 Credit Hours.

The impact of race relations research on the discipline of sociology.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 651. Race Relations: Social Psychological Perspectives. 3 Credit Hours.

Social psychological perspectives on the nature, causes, and consequences of racial inequality in American society.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 652. Theories of Race and Ethnic Relations. 3 Credit Hours.

Micro- and macro-level theories of race and ethnic relations.

Components: DIS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 653. RACE, IDEOLOGY, AND FRAMING INEQUALITY. 3 Credit Hours.

Examines the various ideologies that have emerged on the limited states to describe and, at times, resist racial inequality.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

SOC 671. Seminar on Criminology. 3 Credit Hours.

Selected issues, topics, theories, and recent research in criminology.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 672. Research in Crime and Delinquency. 3 Credit Hours.

Measurement issues; effects of race, gender, age, and socio-economic status on criminality; extra-legal factors affecting criminal justice decision making.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 673. Theories of Criminology. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 675. Theories of Criminology. 3 Credit Hours.

Discussion of the research testing criminological theories, including measurement, methodological, and statistical issues.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 690. Directed Studies. 1-3 Credit Hours.

Individually supervised readings or research on special topics. Offered by arrangement with the instructor.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 691. Special Topics and Current Issues in Medical Sociology. 1-3 Credit Hours.

Seminar topics will be announced in schedule of classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 692. Special Topics and Current Issues in Criminology. 1-3 Credit Hours.

Seminar topics will be announced in schedule of classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 693. Special Topics and Current Issues in Race/Ethnic Relations. 1-3 Credit Hours.

Seminar topics will be announced in schedule of classes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SOC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

SOC 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in SOC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SOC 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. The student will enroll for credit as determined by his/her advisor, but for not less than a total of 12 hours. Up to 12 hours may be taken in a regular semester, but not more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

SOC 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. who have advanced to candidacy. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of SOC 740 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

SOC 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

Spanish (SPA)

SPA 101. Elementary Spanish I. 3 Credit Hours.

For students with no background or previous study of Spanish. The focus of SPA 101 is the development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: university life, family, leisure activities, and professions. Includes both oral and written assignments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish. Not open to students who have completed 2 or more years of high school Spanish. Closed to heritage and native speakers of Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 102. Elementary Spanish II. 3 Credit Hours.

Continuation of SPA 101. The development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: childhood and adolescence, university life, home and community, food and lifestyle, and environmental issues. Includes both oral and written assessments of grammatical structure and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 105. Accelerated Elementary Spanish. 3 Credit Hours.

For students with previous study of Spanish desiring to review material covered in SPA 101 and 102 in preparation for continued study of Spanish at the intermediate level. The focus of SPA 105 is the continued development of communicative abilities in speaking, reading, writing, and comprehension of Spanish and an introduction to the cultural practices of the Spanish-speaking world. Themes on: university life, family, leisure activities, and professions, childhood and adolescence, university life, home and community, food and life-style, and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 107. Basic Spanish for Heritage Learners. 3 Credit Hours.

Designed for students with little or no prior instruction in Spanish who, because of family background or social experience, can understand some casual spoken Spanish and have a passive knowledge of the language, but do not speak the language themselves. Focus on developing basic speaking, reading, and writing abilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 201. Intermediate Spanish I. 3 Credit Hours.

For students with previous study of Elementary-level Spanish. The focus of SPA 201 is the continued development of communicative abilities in speaking, reading, writing and comprehension of Spanish and as an introduction to the cultural practices, family values, and social and environmental issues. Includes both oral and written assessments of grammatical structures and vocabulary introduced, informal and formal writing. Conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 202. Intermediate Spanish II. 3 Credit Hours.

For students with some previous study of Spanish at the intermediate level, who are familiar with all tenses and with vocabulary related to the topics covered in SPA 101-201. SPA 202 is the first semester of a two-semester sequence ending with SPA 203. The continued development of skills in reading, writing, speaking and listening in Spanish with an additional emphasis on cultural competence in the Spanish-speaking cultures of the world. Themes on: relationships, cultural values, different historical perspectives, and current politics. These themes will be explored through articles, films, and literary texts. The course will develop writing and reading strategies, providing students with the tools to think, read, and write critically and analytically in papers of 1-3 pages. Progress will also be assessed through quizzes and exams. Course conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 203. Advanced Spanish. 1 Credit Hour.

Continuation of SPA 202. This course will prepare students for advanced literature, linguistic, and culture courses. The class will use films, literary works, and other cultural texts. Students will write analytic essays of 3-5 pages to develop style, vocabulary, and syntax. Course conducted entirely in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 207. Intermediate Spanish For Heritage Learners. 3 Credit Hours.

Designed for students with some prior instruction in Spanish who, because of family background or social experience, can understand casual spoken Spanish and have some functional communication abilities in the language. Focus on developing basic speaking, reading, and writing abilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 208. Advanced Spanish for Heritage Learners. 3 Credit Hours.

This course is designed for those students who, because of family background or social experience and prior instruction in Spanish, possess functional communication abilities in the language. Focus is on developing formal speaking, reading and writing abilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 280. Special Topics. 3 Credit Hours.

Awarded for 200 level study abroad course led by UM faculty.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

SPA 295. Transfer credit. 3 Credit Hours.

Awarded for 200-level course work, beyond the intermediate I level, at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

SPA 301. Interpreting Literary And Cultural Texts In Spanish. 3 Credit Hours.

Tools for the interpretation and analysis of literary and cultural materials from the Spanish-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Closed to heritage/native speakers. Students may not receive credit for both 301 and 343.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 302. The Culture of Spain. 3 Credit Hours.

Historical survey of the arts, science, letters, and political and social institutions in Spain.

Prerequisite: SPA 214 or SPA 244 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 303. The Cultures of Spanish America. 3 Credit Hours.

Historical survey of the arts, letters, science, and political and social institutions in Spanish-speaking Americas.

Prerequisite: SPA 214 or SPA 244 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 307. Interpreting Literary And Cultural Texts In Spanish For Heritage/Native Speakers. 3 Credit Hours.

Introduction to Literary Genres for Native/Heritage Speakers Tools for the interpretation and analysis of literary and cultural materials from the Spanish-speaking world. Acquisition of terminology and theories through the study of the main literary genres (prose, poetry, and drama) and a complementary genre of cultural analysis (e.g., film studies, cultural studies, etc.). Emphasis on critical writing skills. Special attention to characteristics of heritage/native speaker expression. Students may not receive credit for both 301 and 307 – or formerly 343.

Prerequisite: SPA 208.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 310. Topics in Spanish and Spanish American Studies in Translation. 3 Credit Hours.

Topics in the literatures and/or cultures of the Spanish-speaking world. Readings and discussion in English. Development of critical reading and writing skills. Fulfills humanities literature requirement. Writing Credit. Does not fulfill foreign language requirement. Maybe be repeated when the topic varies. Maybe used toward the Spanish major in accordance with Department of Modern Languages and Literature stipulations. Prerequisite: ENG 106 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 318. Cinema From The Spanish-Speaking World In Translation. 3 Credit Hours.

Topics in the cinema of the Spanish-speaking world. Analysis of films in their cultural context. This course is taught in English and does not fulfill the CAS foreign language requirement. Maybe be repeated for credit if topics vary. WRITING CREDIT

Prerequisite: ENG 106 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 321. Introduction to Literary Themes. 3 Credit Hours.

The study of literature through thematic readings. Writing credit. May be repeated for credit if topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 322. Cultural Topics. 3 Credit Hours.

Issues related to the cultures in the Spanish-speaking world. Topics may include film, journalism, religion, language in society, popular and mass culture, visual arts, immigration, slavery, mestizaje. May be repeated for credit if topics vary.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

SPA 325. Topics In Spanish-Language Cinema. 3 Credit Hours.

Cinema of the Spanish-speaking world. Analysis of films in their cultural context. May be repeated for credit if topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 330. Topics In Gender And Sexuality. 3 Credit Hours.

The study of gender and sexuality as developed in the Hispanic context. Writing Credit. May be repeated if topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 340. Migration Studies. 3 Credit Hours.

Topics within the literary and/or cultural dimensions of migration in the Spanish-speaking world. Writing Credit.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 353. Colonial Spanish American Topics. 3 Credit Hours.

Topics within Latin American literatures and cultures from the colonial centuries. May be repeated for credit if topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 354. 19Th-Century Spanish American Topics. 3 Credit Hours.

Topics within Latin American literature and cultures from independence to the end of the nineteenth century. May be repeated for credit if topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 355. Studies in 20th and 21st Century Latin American Literatures and Cultures. 3 Credit Hours.

Latin American literature and cultures from the beginning of the 20th century to the present. May be used to fulfill the humanities literature requirement. Writing Credit.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 360. The Caribbean Through Literary And Cultural Studies. 3 Credit Hours.

The study of the Spanish Caribbean through literary and cultural studies. Writing Credit. May be repeated if topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

SPA 362. Caribbean Culture Studies. 3 Credit Hours.

Cultural Topics within the Spanish-speaking Caribbean. May be repeated for credit when topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 363. Medieval And Early Modern Peninsular Topics. 3 Credit Hours.

Topics within Spanish peninsular literature and cultures from the earliest literary forms through the seventeenth century. May be repeated for credit if topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 364. 18th and 19th CENTURY PENINSULAR TOPICS. 3 Credit Hours.

Topics within Spanish peninsular literatures and cultures from the eighteenth and nineteenth centuries. May be repeated for credit if topics vary.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 365. Studies in 20th and 21st Century Spanish literatures and Cultures. 3 Credit Hours.

Spanish peninsular literatures and cultures from the twentieth century to the present. May be used to fulfill the humanities literature requirement. Writing Credit.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 394. Internship. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 395. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

SPA 396. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

SPA 397. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

SPA 398. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

SPA 399. Transfer credits. 1-3 Credit Hours.

Awarded for course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: GRD.

SPA 401. Introduction to Hispanic Linguistics. 3 Credit Hours.

Survey of principal areas of inquiry in Hispanic linguistics, including phonetics/phonology, morphology, syntax, pragmatics, historical, social and dialectal variations. Writing credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 402. Spanish Second Language Acquisition.. 3 Credit Hours.

The linguistic contrast between Spanish and English and the pedagogical and practical implications of understanding language, especially grammar, from a foreign/second language perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 422. Topics in Hispanic Linguistics. 3 Credit Hours.

Special topics in the study of Hispanic linguistics. Possibilities include phonetics/phonology, pragmatics/discourse analysis, sociolinguistics, sociocultural theory, bilingualism.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 432. Business and Diplomatic Spanish. 3 Credit Hours.

Commercial vocabulary, economic, technical, and diplomatic terminology in Spanish. Composition based on models of business correspondence directed to Spanish-speaking countries or firms.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 433. Spanish for Health Care Professions. 3 Credit Hours.

Medical vocabulary, technical and practical terminology in Spanish.

Composition based on models of the documents, letters, medical history cases required in health care professions.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 440. Phonetics. 3 Credit Hours.

Spanish pronunciation based on phonetics. Exercises in diction and phonetic transcription. Attention to individual difficulties. Conducted in Spanish.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 442. Stylistics and Composition. 3 Credit Hours.

Analysis of grammar and style. Discussion of readings. Intensive writing. Writing Credit.

Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 444. Introduction to Translation. 3 Credit Hours.

Problems in translation: Spanish to English; English to Spanish. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 446. Cultural Debates: Public Speaking On Societal Issues. 3 Credit Hours.

This course is designed to give students at the advanced level the opportunity to focus on spoken Spanish as it would be used in the academic arena or any professional field. Using the format and techniques of public speaking and debate, the course will focus on several controversies or issues within Hispanic cultures. Through readings on various issues in the Spanish-speaking world and in-class debates and presentations, students will expand their vocabulary, develop their stylistic expression, and improve their spoken fluency and analytic and argumentative skills. The class is conducted in Spanish. Prerequisites: SPA 301 or SPA 307 or equivalent.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 495. Transfer Credits. 1-3 Credit Hours.

Awarded for 400-level course work at another institution for which UM has no direct equivalent.

Components: LEC.

Grading: CNC.

SPA 501. Capstone. 3 Credit Hours.

Course with a broad-based topic designed to integrate all the high-level linguistic, critical and analytical skills with the body of knowledge acquired during the course of study towards the major. Topics vary. Open only to undergraduates completing their Spanish major. Writing Credit. To be taken in the last semester of the major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 591. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 592. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 593. Directed Readings. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 594. Senior Honors Thesis I. 3 Credit Hours.

Directed research for honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 595. Senior Honors Thesis II. 3 Credit Hours.

Directed writing of honors thesis.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

SPA 611. Topics in Spanish Medieval Literature. 3 Credit Hours.

Recent topics: Libro de Buen amor, the epic, Berceo, cancionero poetry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 613. Topics in the Golden Age. 3 Credit Hours.

Recent topics: culteranismo and conceptismo, La Celestina, Cervantes, the picaresque, sixteenth-century theatre.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 615. Topics in 18th-19th Century Spanish Literature. 3 Credit Hours.

Recent topics: neoclassicism, romantic theatre, Spain and the European Enlightenment, Galdos, realism, postromantic poetry.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 616. Topics in 20th Century Spanish Literature. 3 Credit Hours.

Recent topics: the generation of 1898, Garcia Lorca, the post-war novel, contemporary theater.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 621. Special Topics in Hispanic Studies. 3 Credit Hours.

Special Topics in Hispanic Studies

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 633. Topics in Colonial Literature. 3 Credit Hours.

Recent topics: the chroniclers, Sor Juana Ines de la Cruz, Baroque of the Indies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 635. Topics in 19th Century Latin American Literature. 3 Credit Hours.

Recent topics include: romanticism, modernist poetry, anti-slavery novel.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 636. Topics in 20th Century Latin American Literature. 3 Credit Hours.

Recent topics: modernism, magic realism, the short story, the novel of the Mexican Revolution, the Boom and post-Boom.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 691. Writing Practicum. 1 Credit Hour.

The writing of a publishable research paper under faculty guidance.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 692. Directed Readings. 1-3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 693. Teaching Practicum. 3 Credit Hours.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

SPA 830. Pre-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. Prior to admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of SPA 730 may be taken in a regular semester, nor more than six in a summer session. Students who have not passed their qualifying examinations yet, but are not taking any courses, may enroll in SPA 730.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

SPA 840. Post-Candidacy Doctoral Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ph.D. After admission to candidacy, the student will enroll for credit as determined by his/her advisor. Not more than 12 hours of SPA 740 may be taken in a regular semester, nor more than six in a summer session. Students who have passed their qualifying examinations, but are not taking courses any more, may enroll in SPA 740. Where a student has passed his /her(a) qualifying examinations, and (b) is engaged in an assistantship, he/she may still take the maximum allowable credit stated above.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

SPA 850. Research in Residence. 1 Credit Hour.

Used to establish residence for the Ph.D., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

Strategic Communication (STC)

STC 102. Graphic Design for Strategic Communication. 3 Credit Hours.

An introduction to the art of visual communication as it relates to advertising design. Students will learn how to use Adobe PhotoShop and InDesign as tools for applying basic graphic design techniques used in print and outdoor media. Topics include typography, design principles, art & image manipulation, conceptualization and layout stages, color theory and color reproduction, printing processes, and production

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 103. Statistical Reasoning For Strategic Communication. 3 Credit Hours.

An introduction to statistical reasoning for advertising and public relations.

Requisite: SAT score greater than or equal to 580 or ACT score greater than or equal to 25. Or Corequisite: MTH 101.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 114. Principles of Advertising. 3 Credit Hours.

An introduction to the principles and practice of advertising in a free-market economy. Students will be introduced to several areas of advertising including account planning, creative strategy, media planning, research methods, consumer behavior, and integrated marketing. Emphasis on cultural, social, ethical, and regulatory aspects of advertising.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 116. Principles of Public Relations. 3 Credit Hours.

History, organization, ethics, law, and practice of public relations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 200. Advertising Strategy Development. 3 Credit Hours.

Introduction to the development of effective advertising strategies. Topics include consumer behavior, attitude development, persuasion tactics, targeting, market segmentation, market analysis, and brand management.

Prerequisite: STC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 201. Public Relations Strategy Development. 3 Credit Hours.

This course introduces students to research-based strategy development and planning at the core of public relations practice.

Prerequisite: STC 116.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 202. Advanced Graphic Design for Advertising. 3 Credit Hours.

This course will delve more deeply into the concepts of graphic design as they relate to the field of advertising. More specifically, this course will touch upon the use of art, illustration, and photography in advertising design. Topics also will include digital imaging, production, and web publishing. Students will learn to use Adobe Illustrator as a tool for designing in both traditional and non-traditional media. This course serves as a foundation for advertising portfolio development.

Prerequisite: STC 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 203. Advanced Graphic Design For Public Relations. 3 Credit Hours.

Introduction to graphic design for communication media and use of computer software as layout and design tools. Selection, preparation, and study of design principles and production processes for typography, photography, art work, and white space.

Prerequisites: STC 102, STC 116.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 231. Advertising Copywriting and Concept. 3 Credit Hours.

Introduction to writing advertising copy and conceptualizing campaign ideas for print, broadcast, out-of-home, interactive, and specialty media. Prerequisites: STC 114, JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 232. Writing for Public Relations. 3 Credit Hours.

Principles and techniques for the development of creative strategies, concepts, and writing of effective public relations messages for all types of media.

Prerequisites: JMM 108, STC 116 or STC 114 or JMM 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 233. Writing for Advertising Account Management. 3 Credit Hours.

Introduction to writing for the business side of advertising. This course will prepare students to write and create comprehensive reports and prepare presentations related to the business of account planning including research, creative strategies, and media planning.

Prerequisites: STC 114, JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 311. Public Relations Research. 3 Credit Hours.

Public relations research techniques focusing on applications of strategic planning, message evaluation, opinion research, and theory testing of public relations programs. Emphasis on qualitative and quantitative methods and data analysis.

Prerequisites: STC 103 or PSY 204 or PSY 291 or PSY 292 or MAS 201 or other approved statistics class.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 312. Research Methods for Advertising. 3 Credit Hours.

Application of research techniques used in the field of advertising. Students will learn to collect, analyze, and report secondary and primary research findings as they apply to advertising decision-making.

Prerequisites: STC 233 and PSY 204 or PSY 291 or PSY 292 or MAS 201 or STC 103 or other other approved statistics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 330. Travel & Tourism. 3 Credit Hours.

Development of tourism and destination promotion strategies and initiatives. Overview of public relations account structures within the tourism industries of airlines, travel destinations, hotels, and others.

Prerequisite: STC 116.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 331. Advanced Copywriting. 3 Credit Hours.

Advanced course in conceptualizing and copywriting advertising campaigns for all media forms, including traditional, digital, social, web, and mobile.

Prerequisite: STC 231.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 334. Social Media Messaging And Strategies. 3 Credit Hours.

Description: Examination of messaging used in social media platforms to reach target audiences and engage activation. This course is designed to approach social media on three levels: messaging to the audience designed to engage activation, strategic writing and planning to create a social media plan and the research to determine the efficacy of social media usage by an organization. Students in this course are expected to utilize their writing and research skills to enhance their knowledge of social media through developing a plan for an organization/client.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 340. Interactive, Digital, and Social Media in Advertising. 3 Credit Hours.

The course will explore the use of new and evolving media in the development of effective advertising campaigns, as well as the impact of these media on the advertising industry.

Prerequisite: STC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 346. Public Relations Message Development And Execution. 3 Credit Hours.

Preparation, execution, and production of visual messages for public relations media.

Prerequisites: STC 203, STC 232.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 350. International and Cross-cultural Advertising. 3 Credit Hours.

This course will explore advertising in a global marketplace. Emphasis will be placed on understanding cultural differences as they relate to international advertising planning, as well as techniques for gathering secondary and primary data on international markets and consumers.

Prerequisite: STC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 380. Advertising Internship. 1-3 Credit Hours.

Students select an internship in the field of advertising for on-the-job training. The student will work a minimum of 45 hours per credit. No more than three (3) credits of internship may be completed in any given semester.

Requisite: Sophomore Status, minimum GPA 2.5 and Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 381. Public Relations Internship. 1-3 Credit Hours.

Students select an internship in the field of public relations for on-the-job training. The student will work a minimum of 45 hours per credit. No more than three (3) credits of internship may be completed in any given semester.

Requisite: Sophomore Status, minimum GPA 2.5 and Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 384. Advertising Creative Strategy and Execution. 3 Credit Hours.

Development of effective creative campaigns. Students will design advertisements for print, broadcast, interactive, and specialty media that meet specific campaign objectives.

Prerequisites: STC 200, STC 202, STC 231.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 388. Media Planning. 3 Credit Hours.

An introduction to the principles and concepts of advertising media planning including media selection, media plan development, forecasting, and budgeting.

Prerequisites: STC 200, STC 233 or JMM 102, JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 389. Media Buying and Advertising Sales. 3 Credit Hours.

Students will learn the art of buying media in all categories, as well as how to sell advertising space in these media.

Prerequisites: STC 200, STC 233 or JMM 102, JMM 108.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 390. Art Direction. 3 Credit Hours.

Students will learn art direction skills for both print and electronic media including newspapers, magazines, outdoor, television, radio, and the internet.

Prerequisites: STC 202 or STC 203, STC 231 or STC 232.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 401. Seminar in Advertising and Society. 3 Credit Hours.

This course will examine the ethical, persuasive, cultural, societal, and economic effects of advertising, focusing on the theoretical frameworks that explain how advertising works in these arenas.

Prerequisite: STC 200.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 412. Public Opinion and Mass Communication. 3 Credit Hours.

An exploration of the formation and role of public opinion in mass communication. Emphasis is placed on its role in advertising and promotion. Topics include the evolution and history of public opinion in American culture, the application of public opinion on attitude formation and persuasion, measurement of public opinion, and propaganda.

Requisite: Junior Status or Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 416. Public Relations Ethics. 3 Credit Hours.

Ethical concepts and issues pertaining to individuals and society with application to advertising and public relations. Case studies focus on professional and personal ethics based on traditional teaching, modern codes, and other guidelines.

Prerequisite: STC 116.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 423. Crisis Communication And Management. 3 Credit Hours.

This course introduces the student to crisis communication and management from a strategies, theory-based approach steeped in case research from historical cases and business case studies

Prerequisites: STC 116 or STC 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 424. Media Relations. 3 Credit Hours.

The practice of media relations within the public relations milieu.

Prerequisites: STC 116, STC 232. Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 426. Sports, Publicity, & Promotions. 3 Credit Hours.

This course will provide a review, examination and practical application of sports communications, publicity and promotions in strategic communications.

Prerequisites: STC 116, STC 232. Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 427. Religion, Communication, & Culture. 3 Credit Hours.

The historical, political, economic, and social dynamics of the convergence of religion, communication, and culture in society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 428. Public Relations Management. 3 Credit Hours.

Principles and practice of public relations management in a variety of contexts including agency, consultancy, corporate, and nonprofit.

Prerequisites: STC 116, STC 232, STC 311, STC 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 434. Advertising Campaigns. 3 Credit Hours.

Capstone course in which students develop a full-scale advertising campaign. Students are responsible for conducting secondary and primary research, strategic planning, development of creative executions, planning and executing media selections, and campaign evaluation. Prerequisites: General Track: STC 114, STC 200, STC 231 or STC 233, STC 312, STC 388. Management Track: STC 114, STC 200, STC 233, STC 312 and STC 388. Creative Track: STC 114, STC 200, STC 202, STC 231 and STC 384.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 436. Public Relations Campaigns. 3 Credit Hours.

The capstone course for seniors in their last year of study. Theory and principles, audience research, strategic planning, and targeted communication are applied in developing a campaign to influence attitudes and behavior on behalf of a real client. A written plan, professional presentation, and teamwork are emphasized.

Prerequisites: STC 311, STC 346.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 438. Practicum In Advertising. 1-3 Credit Hours.

Students will work in the advertising field for advanced on-the-job training in their specific area of advertising specialization.

Prerequisite: STC 380. Requisite: Senior Status.

Components: PRA.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 439. Public Relations Practicum. 1-3 Credit Hours.

Students will work in the public relations field for on-the-job training. Students must work a minimum of 45 hours per credit earned.

Prerequisite: STC 381. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 460. Corporate Communication And Public Relations. 3 Credit Hours.

This course monitors the sociopolitical environment of organizations, explores managing corporate crises and confrontations, analyzes issues, formulates organizational and political strategies, develops programs of advocacy communication and explores constituency communications and public involvement.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 481. Public Relations Experience Program (Prep). 1-3 Credit Hours.

Develop skills used by professionals in the public relations/media relations, communications, promotions/marketing and journalism professions through faculty-supervised hands-on experience in the "field" with real organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 482. International Public Relations. 3 Credit Hours.

History, theory, and practice of public relations in a global, multi-cultural environment.

Prerequisite: STC 116.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 483. Integrated Marketing Communication. 3 Credit Hours.

An exploration of how brands are built and promoted through the integration of advertising, public relations, sales promotion, personal selling, direct marketing, and e-commerce.

Prerequisites: STC 114 or STC 116 or MKT 201.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 488. Digital, Mobile, And Web Media Evaluation. 3 Credit Hours.

Focus on the evaluation of digital, mobile, and web-based advertising as part of integrated advertising media plans. Topics include audience estimation, cost-gathering, and evaluation of potential effectiveness.

Prerequisite: STC 388.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 490. Special Topics In Advertising. 1-3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Prerequisite: STC 114.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 491. The Business Of Account Management. 3 Credit Hours.

This course will lead to a stronger understanding of the role of account management in marketing communication and advertising agencies.

Topics will include advertising agency management, client services, and financial planning within the agency.

Prerequisites: STC 200, STC 233, STC 312. Requisite: Junior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 492. Advanced Advertising Creative Development. 3 Credit Hours.

This course will provide an advanced experience in art direction.

Prerequisites: STC 390 or STC 331.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 493. Special Topics in Public Relations. 3 Credit Hours.

This course subject matter varies according to announced special topic. See class schedule for details.

Prerequisite: STC 116.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 495. Advertising Management. 3 Credit Hours.

Students will learn to approach advertising problems at both micro and macro levels from the perspective of a manager in charge of solving such problems. Emphasis will be on problem identification, development of alternative strategies to solve problems, tactics for executing strategies, and evaluation of proposed solutions.

Prerequisites: STC 200, STC 233, STC 312, STC 388. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 496. Advertising Portfolio Development. 3 Credit Hours.

This course will assist students in putting together a professional-quality advertising portfolio of their work.

Prerequisite: STC 384. Or Corequisite: STC 384. Requisite: Senior Status.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 498. AAF National Student Advertising Campaign Competition. 3 Credit Hours.

Students compete in the American Advertising Federation's National Student Advertising Campaign Competition.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 499. Projects and Directed Research in Strategic Communication. 3 Credit Hours.

Individual study. No more than three credits may be counted toward a Communication major or minor.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 620. Public Relations Fundamentals. 3 Credit Hours.

A seminar to explore the theories and methodologies of public relations encompassing writing, principles and campaigns.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 621. Writing for Public Relations. 3 Credit Hours.

Principles and techniques for the development of strategic thinking, information-gathering, and writing public relations messages across traditional, digital, social and web-based media.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 622. Design for Public Relations. 3 Credit Hours.

An introduction to design principles and tactics used in the creation of public relations messages and campaigns.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

STC 623. Crisis Communication And Management. 3 Credit Hours.

This course introduces the student to crisis communication and management from a strategies, theory-based approach steeped in case research from historical cases and business case studies

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 624. Media Relations. 3 Credit Hours.

The practice of media relations within the public relations milieu.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 625. Cases In Public Relations Administration. 3 Credit Hours.

Course analyzes organizational principles, internal budgeting, and evaluation of public relations departments and counseling firms.

Prerequisite: STC 620. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

STC 626. Sports, Publicity, & Promotions. 3 Credit Hours.

This course will provide a review, examination and practical application of sports communications, publicity and promotions in strategic communications.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 627. Religion, Communication, & Culture. 3 Credit Hours.

The historical, political, economic, and social dynamics of the convergence of religion, communication, and culture in society.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 628. Public Relations Management. 3 Credit Hours.

Principles and practice of public relations management in a variety of contexts including agency, consultancy, corporate, and nonprofit.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 629. Special Topics Seminar In Public Relations. 3 Credit Hours.

A seminar to identify and discuss the role of fundraising in the not-for-profit sector.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 632. Seminar in Public Relations and Political Campaigns. 3 Credit Hours.

A seminar to examine the role of public relations in American political campaigns.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 634. Non-Profit And Public Information Campaigns. 3 Credit Hours.

A public seminar that focuses on non-profit organizations and governmental institutions.

Prerequisites: STC 620, STC 621, STC 622.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 635. Seminar In Public Relations Measurement. 3 Credit Hours.

This course will delve into the measures, mechanisms, and necessary considerations for measuring public relations effectiveness and evaluating the impact of public relations efforts.

Prerequisites: COM 601, STC 620, COM 602 or COM 603.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 644. Seminar In Public Relations Ethics. 3 Credit Hours.

To explore through readings, discussion and research contemporary ethical issues in public relations.

Prerequisite: STC 620. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 650. Strategic Communication In Health Care. 3 Credit Hours.

An examination of health industry communication from business and promotional perspectives, including the special issues that have an impact on health communicators. Best practices and case studies from notable practitioners are used; strategic communication plan development, writing and presentation are emphasized.

Prerequisite: STC 620. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 660. Corporate Communication And Public Relations. 3 Credit Hours.

This course monitors the sociopolitical environment of organizations, explores managing corporate crises and confrontations, analyzes issues, formulates organizational and political strategies, develops programs of advocacy communication and explores constituency communications and public involvement.

Prerequisites: COM 601, STC 620. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 681. Public Relations Experience Program (Prep). 1-3 Credit Hours.

Develop skills used by professionals in the public relations/media relations, communications, promotions/marketing and journalism professions through faculty-supervised hands-on experience in the "field" with real organizations.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 682. International Public Relations. 3 Credit Hours.

History, theory, and practice of public relations in a global, multi-cultural environment.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

STC 690. Public Relations Practicum I. 3 Credit Hours.

Professional functions related to public relations requirements in a professional environment acting as an account executive.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

STC 691. Special Topics In Public Relations. 3 Credit Hours.

This course subject matter varies according to announced special topic.

See class schedule for details.

Prerequisite: STC 620.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

STC 699. Advanced Projects and Directed Research in Public Relations. 1-6 Credit Hours.

Individual study. May be repeated to a maximum of six credits.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

Studio Music and Jazz (MSJ)

MSJ 107. Skills Lab I. 1 Credit Hour.

Chamber music performance of selected repertoire with a concentration in Bebop and the music of Charlie Parker, Dizzy Gillespie, and Thelonius Monk, along with secondary figures from the Be-Bop era 1945-1955.

Additional repertoire from a list of American standards will also be assigned. Class sessions will cover historical/stylistic performance practice, aural skills,(transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 108. Skills Lab II. 1 Credit Hour.

Chamber music performance of selected repertoire with a concentration in Jazz and popular music in America in the 1950's, including the repertoire of prominent popular music composers such as George Gershwin, Cole Porter, Richard Rodgers, and others. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSJ 11. Saxophone Forum. 0 Credit Hours.

Course provides a weekly forum for all saxophone principals. Student performances, guest artists, master classes, and listening to selected recordings are part of the curriculum.

Requisite: Frost School of Music.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 111. Jazz Vocal Techniques I. 1 Credit Hour.

Analysis and application of singing styles and attendant skills, techniques and repertoire required in performance and recording of jazz, popular music, and other current idioms.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 113. Analysis and Evolution of Jazz Styles I. 3 Credit Hours.

An overview of the musical styles and genres of the late nineteenth and early twentieth century leading to the development of Jazz music. Then an in-depth study of early Jazz in America and its innovators, including Louis Armstrong, Jelly Roll Morton, and Duke Ellington. Also, a survey of the major style periods of Modern Jazz from 1945 to the present, including prominent artists from each style period.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 124. Introduction to Jazz Improvisation. 3 Credit Hours.

Introduction to the harmonic, melodic, and rhythmic techniques of Jazz Improvisation.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 125. Introduction to Jazz Vocal Improvisation. 3 Credit Hours.

Introduction to the harmonic, melodic, and rhythmic techniques of Jazz Improvisation.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 134. E.C.M. Ensemble. 1 Credit Hour.

This ensemble performs music typical of the contemporary European jazz styles such as those characterized by the Edition of Contemporary Music (E.C.M.) Recording Company.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 136. Small Jazz Ensemble. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 137. Small Jazz Ensemble I. 1 Credit Hour.

This course is a continuation of MSJ136: Small Jazz Ensemble. Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 139. Small Jazz Vocal Ensemble. 1 Credit Hour.

A group consisting of 1 to 6 vocalists and 3 to 6 instrumentalists to gain experience in jazz solo and ensemble performance in a small group setting. Exploration of traditional and contemporary jazz literature will be emphasized. Performance of original music by ensemble members is also encouraged.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 140. Experiential Musicianship I. 3 Credit Hours.

Experiential Musicianship I covers the fundamentals of jazz theory and performance. The class is keyboard based. Material includes the basics of melody, harmony and rhythm in the tradition of the jazz art form. Specific topics include chord construction, chord voicings, progressions, voice leading, rhythmic interpretation and aural recognition.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MSJ 141. Experiential Musicianship II. 3 Credit Hours.

Experiential Musicianship II is a continuation of Exp. Mus. I. Material includes a more in depth study of chord/scale theory, polyrhythmic studies, expansion of keyboard skills via increasingly longer or complicated progressions, aural recognition and transcription.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MSJ 142. Small Jazz Ensemble II. 1 Credit Hour.

This ensemble focuses on sectional playing, blend, and musical interpretation. Students will be required to perform in sections of four to eight trombones with a rhythms section. The literature also requires the student to improvise. Students are encouraged to write for the ensemble.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 143. Small Jazz Ensemble III. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 144. Small Jazz Ensemble IV. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 145. Small Jazz Ensemble V. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 146. Small Jazz Ensemble VI. 1 Credit Hour.

Freshmen level group that focuses on the music of Charlie Parker, Dizzy Gillespie, and Thelonius Monk. Issues of modern jazz harmony and rhythm as well as cultivating Bebop vocabulary for improvisation are discussed.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 147. Small Jazz Ensemble VII. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 150. Studio Jazz Band. 1 Credit Hour.

This ensemble performs music in the recent big band tradition, from leaders such as Duke Ellington, Count Basie, Buddy Rich, Bob Brookmeyer, and Thad Jones. The group performs on campus with an emphasis on studio recording.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 151. Concert Jazz Band. 1 Credit Hour.

The Concert Jazz Band is the premiere big band at the Frost School of Music. Students are required to perform at an advanced level, and work with a variety of guest artists. Requirements include the ability to sight read difficult material, and to improvise in various styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 153. Jazz Band III. 1 Credit Hour.

Big Band designed for freshmen and sophomores to gain experience with classic Big Band repertoire.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 155. Monk/Mingus Ensemble. 1 Credit Hour.

This ensemble is dedicated to the study and performance of the music of the influential jazz composers Charles Mingus and Thelonius Monk.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MSJ 156. Funk/Fusion Ensemble. 1 Credit Hour.

Small jazz ensemble focusing on contemporary electric jazz/rock/fusion/Latin styles. Emphasis is placed on original compositions by the members of the ensemble. The most common instrumentation is bass, drums, piano/synthesizer, guitar, and saxophone.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 157. Horace Silver Ensemble. 1 Credit Hour.

This ensemble is dedicated to the study and performance of the music of Horace Silver.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 158. Frost Sextet. 1 Credit Hour.

An advanced ensemble dedicated to the performance of original and standard repertoire in the jazz idiom.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 159. Rhythm and Blues Ensemble. 1 Credit Hour.

Mid-level ensemble for both instrumentalists and vocalists designed to familiarize students with classic Rhythm and Blues material from the 50's, 60's, and 70s, while preparing for a series of concerts throughout the semester. Students are guided through the process of putting a working band together and preparing it for performances and recordings, including what is expected of and from instruments, vocalists, producers, promoters, and other industry personnel.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 160. Avant Garde Ensemble. 1 Credit Hour.

This ensemble offers students the opportunity to develop the "free form" improvisation in either the bebop based style of Ornette Coleman or the fusion oriented style as typified by Bill Laswell.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MSJ 162. Jazz Saxophone Ensemble. 1 Credit Hour.

An ensemble dedicated to the study of jazz and contemporary repertoire for the saxophone Quartet/quintet. Skills addressed include sight-reading, intonation and blend, phrasing, rhythmic Accuracy, may include rhythm section accompaniment depending on availability.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSJ 164. Contemporary Rhythm Section Techniques I. 1 Credit Hour.

Introduces students to various styles of rhythm section playing—from swing and modern Jazz through Rock, Funk, R&B, and other commercial styles of music. Concepts of sound, groove, balance and blend, repertory, and accompaniment are also discussed.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 165. Contemporary Rhythm Section Techniques II. 1 Credit Hour.

Fundamentals of rhythm section playing for guitarists, pianists, bassists, and drummers. It covers a variety of contemporary styles within the rock, jazz, Latin, and pop idioms. Students are grouped into ensembles which perform in class weekly.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 166. Small Jazz Ensemble Lab. 0 Credit Hours.

Performance Lab designed to work in conjunction with all of the 140 level ensembles. Provides an environment in which students are required to perform on a regular rotating schedule throughout the semester. These performances are critiqued by the institution and other faculty, as well as students, in order to nurture a critical but positive atmosphere.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 167. Salsa Ensemble. 1 Credit Hour.

An ensemble of instrumentalists and singers performing a wide variety of Salsa and Latin jazz styles with emphasis on improvisation.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 169. Jazz Guitar Ensemble I. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 170. Jazz Guitar Ensemble II. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 171. Jazz Guitar Ensemble III. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 172. Jazz Guitar Ensemble (Workshop I). 1 Credit Hour.

A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 173. Jazz Guitar Ensemble (Workshop II). 1 Credit Hour.

A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 18. Jazz Vocal Forum. 0 Credit Hours.

A weekly meeting of the jazz vocal students and faculty dedicated to student performances, ensemble performances, and guest artist performances and workshops.

Requisite: Frost School of Music.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 195. Jazz Vocal Ensemble I. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 196. Jazz Vocal Ensemble II. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 197. Jazz Vocal Ensemble III. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 203. Jazz Piano Class I. 1 Credit Hour.

This class covers the rudiments of jazz piano. Students will learn to play basic II V I progressions in major and minor. These progressions will be utilized while learning basic jazz standards.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 204. Jazz Piano Class II. 1 Credit Hour.

A continuation of MSJ 203, alternate versions of the II V I progression are discussed. Students will also learn to play the "blues" and "rhythm changes" progressions with a walking bass line. Jazz standards will be played as solo melody with chordal accompaniment.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 207. Skills Lab III. 1 Credit Hour.

Chamber music performance of selected repertoire with a concentration in the music of Miles Davis in the 1950's. Additional repertoire from a list of American standards will also be assigned. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 208. Skills Lab IV. 1 Credit Hour.

Chamber music performance of selected repertoire from the Hard Bop period (1955-1962) including Blue Note artists. Additional repertoire from a list of American standards will also be assigned. Class sessions will cover historical/stylistic performance practice, aural skills (transcription, analysis, sight-reading, etc.) and Jazz arranging for small ensembles.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MSJ 211. Jazz Vocal Techniques III. 1 Credit Hour.

Course provides performance experience in the Rock/Funk and Rock Ballad idioms that require strong vocal projection and presentation.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 212. Jazz Vocal Techniques IV. 1 Credit Hour.

Advanced techniques for the Jazz/Pop Vocalist in live performance.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSJ 213. Analysis & Evolution of Jazz Styles II.. 3 Credit Hours.

An overview of the musical styles and genres of the middle and late twentieth century encompassing the evolution of Modern Jazz music including an in-depth study of each period of Modern Jazz and its innovators. Also included is a survey of the major style periods of Rock music from 1945 to the present with prominent artists from each style period.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 220. Basic Drumset Styles and Techniques (Part 1). 3 Credit Hours.

This course explores the basic sticking, swing, backbeat drumset techniques, basic world drumset styles, and chart reading.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 240. Experiential Musicianship III. 3 Credit Hours.

Experiential Musicianship III continues to build on skills acquired in the previous two semesters. Material includes continued development of keyboard skills and aural recognition through expansion of repertoire, modal and non-dominant/tonic harmonic schemes, bass lines and counterpoint, harmonization of melodies, and re-harmonization of basic progressions and transcription.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 241. Experiential Musicianship IV. 3 Credit Hours.

Experiential Musicianship IV culmination of the four level sequence. Students are expected to understand and aurally recognize advanced harmonic, melodic, and rhythmic material. New material may include Latin and other straight-eight rhythms, multi-voice counterpoint, advanced re-harmonization, and improvising at the keyboard. Keyboard skills run concurrent with Jazz Arranging II techniques (MSJ520).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 242. Jazz Percussion Techniques. 1 Credit Hour.

Group instruction in jazz, contemporary, and ethnic drumset/percussion techniques with emphasis on basic skills for performance and recording. Additionally, appropriate teaching techniques, methods, and materials necessary for public school pedagogy will be covered. Course may be repeated for credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 3. Jazz Forum. 0 Credit Hours.

A weekly meeting of jazz students and faculty for performance, master classes, clinics presented by students, faculty and guest artists.

Requisite: Frost School of Music.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 305. Jazz Piano Class III. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 306. Jazz Piano Class IV. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 320. Basic Drumset Styles and Techniques (Part 2). 1 Credit Hour.

This course is a continuation of MSJ 220. It explores advanced sticking, swing, backbeat drum set techniques, advanced world drum set styles, and chart reading.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MSJ 340. Jazz Skills III. 3 Credit Hours.

Jazz Skills III continues to build on skills acquired in the previous two semesters. Material includes continued development of keyboard skills and aural recognition through expansion of repertoire, modal and non-dominant/tonic harmonic schemes, bass lines and counterpoint, harmonization of melodies, and re-harmonization of basic progressions and transcription.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MSJ 341. Jazz Skills IV. 3 Credit Hours.

Jazz Skills IV is the culmination of the four level Jazz Skills sequence. Students are expected to understand and aurally recognize advanced harmonic, melodic, and rhythmic material. New material may include Latin and other straight-eighth rhythms, multi-voice counterpoint, advanced re-harmonization, and improvising at the keyboard. Keyboard skills run concurrent with Jazz Arranging II techniques (MSJ 520).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 342. Technology Skills III. 3 Credit Hours.

This course is a continuation of MMI 250 Essential Technology. Recording projects combining acoustic instruments with software based instruments in a Digital Audio Workstation. Studio recording techniques including microphone placement will be demonstrated in a lab environment. Projects will be based on student compositions and/or arrangements. Post production will include mixing, mastering and CD manufacturing.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 371. Jazz Improvisation I. 3 Credit Hours.

Fundamentals of jazz harmony with emphasis on simple chord progressions, altered scales, and modes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 372. Jazz Vocal Improvisation I. 3 Credit Hours.

Fundamentals of jazz harmony with emphasis on complex harmonic progressions and tunes.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 430. Applied Jazz Instruction. 1-2 Credit Hours.

Advanced private study in the jazz idiom. Topics may include improvisation, theory, and composition, at the discretion of the teacher. Students must have completed five semesters on the principal instrument. Permission of both course instructor and principal instrument teacher/advisor required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 431. Applied Jazz Instruction 2. 1-2 Credit Hours.

Advanced private study in the jazz idiom. Topics may include improvisation, theory, and composition, at the discretion of the teacher. Students must have completed five semesters on the principal instrument. Permission of both course instructor and principal instrument teacher/advisor required.

Prerequisite: MSJ 430. Or Requisite: Permission of Advisor and Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 493. Special Projects In Studio Music & Jazz. 1-3 Credit Hours.

Supervised readings and other activities in specific areas of Studio Music and Jazz.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 494. Special Topics In Studio Music & Jazz. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 499. Senior Recital. 1 Credit Hour.

A public recital of one hour or more. Course is required of all performance majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 509. Jazz Composition I. 3 Credit Hours.

Study of advanced composition techniques as applied to the Jazz idiom, making extensive use of analysis of established compositions and compositional methods. Both the individual and interactive characteristics of melody, harmony, rhythm, and form will be stressed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 510. Jazz Composition II. 2 Credit Hours.

This course is a continuation of MSJ 500 with an emphasis on melody writing, reharmonization techniques, pentatonic/blues composition, and an introduction to advanced harmonic materials.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 516. Jazz Vocal Arranging. 3 Credit Hours.

Analysis and techniques of jazz vocal writing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 519. Advanced Modern Arranging I. 3 Credit Hours.

Advanced arranging and composition for the Jazz and studio ensemble.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 520. Advanced Modern Arranging II. 3 Credit Hours.

Advanced arranging and composition for the Jazz and studio ensemble.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 522. Introduction to Midi Sequencing and Digital Workstations. 2 Credit Hours.

An introduction to Midi Sequencing with hands-on experience working with a computer sequencing workstation. Topics include sequencing, quantizing, editing, mixing, and effects processing.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 560. Advanced Jazz Improvisation Theory. 3 Credit Hours.

Review of fundamentals and introduction of advanced topics in jazz harmony and scale resources for improvisation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 565. Advanced Improvisation I. 3 Credit Hours.

Exploration of advanced Jazz improvisation performance and practice techniques. Utilization of non-traditional harmonic motion, advanced chord scale relationships, and motivic development will be stressed, with the goal of musicality in improvisation. Enrollment open to seniors or graduate MSJ majors (or permission of instructor).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 566. Advanced Improvisation II. 3 Credit Hours.

Refinement of improvisation concepts leading towards the establishment of a personal style of playing. Open only to senior or graduate majors in Studio Music and Jazz.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 593. Special Projects In Studio Music And Jazz. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Studio Music and Jazz.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 594. Special Topics In Studio Music And Jazz. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 609. Jazz Composition I. 2 Credit Hours.

Study of advanced composition techniques as applied to the Jazz idiom, making extensive use of analysis of established compositions and compositional methods. Both the individual and interactive characteristics of melody, harmony, rhythm, and form will be stressed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 610. Jazz Composition II. 2 Credit Hours.

This course is a continuation of MSJ 500 with an emphasis on melody writing, reharmonization techniques, pentatonic/blues composition, and an introduction to advanced harmonic materials.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 616. Jazz Vocal Arranging. 2 Credit Hours.

Analysis and techniques of jazz vocal writing.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 619. Advanced Modern Arranging I. 3 Credit Hours.

Advanced arranging and composition for the Jazz and studio ensemble.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 620. Advanced Modern Arranging II. 3 Credit Hours.

Advanced arranging and composition for the Jazz and studio ensemble.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 621. Advanced Modern Arranging III. 3 Credit Hours.

Course addresses scoring for large jazz ensemble, utilizing chord scale voicings and line writing techniques. Emphasis is placed on orchestration styles such as Duke Ellington, Gil Evans, and Thad Jones.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 622. Introduction to Midi Sequencing and Digital Workstations. 2 Credit Hours.

An introduction to Midi Sequencing with hands-on experience working with a computer sequencing workstation. Topics include sequencing, quantizing, editing, mixing, and effects processing.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 644. Jazz Pedagogy and Administration. 3 Credit Hours.

The philosophy, methods, and materials of instruction pertinent to the teaching and management of a jazz and commercial curriculum at the high school and college level. Includes preparation of model curricula and supervised instruction.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 665. Advanced Improvisation I. 3 Credit Hours.

Exploration of advanced Jazz improvisation performance and practice techniques. Utilization of non-traditional harmonic motion, advanced chord scale relationships, and motivic development will be stressed, with the goal of musicality in improvisation. Enrollment open to seniors or graduate MSJ majors (or permission of instructor).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 666. Advanced Improvisation II. 3 Credit Hours.

Refinement of improvisation concepts leading towards the establishment of a personal style of playing. Open only to senior or graduate majors in Studio Music and Jazz.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 693. Special Projects In Studio Music And Jazz. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Studio Music and Jazz.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 694. Special Topics In Studio Music And Jazz. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 703. Jazz Piano Class I. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Graduate students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 704. Jazz Piano Class II. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Graduate students will acquire improvisational skills while learning repertoire and performance techniques, and strengthen compositional and arranging skills by contributing original compositions and arrangements to the ensemble's repertoire.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 714. Advanced Orchestration. 3 Credit Hours.

Techniques for scoring for the modern symphony orchestra.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 715. Jazz Composition Seminar I. 2 Credit Hours.

Creative work in Jazz Composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 716. Jazz Composition Seminar II. 2 Credit Hours.

Develop an understanding and control of compositional concepts and techniques required to work within a professional environment.

Prerequisite: MSJ 715.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 719. Large Jazz Ensemble Conducting And Repertoire. 2 Credit Hours.

This course will expose students to the methods, procedures, and practices involved in directing large jazz ensembles. Score study, conducting, and performance programming will be covered. Emphasis will be placed on the selection of level appropriate repertoire. Additional topics include working with guest artists, ensemble finances, and the audition process.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 720. Analysis of Jazz Styles. 3 Credit Hours.

A comparative study of Jazz styles from 1900 to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 730. Applied Jazz Instruction Jazz I. 1-2 Credit Hours.

Advanced private study in the jazz idiom. Topics may include repertoire, improvisation, theory/harmony, and/or composition, at the discretion of the instructor. Student must have completed five semesters on the principal instrument. Permission of both course instructor and principal instrument teacher/advisor required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 731. Applied Jazz Instruction II. 1-2 Credit Hours.

Advanced private study in the jazz idiom. Topics may include repertoire, improvisation, theory/harmony, and/or composition, at the discretion of the instructor. Student must have completed five semesters on the principal instrument. Permission of both course instructor and principal instrument teacher/advisor required

Prerequisite: MSJ 630.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 734. E.C.M. Ensemble. 1 Credit Hour.

This ensemble performs music typical of the contemporary European jazz styles such as those characterized by the Edition of Contemporary Music (E.C.M.) Recording Company.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 739. Small Jazz Vocal Ensemble. 1 Credit Hour.

Small groups of vocalists with a rhythm section, dedicated to a particular style and body of literature.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 740. Small Jazz Ensemble. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 741. Small Jazz Ensemble I. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 742. Small Jazz Ensemble II. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 743. Small Jazz Ensemble III. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 744. Small Jazz Ensemble IV. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 745. Small Jazz Ensemble V. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 746. Small Jazz Ensemble VI. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 747. Small Jazz Ensemble VII. 1 Credit Hour.

Group instruction in the various styles of contemporary jazz. Students will acquire improvisational skills while learning repertoire and performance techniques leading to an advanced performance level. This course will strengthen compositional and arranging skills as students must contribute original compositions and arrangements to the ensemble's repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 750. Studio Jazz Band. 1 Credit Hour.

This ensemble performs music in the recent big band tradition, from leaders such as Duke Ellington, Count Basie, Buddy Rich, Bob Brookmeyer, and Thad Jones. The group performs on campus with an emphasis on studio recording.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 751. Concert Jazz Band. 1 Credit Hour.

The Concert Jazz Band is the premiere big band at the Frost School of Music. Students are required to perform at an advanced level, and work with a variety of guest artists. Requirements include the ability to sight read difficult material, and to improvise in various styles. Audition is required.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 753. Jazz Band III. 1 Credit Hour.

Big Band designed for graduate students needing experience with classic Big Band repertoire.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 755. Monk/Mingus Ensemble. 1 Credit Hour.

This ensemble is dedicated to the study and performance of the music of the influential jazz composers Charles Mingus and Thelonius Monk.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MSJ 756. Funk/Fusion Ensemble. 1 Credit Hour.

Small jazz ensemble focusing on contemporary electric jazz/rock/fusion/Latin styles. Emphasis is placed on original compositions by the members of the ensemble. The most common instrumentation is bass, drums, piano/synthesizer, guitar, and saxophone.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 757. Horace Silver Ensemble. 1 Credit Hour.

This ensemble is dedicated to the study and performance of the music of Horace Silver.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 758. Frost Sextet. 1 Credit Hour.

An advanced ensemble dedicated to the performance of original and standard repertoire in the jazz idiom

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 759. Rhythm and Blues Ensemble. 1 Credit Hour.

Mid-level ensemble for both instrumentalists and vocalists designed to familiarize students with classic Rhythm and Blues material from the 50s, 60s, and 70s, while preparing for a series of concerts throughout the semester. Students are guided through the process of putting a working band together and preparing it for performances and recordings, including what is expected of and from instruments, vocalists, producers, promoters, and other industry personnel.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 760. Avant Garde Ensemble. 1 Credit Hour.

This ensemble offers students the opportunity to develop the "free form" improvisation in either the bebop based style of Ornette Coleman or the fusion oriented style as typified by Bill Laswell.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 762. Jazz Saxophone Ensemble. 1 Credit Hour.

A reading ensemble comprised of four or five saxophones. Literature may include saxophone quartet and/or saxophone quintet with rhythm section. The ensemble focuses in on fundamental principles of sight-reading, blend, intonation, phrasing, articulation, rhythmic accuracy, as well as overall interpretation.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 764. Contemporary Rhythm Section Techniques I. 1 Credit Hour.

This is an ensemble for freshmen rhythm section players. The focus of this ensemble is to introduce students to various styles of rhythm section playing-- from swing and modern Jazz through Rock, Funk, R&B, and other commercial styles of music. Concepts of sound, groove, balance and blend, repertoire, and accompaniment are also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 765. Contemporary Rhythm Section Techniques II. 1 Credit Hour.

Fundamentals of rhythm section playing for guitarists, pianists, bassists, and drummers. It covers a variety of contemporary styles within the rock, jazz, Latin, and pop idioms. Students are grouped into ensembles which perform in class weekly.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MSJ 766. Small Jazz Ensemble Lab. 0 Credit Hours.

Performance Lab designed to work in conjunction with all of the 140 level ensembles. Provides an environment in which students are required to perform on a regular rotating schedule throughout the semester. These performances are critiqued by the institution and other faculty, as well as students, in order to nurture a critical but positive atmosphere.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 767. Salsa Ensemble. 1 Credit Hour.

An ensemble of instrumentalists and singers performing a wide variety of Salsa and Latin jazz styles with emphasis on improvisation.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

MSJ 769. Jazz Guitar Ensemble I. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 770. Jazz Guitar Ensemble II. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 771. Jazz Guitar Ensemble III. 1 Credit Hour.

A small instrumental ensemble comprised of five electric guitars which perform with bass and drums in a wide variety of contemporary jazz styles.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 772. Jazz Guitar Ensemble (Workshop I). 1 Credit Hour.

A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 773. Jazz Guitar Ensemble (Workshop II). 1 Credit Hour.

A small instrumental reading ensemble, comprised of four to eight electric guitars, which studies a variety of contemporary jazz styles.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSJ 775. Jazz Writing Ensemble. 1 Credit Hour.

This class is a seminar in jazz arranging and composition techniques for Studio/Jazz Writing master's students and DMA students in Jazz Composition. The class consists primarily of topics related to jazz and studio arranging and composition, recording techniques, rehearsal techniques, music technologies, music business, and entrepreneurship. Topics are examined utilizing hands-on technology, score analysis, listening, guest lectures, and long range projects.

Components: ENS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MSJ 780. Advanced Jazz Improvisation Theory. 3 Credit Hours.

Review of fundamentals and introduction of advanced topics in jazz harmony and scale resources for improvisation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MSJ 793. SPECIAL PROJECTS. 1-3 Credit Hours.

Projects in any phase of studio music and jazz in which the student is interested and qualified to work.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 794. Special Topics In Studio Music And Jazz. 1-3 Credit Hours.

Projects in any phase of studio music and jazz in which the student is interested and qualified to work.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ 795. Jazz Vocal Ensemble I. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 796. Jazz Vocal Ensemble II. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 797. Jazz Vocal Ensemble III. 1 Credit Hour.

A choir of 12 to 16 voices, with rhythm section, which perform a wide variety of jazz and pop styles.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 811. Master's Recital Paper. 1-3 Credit Hours.

The student working on his/her recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 812. Master's Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the master's recital.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MSJ 813. Master's Jazz Writing Project. 1-3 Credit Hours.

The student working on his/her master's jazz writing project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MSJ 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates of the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MSJ 731 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 832. Doctoral Recital. 1 Credit Hour.

A formal recital displaying improvisational, interactive, and compositional skills appropriate to the doctoral level.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MSJ 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MSJ 88. Jazz Piano Forum. 0 Credit Hours.

Jazz Piano Forum is a weekly performance venue for jazz piano principals and majors which may include guest clinicians and artists.

Requisite: Frost School of Music.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ 9. Saxophone Forum. 0 Credit Hours.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

MSJ JA6. Jazz Bass. 1-2 Credit Hours.

Jazz Bass at the Master's level. The student will pursue a course of study that is directed toward his/her musical goals. This course will examine, through transcription and analysis, the important figures in the history of jazz bass, and also those performances in which the student is interested.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JA7. Applied Jazz Arranging. 1 Credit Hour.

Applied Jazz Arranging level M is the first level of DMA private jazz arranging lessons. At this level the instructor evaluates the writers breadth of knowledge of arranging and orchestration techniques and expands on the key arrangers of various styles, genres and mediums.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JAN. Applied Jazz Arranging. 1 Credit Hour.

Applied Jazz Arranging level N is the second level of DMA private jazz arranging lessons. At this level the instructor continues to evaluate the writers breadth of knowledge of arranging and orchestration techniques and works in areas of weakness in arranging, orchestration and developmental techniques.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JAO. Applied Jazz Arranging. 1 Credit Hour.

Applied Jazz Arranging level O is the third level of DMA private jazz arranging lessons. At this level the instructor introduces some of the more contemporary techniques in arranging and orchestration including methods of re-harmonization, modern approaches to textural orchestration and continued expansion of developmental techniques.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JAP. Applied Jazz Arranging. 1 Credit Hour.

Applied Jazz Arranging level P is the fourth level of DMA private jazz arranging lessons. At this level the instructor continues to expand on the more contemporary techniques in arranging and orchestration with analysis of key writers such as Maria Schneider, Bob Brookmeyer and Jim McNeely. Emphasis is placed on developing an individual approach to arranging and orchestration.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JAQ. Applied Jazz Arranging. 1 Credit Hour.

Applied Jazz Arranging level Q is the fifth level of DMA private jazz arranging lessons. At this level the instructor continues to expand on the more contemporary techniques in arranging and orchestration with analysis of key writers such as Maria Schneider, Bob Brookmeyer and Jim McNeely. Emphasis is placed on developing an individual approach to arranging and orchestration and more exploration of small and large jazz ensembles and writing for strings in a jazz setting.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JAR. Applied Jazz Arranging. 1 Credit Hour.

Applied Jazz Arranging level R is the sixth level of DMA private jazz arranging lessons. Applied Jazz Arranging level R is the sixth level of DMA private jazz arranging lessons. Emphasis is placed on developing an individual approach to arranging and orchestration and more exploration of small and large jazz ensembles and writing for strings in a jazz setting. Contemporary models are examined from both the classical and jazz repertoire.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JB1. Jazz Bass. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic techniques, sight-reading. Major, minor, diminished, and whole tone scales. Chord structure and analysis. Bass line construction, basis of walking lines. Voice leading for bass lines and improvisation. Etudes and studies in all styles. Repertoire: Standards and Jazz.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JB3. Jazz Bass. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to advanced harmonic applications. Expanding traditional improvisational vocabulary. Creating original vocabulary.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JB7. Jazz Bass. 1-2 Credit Hours.

Jazz Bass at the Doctoral level. The student will pursue a course of study that is directed towards his/her musical goals. This course will also examine, through transcription and analysis, the important figures in the history of jazz bass, and also those performances in which the student is interested.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBB. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2-3 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Basic techniques, sight-reading. Major, minor, diminished, and whole tone scales. Chord structure and analysis. Bass line construction, basis of walking lines. Voice leading for bass lines and improvisation. Etudes and studies in all styles. Repertoire: Standards and Jazz.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBC. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to solo bass techniques. Advanced arpeggios and scales. Pentatonic theory and applications. Improvisational vocabulary (traditional).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBD. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to solo bass techniques. Advanced arpeggios and scales. Pentatonic theory and applications. Improvisational vocabulary (traditional).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBF. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to advanced harmonic applications. Expanding traditional improvisational vocabulary. Creating original vocabulary.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBG. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBH. Jazz Bass. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous materials in addition to recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBJ. Jazz Bass. 1-3 Credit Hours.

Continuation of MSJ JBI.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBK. Jazz Bass. 1-3 Credit Hours.

Continuation of MSJ JBJ.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ JBL. Jazz Bass. 1-3 Credit Hours.

This semester will focus on the student's graduate recital performance, if applicable.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBN. Jazz Bass. 1-3 Credit Hours.

Continuation of MSJ JBL.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBO. Jazz Bass. 1-3 Credit Hours.

Continuation of MSJ JBN.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBP. Jazz Bass. 1-3 Credit Hours.

Continuation of MSJ JBO.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBQ. Jazz Bass. 1-3 Credit Hours.

Continuation of MSJ JBP.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JBR. Jazz Bass. 1-3 Credit Hours.

Continuation of MSJ JBQ.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JC6. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level I is the first level of private jazz composition lessons in the Studio Jazz Writing Masters program. At this level the instructor evaluates the writer's general knowledge of jazz composition with emphasis on harmonic vocabulary and form.

Components: STU.

Grading: GRD.

MSJ JC7. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level M is the first level of DMA private jazz composition lessons. At this level the instructor evaluates the writer's knowledge of early jazz composers (1920-1940) with emphasis on harmonic vocabulary and form.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JCJ. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level J is the second level of private jazz composition lessons in the Studio Jazz Writing Masters program. At this level the instructor evaluates the writer's general knowledge of jazz composition with emphasis on common practice and historically significant jazz composers. Instruction includes continued refinement of harmonic vocabulary including chord scales and form.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JCK. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level K is the third level of private jazz composition lessons in the Studio Jazz Writing Masters program. At this level the instructor introduces more contemporary significant jazz composers and introduces composition through modes and more advanced composite scales.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JCL. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level L is the fourth level of private jazz composition lessons in the Studio Jazz Writing Masters program. At this level the instructor introduces more contemporary significant jazz composers and expands on composition through modes and more advanced composite scales. Development of an individual style is explored.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JCN. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level N is the second level of DMA private jazz composition lessons. At this level the instructor builds on the writer's knowledge with analysis of jazz composers of the 1950's and 1960's emphasizing harmonic and melodic vocabulary and form.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JCO. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level O is the third level of DMA private jazz composition lessons. At this level the instructor builds on the writer's knowledge with analysis of jazz composers of the 1970's and 1980's emphasizing harmonic and melodic vocabulary and form. Developing an individual writing style.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JCP. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level P is the fourth level of DMA private jazz composition lessons. At this level the instructor builds on the writer's knowledge with analysis of jazz composers of the 1990's and 2000's emphasizing harmonic and melodic vocabulary and open forms. Developing an individual writing style.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JCQ. Applied Jazz Composition. 1-2 Credit Hours.

Applied Jazz Composition level Q is the fifth level of DMA private jazz composition lessons. At this level the instructor builds on the writer's knowledge with analysis of the most contemporary jazz composers and continued refinement of the writers individual style.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JD1. Jazz Drumset. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking technique, basic hand/foot patterns. Analysis of styles, history of drum set. Rhythm section interaction. Basic transcription, chart reading.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JD3. Jazz Drumset. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced jazz styles and comping, odd note groupings, advanced chart reading, advanced hand/foot patterns.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JD6. Jazz Drumset. 1-2 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JD7. Jazz Drumset. 1-2 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDB. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Sticking technique, basic hand/foot patterns. Analysis of styles, history of drum set. Rhythm section interaction. Basic transcription, chart reading.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDC. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced analysis or major drum set artists. Advanced transcription. Soloing over form using motives, dynamics, and subdivision, comping patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDD. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced analysis or major drum set artists. Advanced transcription. Soloing over form using motives, dynamics, and subdivision, comping patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDF. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Advanced jazz styles and comping, odd note groupings, advanced chart reading, advanced hand/foot patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDG. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Displacement, metric modulation, preparation for recital, developing an individual voice.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDH. Jazz Drumset. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Displacement, metric modulation, preparation for recital, developing an individual voice.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDJ. Jazz Drumset. 1-3 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDK. Jazz Drumset. 1-3 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ JDL. Jazz Drumset. 1-3 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDN. Jazz Drumset. 1-3 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDO. Jazz Drumset. 1-3 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDP. Jazz Drumset. 1-3 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDQ. Jazz Drumset. 1-3 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JDR. Jazz Drumset. 1-3 Credit Hours.

Private lessons which focus on the development of drumset skills. The course will cover sticking technique, hand/foot patterns, groove, balance, and rhythm section interaction. Students are required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JG1. Jazz Guitar. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Left and right hand development. Basic fretboard theory including arpeggios, voice leading (2 string studies), blues and bebop scales. Accompanying: 3-note voicings. Introduction to transcription. Application of the concepts studied to basic repertoire.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JG3. Jazz Guitar. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Works by Bach, Galbraith and others. Building of standard/jazz repertoire including works by Arlen, Porter, Kern, Parker, Ellington, etc. Improvisation and harmonic studies based on the foregoing. Eartraining as required. Use of Jamey Aebersold play-along series.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JG6. Jazz Guitar. 1-2 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JG7. Jazz Guitar. 1-2 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGB. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Left and right hand development. Basic fretboard theory including arpeggios, voice leading (2 string studies), blues and bebop scales. Accompanying: 3-note voicings. Introduction to transcription. Application of the concepts studied to basic repertoire.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGC. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of repertoire and continuation of technical studies. Improvisation using arpeggios with tension substitutions. Application of major and melodic minor modes. More advanced transcriptions and refinement of time feel.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGD. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Further development of repertoire and continuation of technical studies. Improvisation using arpeggios with tension substitutions. Application of major and melodic minor modes. More advanced transcriptions and refinement of time feel.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGF. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Works by Bach, Galbraith and others. Building of standard/jazz repertoire including works by Arlen, Porter, Kern, Parker, Ellington, etc. Improvisation and harmonic studies based on the foregoing. Eartraining as required. Use of Jamey Aebersold play-along series.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGG. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. More advanced repertoire (works by Corea, Hancock, etc.). Continued expansion of harmonic concepts and exploration of chord voicings and applications. Use of Aebersold series. Assistance with senior recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGH. Jazz Guitar. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. More advanced repertoire (works by Corea, Hancock, etc.). Continued expansion of harmonic concepts and exploration of chord voicings and applications. Use of Aebersold series. Assistance with senior recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGJ. Jazz Guitar. 1-3 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGK. Jazz Guitar. 1-3 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ JGL. Jazz Guitar. 1-3 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGN. Jazz Guitar. 1-3 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGO. Jazz Guitar. 1-3 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGP. Jazz Guitar. 1-3 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGQ. Jazz Guitar. 1-3 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JGR. Jazz Guitar. 1-3 Credit Hours.

Graduate Studies in Jazz Guitar are designed to take into account each student's talent, previous accomplishments and particular interests. It is expected that a graduate student at the DMA level would be, to a large extent, self-directing and capable of original research. After a careful assessment of the student's strengths and weaknesses, a course of study will be custom-designed, with possible areas of study drawn from (but not limited to) the following list: advanced jazz concepts in melody, harmony and rhythm, sight-reading, repertoire expansion, transposition, technique, composition, and pedagogy. Assistance with recital preparation will be given as appropriate and necessary. The prerequisite for the first level (JGM) is a Master's Degree and the successful completion of the audition for the DMA program.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JP1. Jazz Piano. 2 Credit Hours.

Students will expand and refine application of fundamental chord voicings, chord-scale relationships, be-bop and blues vocabulary, and develop a strong rhythmic base. Solo piano and ensemble/accompaniment formats will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JP3. Jazz Piano. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JP6. Jazz Piano. 1-2 Credit Hours.

Students are encouraged to seek refinement in the areas of harmony, chord voicings, improvisation vocabulary, rhythmic concepts, and technique. A nuanced approach to performing in a musical and expressive manner, with special regard to phrasing, dynamic contrast, articulation, and part balance will be stressed. Advanced techniques in reharmonization, rhythmic phrasing, and solo piano will be explored. Atypical song forms and contemporary repertoire will be introduced. Developing an individual approach to improvising and composing will be encouraged. Recital preparation will focus on programming and other important aspects of concert planning.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JP7. Jazz Piano. 1-2 Credit Hours.

Emphasis placed on developing an individual identity as an artist. Creation of a distinct concept for an ensemble and/or solo piano approach through original composition and/or arranging will be stressed. Career advancement as a performer and/or educator will be explored.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPB. Jazz Piano. 1-2 Credit Hours.

Students will expand and refine application of fundamental chord voicings, chord-scale relationships, be-bop and blues vocabulary, and develop a strong rhythmic base. Solo piano and ensemble/accompaniment formats will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPC. Jazz Piano. 1-2 Credit Hours.

Students will expand and refine knowledge of chord voicings, chord scale relationships, and rhythmic integrity in swing and other styles. Modal, chromatic, and non-traditional harmonic concepts will be introduced. Advanced rhythmic approaches to improvisation and accompaniment will be explored. Expressive aspects of performance will be addressed. Technique will be evaluated to identify areas in need of improvement. Methods will include: transcription, analysis, composition of single lines and arrangements, tune learning, and various improvisation exercises.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPD. Jazz Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Arpeggiation of major, minor, diminished and augmented seventh chords, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to melodic harmonization through practice of "Shearing Style" and "Drop Two" scalar exercises. Introduction of the ii-V7-I chord progression in all keys as applied to tunes which have a harmonic rhythm of two changes per bar such as Confirmation (Parker) and in Your Own Sweet Way (Brubeck). Literature: Study of the "I Got Rhythm" chord progression. Memorization of at least two tunes per lesson in their original key, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of above to be performed with bass accompaniment, or in solo piano format. Study, performance and analysis of transcribed solos such as those found in the Omnibook (Parker). Introduction to solo piano format through study of transcribed pieces.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPF. Jazz Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPG. Jazz Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPH. Jazz Piano. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technique: Selected exercises from the Dohnanyi or Pishna exercise books. Augmented scales and modes of major in all keys, in both hands and in at least two octaves with a swing (triplet) subdivision. Introduction to modal harmony and sideslipping through study of plateau modal compositions (tunes with long sections of the same modality.) Pentatonic scales in all keys. Literature: Blues in the stride solo piano format. Analysis and transcription of artists who played in this style such as Tatum, Johnson, Smith, and Peterson. Memorization of at least two tunes per lesson in at least three key centers, at least 75% of which should be tunes in the "American standard" format featuring composers such as Berlin, Porter, Kahn, Gershwin, etc. All of the above to be performed both with bass accompaniment and in solo piano format with sections in stride style. Introduction to the Bill Evans piano style through performance of his transcribed piano pieces. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPJ. Jazz Piano. 1-3 Credit Hours.

Students are encouraged to seek refinement in the areas of harmony, chord voicings, improvisation vocabulary, rhythmic concepts, and technique. A nuanced approach to performing in a musical and expressive manner, with special regard to phrasing, dynamic contrast, articulation, and part balance will be stressed. Advanced techniques in reharmonization, rhythmic phrasing, and solo piano will be explored. Atypical song forms and contemporary repertoire will be introduced. Developing an individual approach to improvising and composing will be encouraged. Recital preparation will focus on programming and other important aspects of concert planning.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPK. Jazz Piano. 1-3 Credit Hours.

Students are encouraged to seek refinement in the areas of harmony, chord voicings, improvisation vocabulary, rhythmic concepts, and technique. A nuanced approach to performing in a musical and expressive manner, with special regard to phrasing, dynamic contrast, articulation, and part balance will be stressed. Advanced techniques in reharmonization, rhythmic phrasing, and solo piano will be explored. Atypical song forms and contemporary repertoire will be introduced. Developing an individual approach to improvising and composing will be encouraged. Recital preparation will focus on programming and other important aspects of concert planning.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ JPL. Jazz Piano. 1-3 Credit Hours.

Students are encouraged to seek refinement in the areas of harmony, chord voicings, improvisation vocabulary, rhythmic concepts, and technique. A nuanced approach to performing in a musical and expressive manner, with special regard to phrasing, dynamic contrast, articulation, and part balance will be stressed. Advanced techniques in reharmonization, rhythmic phrasing, and solo piano will be explored. Atypical song forms and contemporary repertoire will be introduced. Developing an individual approach to improvising and composing will be encouraged. Recital preparation will focus on programming and other important aspects of concert planning.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPN. Jazz Piano. 1-3 Credit Hours.

Emphasis placed on developing an individual identity as an artist. Creation of a distinct concept for an ensemble and/or solo piano approach through original composition and/or arranging will be stressed. Career advancement as a performer and/or educator will be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPO. Jazz Piano. 1-3 Credit Hours.

Emphasis placed on developing an individual identity as an artist. Creation of a distinct concept for an ensemble and/or solo piano approach through original composition and/or arranging will be stressed. Career advancement as a performer and/or educator will be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPP. Jazz Piano. 1-3 Credit Hours.

Emphasis placed on developing an individual identity as an artist. Creation of a distinct concept for an ensemble and/or solo piano approach through original composition and/or arranging will be stressed. Career advancement as a performer and/or educator will be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPQ. Jazz Piano. 1-3 Credit Hours.

Emphasis placed on developing an individual identity as an artist. Creation of a distinct concept for an ensemble and/or solo piano approach through original composition and/or arranging will be stressed. Career advancement as a performer and/or educator will be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JPR. Jazz Piano. 1-3 Credit Hours.

Emphasis placed on developing an individual identity as an artist. Creation of a distinct concept for an ensemble and/or solo piano approach through original composition and/or arranging will be stressed. Career advancement as a performer and/or educator will be explored.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JS1. Jazz Saxophone. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Introduction to principals of saxophone acoustics; introduction to tone production, intonation, tonal color, and blend; basic technique, chords and scale studies; jazz phrasing; establishment of a "tune list" (repertoire); study of improvised Solos through transcription; major scales full range, thirds, diatonic seventh chords in level A and in level B, melodic minor scales full range, thirds, diatonic seventh chords.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JS3. Jazz Saxophone. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of tone and technique as needed; augmented scale; rhythmic exercises from drum methods; continue extended range studies; a cappella improvisation; studies in melodic/rhythmic development.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JS6. Jazz Saxophone. 1-2 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JS7. Jazz Saxophone. 1-2 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSB. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Introduction to principals of saxophone acoustics; introduction to tone production, intonation, tonal color, and blend; basic technique, chords and scale studies; jazz phrasing; establishment of a "tune list" (repertoire); study of improvised Solos through transcription; major scales full range, thirds, diatonic seventh chords in level A and in level B, melodic minor scales full range, thirds, diatonic seventh chords.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSC. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of earlier levels as needed; diminished scales; pentatonic scales/patterns; extended range exercises; application of melodic minor/pentatonic scales; chromatic scale extensions; tritone substitutions.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSD. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of earlier levels as needed; diminished scales; pentatonic scales/patterns; extended range exercises; application of melodic minor/pentatonic scales; chromatic scale extensions; tritone substitutions.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSF. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of tone and technique as needed; augmented scale; rhythmic exercises from drum methods; continue extended range studies; a cappella improvisation; studies in melodic/rhythmic development.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSG. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Recital Preparation. Building of repertoire; concentration on selected influential composers: Ellington, Shorter, Hancock, Miller, Silver, Jobim, Golson, Lieberman, etc. Review of teaching methods, materials. Advanced technique studies: Bozza Etudes Caprices, Lacour 8 Difficult studies. Topics of interest as decided by student in consultation w/teacher. Total 80 tunes (minimum) by end of H level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSH. Jazz Saxophone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Recital Preparation. Building of repertoire; concentration on selected influential composers: Ellington, Shorter, Hancock, Miller, Silver, Jobim, Golson, Lieberman, etc. Review of teaching methods, materials. Advanced technique studies: Bozza Etudes Caprices, Lacour 8 Difficult studies. Topics of interest as decided by student in consultation w/teacher. Total 80 tunes (minimum) by end of H level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSJ. Jazz Saxophone. 1-3 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSK. Jazz Saxophone. 1-3 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ JSL. Jazz Saxophone. 1-3 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSN. Jazz Saxophone. 1-3 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSO. Jazz Saxophone. 1-3 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSP. Jazz Saxophone. 1-3 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSQ. Jazz Saxophone. 1-3 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ JSR. Jazz Saxophone. 1-3 Credit Hours.

The graduate student will be encouraged to seek further refinement in all areas, including tone, intonation, technique, stylistic interpretation, improvisation, as well as be thoroughly versed in the pedagogy of the instrument. Specific jazz improvisation topics may include advanced forms, non-traditional harmony, traditional harmony in twelve keys, advanced rhythmic meters and subdivisions, balancing melodic/harmonic/rhythmic elements, approaches to non-structured "free" forms, and expansion of the repertoire. Related areas may also be addressed within the private lesson format, such as composition, doubling, and keyboard skills.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TB1. Jazz Trombone. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Daily routine/classical etudes. Major, melodic minor, diminished scales, Dorian and Mixolydian modes, dominant 7th arpeggios, minor 7th arpeggios. All major and minor 3rds followed by respective dominant 7ths.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TB3. Jazz Trombone. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material, in addition to standard tunes (2 per week). 251 licks in major and minor. Diminished patterns.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TB7. Jazz Trombone. 1-2 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBB. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Daily routine/classical etudes. Major, melodic minor, diminished scales, Dorian and Mixolydian modes, dominant 7th arpeggios, minor 7th arpeggios. All major and minor 3rds followed by respective dominant 7ths.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBC. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to blues and rhythm changes in 12 keys. Voice Leading (3rds and 7ths). Transcription techniques/assigned transcriptions. Standard tunes (1 per week).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBD. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to blues and rhythm changes in 12 keys. Voice Leading (3rds and 7ths). Transcription techniques/assigned transcriptions. Standard tunes (1 per week).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBF. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material, in addition to standard tunes (2 per week). 251 licks in major and minor. Diminished patterns.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBG. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to augmented scales and patterns. Pentatonic scales and patterns. Recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBH. Jazz Trombone. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Previous material in addition to augmented scales and patterns. Pentatonic scales and patterns. Recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBI. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBJ. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBK. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ TBL. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBN. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBO. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBP. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBQ. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TBR. Jazz Trombone. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trombone performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TP1. Jazz Trumpet. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Concentration on basic trumpet skills, utilizing the Arbans and Clarke technical studies book. Proper breathing techniques. Major and diminished whole tone scales. Jazz tonguing. Standard jazz repertoire. Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TP3. Jazz Trumpet. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of range studies in addition to advanced etudes such as Bitsch and Charlier. Advanced jazz repertoire. Diminished and augmented scales. Studio techniques.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TP6. Jazz Trumpet. 1-2 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TP7. Jazz Trumpet. 1-2 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPB. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Concentration on basic trumpet skills, utilizing the Arbans and Clarke technical studies book. Proper breathing techniques. Major and diminished whole tone scales. Jazz tonguing. Standard jazz repertoire.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPC. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of basic skills in addition to range studies utilizing the Wedge breath. Transcribing jazz trumpet solos. A cappella blues in all keys.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPD. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of basic skills in addition to range studies utilizing the Wedge breath. Transcribing jazz trumpet solos. A cappella blues in all keys.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPF. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Continuation of range studies in addition to advanced etudes such as Bitsch and Charlier. Advanced jazz repertoire. Diminished and augmented scales. Studio techniques.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPG. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Study of advanced jazz repertoire. Recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPH. Jazz Trumpet. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Study of advanced jazz repertoire. Recital preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPJ. Jazz Trumpet. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPK. Jazz Trumpet. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ TPL. Jazz Trumpet. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPN. Jazz Trumpet. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPO. Jazz Trumpet. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPP. Jazz Trumpet. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPQ. Jazz Trumpet. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ TPR. Jazz Trumpet. 1-3 Credit Hours.

Private lessons focus on various facets of jazz trumpet performance. These include jazz and classical instrumental studies focusing on proper warm up and advanced articulation exercises. Jazz styles are researched through listening to and transcription of established jazz instrumentalists. Advanced jazz theory and jazz piano are also included. The student is required to perform and improvise at a professional level. Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V01. Jazz Voice. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirement: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Repertoire: 25 Songs: 6 swing, 6 traditional ballad, 5 bossa/samba, 2 blues/funk, contemporary ballad, 4 student choice.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V03. Jazz Voice. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, continuation of standard repertoire at more advance and complex level, including bebop, original material, modal tunes and selections of harmonic and melodic complexity with improvisation.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V05. Jazz Voice. 1-4 Credit Hours.

Private studio vocal study at the master of music graduate level devoted to the continued development of skills and repertoire with particular attention to discovering and nurturing the individual student's artistic direction.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V06. Jazz Voice. 1-2 Credit Hours.

Private studio vocal study at the master of music graduate level devoted to the continued development of skills and repertoire with particular attention to discovering and nurturing the individual student's artistic direction.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V07. Jazz Voice. 1-2 Credit Hours.

Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ V0B. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirement: Warm-ups, Cool downs and introductory exercises for breath management. Attack in phonation, registration, resonance, articulation, coordination, microphone technique, key selection and vocal hygiene and maintenance. Repertoire: 25 Songs: 6 swing, 6 traditional ballad, 5 bossa/samba, 2 blues/funk, contemporary ballad, 4 student choice.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOC. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 24 Songs: 16 selections from Swing, Ballad, Jazz Waltz and Latin idioms. 4 Rock/Funk/R&B arrangements in coordination with MSJ 301. Mini-Concert (4 song set) Note: Sophomore proficiency.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOD. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 24 Songs: 16 selections from Swing, Ballad, Jazz Waltz and Latin idioms. 4 Rock/Funk/R&B arrangements in coordination with MSJ 301. Mini-Concert (4 song set) Note: Sophomore proficiency.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOF. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, continuation of standard repertoire at more advance and complex level, including bebop, original material, modal tunes and selections of harmonic and melodic complexity with improvisation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOG. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, same styles as above, Recital preparation, review of repertoire list and audition preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOH. Jazz Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Repertoire: 15 Songs, same styles as above, Recital preparation, review of repertoire list and audition preparation.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOK. Jazz Voice. 1-3 Credit Hours.

Private studio vocal study at the master of music graduate level devoted to the continued development of skills and repertoire with particular attention to discovering and nurturing the individual student's artistic direction.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MSJ VON. Jazz Voice. 1-3 Credit Hours.

Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOO. Jazz Voice. 1-3 Credit Hours.

Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOP. Jazz Voice. 1-3 Credit Hours.

Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOQ. Jazz Voice. 1-3 Credit Hours.

Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MSJ VOR. Jazz Voice. 1-3 Credit Hours.

Private studio vocal coaching at the doctoral level devoted to refining all skills, technique, and repertoire for professional performance and pedagogy.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

Teaching and Learning (TAL)

TAL 101. Social and Technological Foundations of Education.. 3 Credit Hours.

Interdisciplinary overview of the historical development of education in the United States. Topics include history of education, schooling as a social institution, school funding, ethics, legal issues, racism, social class, sexism, homo phobia and heterosexism, language-based discrimination and religion. This course emphasizes the interdependent nature of school and culture; it critically analyzes issues facing children, parents, and educators using this larger cultural framework.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 103. Psychological Foundations of Education. 3 Credit Hours.

Overview of major frameworks in psychology that inform teaching and learning within classroom settings. Major theories of development related to language, affect and cognition across the life span and within diverse settings. Attention is drawn to contributions from social and personality psychology, cognitive science, testing and psychometrics to promote learning through classroom instruction and assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 107. American Sign Language I. 3 Credit Hours.

This course is designed to allow participants to learn about Deaf Culture and be able to sign with sufficient fluency to discuss work, social, and family topics using two to four sentence responses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 191. Developmental Reading for College Students. 3 Credit Hours.

Instruction in college level reading strategies based on individual student needs. Emphasis on vocabulary, comprehension and techniques of test preparation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 203. Children's Literature. 3 Credit Hours.

History, trends, and genres of children's literature with emphasis on children's literature as a curriculum resource.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 204. Building Positive Relationships in Diverse Inclusive Secondary Schools.. 3 Credit Hours.

Course is designed to assist general education teachers in meeting the needs of diverse secondary school students. Emphasis is placed on language and culture in the classroom, as well as students with disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 207. American Sign Language II. 3 Credit Hours.

This course is designed to allow participants to learn about Deaf Culture and be able to sign with sufficient fluency to discuss work, social, and family topics using four to six sentence responses. Students will be able to independently participate in a signed conversation without the use of voicing.

Prerequisite: TAL 107.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 305. Classroom and Behavior Management. 3 Credit Hours.

The principles of behavior analysis and classroom management strategies, both preventative and problem solving. Special emphasis includes effective communication with students, parents and other stakeholders; meeting the needs of all learners based on individual differences, cultural and linguistic diversity; knowledge of research-based strategies that support intellectual, personal and social well-being and development of all students; planning and conducting lessons in a safe, efficient and supportive learning environment. Field experience required.

Corequisite: TAL 306.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 306. Field Experience Seminar I. 0 Credit Hours.

This hybrid zero credit course has been designed to provide additional support for students in our teacher preparation programs. Students will enroll in this course while they participate in a series of field experiences where they gain practical experience integrating theory and practice while working with students in K-12 settings. Major topics include: the Florida Educator Accomplished Practices, Live Text, and guidelines and procedures. Co-requisite TAL 305

Corequisite: TAL 305.

Components: LEC.

Grading: CNC.

Typically Offered: Fall & Spring.

TAL 308. Language Development for Linguistically and Culturally Diverse Children. 3 Credit Hours.

Course provides an introduction to theories of linguistics as well as first and second language acquisition. Readings and lectures serve to highlight the development of language and language challenges faced by students for whom Standard English is a second language and/or a second dialect. Theories of linguistics are used to identify, explain and assess literacy challenges. Field experience required. This course counts as one of two required stand-alone ESOL courses.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 322. Mathematics Instruction in the Elementary School. 3 Credit Hours.

Principles and practices in the teaching of elementary school mathematics. Attention is paid to infusion of technology, linguistic and cultural diversity, students with exceptionalities, and the origins of gender bias. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 323. Science Instruction in the Elementary School. 3 Credit Hours.

Principles and practices in the teaching of elementary school science and social studies. Attention is paid to infusion of technology, linguistic and cultural diversity, students with exceptionalities, and the origins of gender bias. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 324. Education and the Arts. 3 Credit Hours.

Exploration of the fine and performing arts and their relation to Pre-K to 12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 330. Introduction to the Education of Exceptional Individuals. 3 Credit Hours.

A survey course providing a general orientation to Exceptional Individual Education as an integral part of the general education structure. Includes an introduction to appropriate educational programs for exceptional individuals.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 332. Assessment of Exceptional Students. 3 Credit Hours.

"Assessment in Exceptional Student Education: A survey of assessment instruments used to classify, assess and evaluate exceptional students in inclusive and special education settings. Advanced written, digital, and oral communication proficiencies, to include research and report-writing as well as oral presentation skills, are emphasized in this course."

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 360. The Teacher in American Society. 3 Credit Hours.

This course focuses on the historical development of teaching in the US, contemporary educational reform and social change, issues involving teacher work, the impact of technology on schooling, ethical and legal issues in teaching, topics involving Race, Gender Social Class and Equity. Popular Culture sources are emphasized in the course's content.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 370. POP CULTURE AND EDUCATION. 3 Credit Hours.

This course examines how popular culture influences and is influenced by the work and culture of schools. In examining artifacts and trends in popular culture today and the past, the forms of popular culture we will analyze will include: motion pictures, television programs, mainstream news, music, books, magazines, zines, fashion, web-based content, graffiti, tattoos, street art, mobile communication, video games, social networking, and more.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 390. Topics in Education. 3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 404. Content Area Literacy in the Secondary Classroom. 3 Credit Hours.

"Essentials of literacy instruction in various subject areas for middle, junior and senior high schools; instructional methods and materials for development of reading, writing and study strategies. Emphasis is also placed on selecting appropriate materials, motivating students, and helping students with exceptional needs and students who are English Language Learners.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 420. Introduction to Literacy, Assessment, and Instruction in Elementary School. 3 Credit Hours.

Multidisciplinary survey of reading and writing acquisition in the elementary school. Assessment and instruction in the major components of reading: phonological awareness, word identification and phonics, fluency, vocabulary, and comprehension.

Corequisite: TAL 421.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 421. Language Arts And Social Studies In The Elementary School. 3 Credit Hours.

Addresses Language Arts competencies in reading, writing, listening, speaking, viewing and visual literacy, following state/national standards. Research based strategies and approaches for teaching content areas, with a focus on Social Studies competencies, are modeled and integrated through Social Studies content and literature. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 422. Mathematics Instruction in the Elementary School. 3 Credit Hours.

Principles and practices in the teaching of elementary-school mathematics. Attention is paid to infusion of technology, linguistic and cultural diversity, students with exceptionalities, and the origins of gender bias. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 425. Inclusive Classrooms in the Elementary School. 3 Credit Hours.

The course prepares elementary school teachers to meet the individual needs of students with exceptionalities who have been integrated into the general education classroom. Field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 426. Practicum in Reading. 3 Credit Hours.

Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers. This course is a designated Upper Level Communications Requirement; advanced written digital and/or oral communication proficiencies will be emphasized in this course.

Prerequisite: TAL 420.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 428. ESOL Curriculum and Methods and Assessments. 3 Credit Hours.

The course addresses the application of TESOL theories, principles, and current research to the use of curriculum, methods, and assessment. In doing so, the course focuses on an understanding of the differences between curriculum, methods, and assessment designed for children who are native speakers of Standard English and those designed for ESOL. Specific TESOL modifications appropriate for content areas are also addressed. Field experience required. This course counts as the second of two required ESOL specific courses.

Prerequisite: TAL 308. Corequisite: TAL 429.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 429. Field Experience Seminar Ii. 0 Credit Hours.

This hybrid zero credit course has been designed to provide additional support for students in our teacher preparation programs. Students will enroll in this course while they participate in a series of field experiences where they gain practical experience integrating theory and practice while working with students in K-12 settings. Major topics include: the Florida Educator Accomplished Practices, Live Text, and guidelines and procedures. Co-requisite: TAL 428 for students in programs that lead to the ESOL Endorsement; TAL 506 for students in MED and SEC except Secondary English majors.

Components: LAB.

Grading: CNC.

Typically Offered: Fall & Spring.

TAL 432. Inclusive Models Of Teaching. 3 Credit Hours.

This course focuses on models of inclusion and the educational roles to support student success in inclusive settings. Topics addressed include: differentiated staffing patterns; working as a member of a team; successful collaborative practices; effective communication; understanding of varied cultural backgrounds; strategies for facilitating successful inclusion including differentiation of instruction and application of principles of Universal Design for Learning (UDL); co-teaching; strategies for working effectively with students, families, parents, guardians, administrators, general education teachers, paraprofessionals and other professionals, including students, families, and team members; and creating school partnerships.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 434. Specialized Instructional Strategies/Transition. 3 Credit Hours.

This course focuses on evidence-based interventions and models of support for students with disabilities in K – 12 settings and strategies for preparing students for transition from school. Topics addressed include: strategies for using Assistive Technology effectively; strategies for enhancing self-advocacy and self-determination for students with disabilities; strategies for enhancing family involvement in career development and post school employment; transition services and models; preparing students with disabilities for employment and post-secondary education; residential alternatives; recreation and leisure for students with disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 444. Instruction in Secondary Science. 2-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching science in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 470. Student Teaching In The Elementary School. 9 Credit Hours.

A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 471. Student Teaching in the Elementary Schools for K-12 Areas. 3-6 Credit Hours.

A comprehensive program in observation and supervised teaching in the elementary school. The student spends full-time for one half a semester in an elementary school, participating in all activities of the teacher under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 473. Associate Teaching in the Secondary School for K-12 Areas. 3-6 Credit Hours.

A comprehensive program in observation and supervised teaching in the secondary school. The student spends full time for one half a semester in a secondary school, participating in all activities of the teacher under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 480. Seminar On Teaching. 3 Credit Hours.

The seminar is designed to support teacher candidates during the associate teaching experience. Students receive support and assistance in completing Florida Educator Accomplished Practices (FEAP) electronic portfolios. Students share, reflect, and discuss their daily experiences in class during culminating experience in the field.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 491. Applied Research in Education. 3 Credit Hours.

Introduction to basic research methods, ethics in education research, and the implications of research on the practice of teaching. Assist a TAL faculty member with a research project.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 493. Online Teaching & Leadership. 3 Credit Hours.

Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 495. Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 496. Undergraduate Research Honors. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study will be required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 501. Classroom Based Assessment. 1-3 Credit Hours.

Principles and classroom applications of educational measurement and assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 502. Classroom Based Research. 3 Credit Hours.

Application of research principles to evaluation and improvement of teacher effectiveness. Use of scientific methods in problem solving and decision making in the classroom. Student experiences in the planning, conduct, analysis and reporting of classroom research are included.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 503. Technology Applications in Education. 3 Credit Hours.

Technology and its role in transforming teaching and learning; core academic-curriculum literacy; and education social systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 504. Building Positive Relationships in Inclusive Secondary Schools. 3 Credit Hours.

Designed to assist general education teachers in meeting the needs of diverse secondary school students. Focus on students with disabilities, language and culture in the classroom, and developing culturally competent classroom management methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 506. Issues and Strategies for ESOL. 3 Credit Hours.

This course provides a comprehensive foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's mandates and TESOL standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 508. Language Development for Linguistically and Culturally Diverse Students. 3 Credit Hours.

Course will provide an introduction to theories of linguistics, first and second language acquisition, as well as foundations of English learner education. Readings and lectures will serve to highlight the development of language and literacy, including challenges faced by students for whom Standard English is a second language and/or a second dialect. This course will be the first in a two- course ESOL sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 517. Curriculum, Assessment, Teaching and Learning for Physical Science. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching physical science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in physical science, pedagogy, and student literacy in physical science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 518. Curriculum, Assessment, Teaching and Learning for Number, Operations, and Algebra. 3 Credit Hours.

This course examines topics that address the mathematical ideas underlying number, operations and algebra. Related curriculum, instructional and assessment issues will be also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 520. Curriculum, Assessment, Teaching and Learning for Measurement and Geometry. 3 Credit Hours.

Topics involving measurement and geometry in the K-16 mathematics curriculum, how students learn and reason, assessment, instructional strategies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 521. Curriculum, Assessment, Teaching and Learning for the Life Sciences. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching life science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in life science, pedagogy, and student literacy in life science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 522. Curriculum, Assessment, Teaching and Learning in the Earth Sciences. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching Earth science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in Earth science, pedagogy, and student literacy in life science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 523. Curriculum, Assessment, Teaching and Learning for Data Analysis and Probability. 3 Credit Hours.

Data in the elementary school: how to gather (biased and unbiased samples), store, manage, represent, analyze. Probabilistic inferences in elementary school: chance, odds, counting, related topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 524. Education and the Arts. 3 Credit Hours.

Exploration of the fine and performing arts and their relation to PreK-12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 526. Practicum in Reading. 3 Credit Hours.

Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 527. Language and Assessment in ESOL. 3 Credit Hours.

Study of language systems with a focus on understanding and applying linguistic terms. Course prepares teachers to conduct informal and formal assessment procedures with English language learners. Field experience with English language learners is required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 528. ESOL Curriculum, Methods, and Assessment.. 3 Credit Hours.

This course focuses on applying TESOL theories, principles, and current research to the development and use of instructional materials, curriculum, and methods. The course will enhance participant's knowledge of the regular English language arts curriculum in comparison with the ESOL curriculum.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 531. Educating Exceptional Students. 3 Credit Hours.

A survey course in special education emphasizing characteristics and problems associated with various categories of exceptional learners. Policy, issues, and trends in special education will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 540. Instruction and Assessment in the Secondary School.. 3 Credit Hours.

Research-based instructional processes in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 541. Instruction in Secondary English.. 2-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching language arts in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 542. Instruction In Secondary Mathematics. 1-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching mathematics in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 543. Instruction In Secondary Science. 1-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching science in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 544. Instruction In Secondary Social Studies. 1-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching the social sciences in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 545. Methods Of Teaching In The Elementary School. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 550. Language and Early Reading Instruction. 3 Credit Hours.

Factors related to emergent literacy with an emphasis on diverse aspects of language that influence literacy and learning; development of emergent literacy and word perception; emergent literacy curriculum development; appropriate assessment and instructional techniques. Understanding of reading as a process of student engagement in fluent decoding and construction of meaning. Writing intensive.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 552. Reading Comprehension. 3 Credit Hours.

Development of comprehension, rate, and study skills; reading in the content areas; evaluation of materials, organization of programs; issues, problems, and exceptional readers. Emphasis is placed on understanding reading as a process of student engagement in fluent decoding of words and construction of meaning.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 553. Mentoring and Internship in Classroom Teaching. 3-6 Credit Hours.

A comprehensive program of supervised teaching in elementary or secondary class rooms.

Components: LEC.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 554. Literacy and Learning Strategies in the Content Area. 3 Credit Hours.

Literacy instruction in content areas for grades 6 through 12; instructional methods and materials for development of language arts, reading, and study skills. Emphasis on appropriate materials, motivation, and support for students with exceptional needs and English language learners.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 557. Exceptional Student Education and Classroom Management. 1-5 Credit Hours.

Introduction to theories and methods of effective classroom management and learning environments, perceptions of disabilities, addressing disruptive behaviors in classrooms and behavioral assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 558. ESOL Strategies and Classroom Management. 1-5 Credit Hours.

This course provides a general overview of foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's mandates and ESOL Standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development. A Classroom Management Plan will be developed based on current issues and effective classroom strategies for diverse populations.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 568. Education Reform, Policy And The Social Organization Of Schooling. 3 Credit Hours.

This course is designed to introduce students to the politics and policy debates in American education, including how the U.S. K-12 public education is organized as a socially-constructed system. We will examine the politics of a variety of recent reforms at the local, federal and state levels and their impact on institutions, students and the public.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 569. Teaching and Management for Diverse Classrooms. 3 Credit Hours.

This course will emphasize building a classroom culture and community that meets the needs of all students, including learners with disabilities and learners with culturally and linguistically diverse backgrounds. A history of major legal requirements for diverse populations is examined, including the meaning of learning differences, definitions and causes of disabilities, language acquisition processes, and methods for teaching diverse populations. An introduction to theories and methods of effective classroom management for building learning communities is integrated throughout the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 570. Student Teaching In The Elementary School. 9 Credit Hours.

A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full-time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.

Corequisite: TAL 580.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 572. Student Teaching in the Secondary School.. 6-9 Credit Hours.

A comprehensive program in observation and supervised teaching in the secondary school. The student spends full-time in a secondary school participating in all activities of the teacher under the guidance of school and university personnel.

Corequisite: TAL 580.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 577. Human Development, Learning and Schooling. 3 Credit Hours.

Major theories of child development and learning will be discussed with a focus on how they apply to teaching and learning in K-12 schools.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 580. Seminar on Teaching. 1-3 Credit Hours.

Topical seminar to accompany associate teaching

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 584. Topics in the Professional Development and Supervision of Teachers.. 3 Credit Hours.

Topics include the preparation of clinical teachers to induct, guide, and supervise the field experiences of students and associate teachers; techniques in the observation and supervision of in-service teachers; creation and implementation of professional development plans; reading in the research on teacher development across the career.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 590. Topics in Education. 3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

Components: SEM.

Grading: GRD.

Typically Offered: Spring.

TAL 591. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 593. Online Teaching and Leadership. 3 Credit Hours.

Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 596. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 597. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 598. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 599. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 601. Classroom Based Assessment. 1-3 Credit Hours.

Principles and classroom applications of educational measurement and assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 603. Technology Applications in Education. 3 Credit Hours.

Technology and its role in transforming teaching and learning; core academic-curriculum literacy; and education social systems.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 604. Building Positive Relationships in Inclusive Secondary Schools. 3 Credit Hours.

Designed to assist general education teachers in meeting the needs of diverse secondary school students. Focus on students with disabilities, language and culture in the classroom, and developing culturally competent classroom management methods.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 605. Mentoring and Internship in Classroom Teaching. 3-6 Credit Hours.

A comprehensive program of supervised teaching in elementary or secondary class rooms.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 606. Issues and Strategies for ESOL. 3 Credit Hours.

This course provides a comprehensive foundation in ESOL (English for Speakers of Other Languages) competencies based on Florida's mandates and TESOL standards. Theory and practice will be emphasized in the areas of applied linguistics, cross cultural communication and understanding, methods of teaching, assessment, and curriculum and material development.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 607. Instructional Leadership. 3 Credit Hours.

An examination of the components of effective supervision of instruction. Leadership theories which apply to educational settings; legal rights and responsibilities of students, teachers and administrators will be covered. As well as the examination of various models of teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 608. Language Development for Linguistically and Culturally Diverse Students. 3 Credit Hours.

Course will provide an introduction to theories of linguistics, first and second language acquisition, as well as foundations of English learner education. Readings and lectures will serve to highlight the development of language and literacy, including challenges faced by students for whom Standard English is a second language and/or a second dialect. This course will be the first in a two- course ESOL sequence.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 609. Practicum in Reading. 3 Credit Hours.

Supervised practicum in reading and writing. Emphasis is on assessment and interventions for elementary students with a range of academic, linguistic and cultural challenges in becoming proficient readers.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 610. Literacy and Learning Strategies in the Content Area. 3 Credit Hours.

Literacy instruction in content areas for grades 6 through 12; instructional methods and materials for development of language arts, reading, and study skills. Emphasis on appropriate materials, motivation, and support for students with exceptional needs and English language learners.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 611. Topics in the Professional Development and Supervision of Teachers.. 3 Credit Hours.

Topics include the preparation of clinical teachers to induct, guide, and supervise the field experiences of students and associate teachers; techniques in the observation and supervision of in-service teachers; creation and implementation of professional development plans; reading in the research on teacher development across the career.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 612. Classroom and Behavior Management. 3 Credit Hours.

An examination of the principles of various theoretical perspectives of classroom management and discipline. Applications to the management of behavior problems of children and adolescents. Contemporary research analyzed and discussed. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 613. Prescriptive Teaching of Exceptional Students. 3 Credit Hours.

Techniques for individualization of instruction for exceptional students, including educational prescription, and curriculum adaptation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 614. Assessment in Exceptional Student Education. 3 Credit Hours.

Administration and interpretation of assessment tools used to assess and evaluate reading and learning difficulties; includes a survey of instructional strategies and materials for the prevention and remediation of reading difficulties based on the results of the assessments.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 615. Reading in the Elementary School. 3 Credit Hours.

Extending competencies in teaching reading, including exceptional children in the regular classroom, with emphasis on applying findings from research in reading to classroom practices. 20 hours of field experience required for all students who are not currently teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

TAL 616. Mathematics in the Elementary School. 3 Credit Hours.

Content, methods, and research appropriate for teaching mathematics in the elementary school, including exceptional children in the regular classroom. Content is defined as a pre-algebra mathematics. 20 hours of field experience required for all students who are not currently teaching. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 617. Science in the Elementary School. 3 Credit Hours.

Extending competencies of elementary school teachers in teaching science to children, including exceptional children in the regular classroom. Development of science programs based on research which has classroom applications. 20 hours of field experience required for all students who are not currently teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

TAL 618. Social Studies in the Elementary School. 3 Credit Hours.

Extending competencies in teaching social studies to children, including exceptional children in the regular classroom, with an emphasis on research applications. 20 hours of field experience required for all students who are not currently teaching.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 619. Exceptional Student Education and Classroom Management. 1-5 Credit Hours.

Introduction to theories and methods of effective classroom management and learning environments, perceptions of disabilities, addressing disruptive behaviors in classrooms and behavioral assessment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 620. Teaching and Management for Diverse Classrooms. 3 Credit Hours.

This course will emphasize building a classroom culture and community that meets the needs of all students, including learners with disabilities and learners with culturally and linguistically diverse backgrounds. A history of major legal requirements for diverse populations is examined, including the meaning of learning differences, definitions and causes of disabilities, language acquisition processes, and methods for teaching diverse populations. An introduction to theories and methods of effective classroom management for building learning communities is integrated throughout the course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 621. Student Teaching In The Elementary School. 9 Credit Hours.

A comprehensive semester-long program in observation and supervised teaching in the elementary school. The student spends full-time in an elementary school participating in all activities of the teacher under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 622. Student Teaching in the Secondary School.. 6-9 Credit Hours.

A comprehensive program in observation and supervised teaching in the secondary school. The student spends full-time in a secondary school participating in all activities of the teacher under the guidance of school and university personnel.

Components: PRA.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 623. Seminar on Teaching. 1-3 Credit Hours.

Topical seminar to accompany associate teaching

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 624. Education and the Arts. 3 Credit Hours.

Exploration of the fine and performing arts and their relation to PreK-12 education. Emphasis is placed on experiential learning and methods of incorporating the arts in school curricula. The course also includes a focus on the value of the arts to the individual and society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 625. Online Teaching and Leadership. 3 Credit Hours.

Introduction to teaching-learning process in online learning environments, including asynchronous modalities, assessment and evaluation, technology and digital copyright usage.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 626. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 627. Understanding Culture in the Classroom. 3 Credit Hours.

This course explores the conflicts and the strategies for resolution between the patterns of culture in the classroom and the patterns of culture that school children bring to the classroom - patterns which are learned in their families and communities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 628. Internship in Special Education Settings. 3-6 Credit Hours.

A comprehensive program of supervised teaching in special education settings. The student spends two full semesters employed as a full-time teacher while under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 629. Educating Exceptional Students. 3 Credit Hours.

A survey course in special education emphasizing characteristics and problems associated with various categories of exceptional learners. Policy, issues, and trends in special education will be discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 630. Instructing Students Who Have Literacy Challenges. 3 Credit Hours.

Administration and interpretation of instructional assessments with instructional strategies and materials based upon scientifically based reading research for the prevention and remediation of reading difficulties.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 631. Assessment of Reading and Related Learning Disabilities. 3 Credit Hours.

Theories and procedures for screening, diagnosis, and progress-monitoring of reading and related learning disabilities. Includes instruction and supervised clinical experiences in administration and interpretation of assessments with an emphasis on prevention, identification, and remediation of reading and related learning disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 632. Intervention for Reading and Related Learning Disabilities. 3 Credit Hours.

Theories and procedures for screening, diagnosis, and progress-monitoring of reading and related learning disabilities. Includes instruction and supervised clinical experiences in administration and interpretation of assessments with an emphasis on prevention, identification, and intervention of reading and related learning disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 633. Reading Comprehension. 3 Credit Hours.

Development of comprehension, rate, and study skills; reading in the content areas; evaluation of materials, organization of programs; issues, problems, and exceptional readers. Emphasis is placed on understanding reading as a process of student engagement in fluent decoding of words and construction of meaning.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 634. Language and Reading Instruction. 3 Credit Hours.

Extending competencies of K-12 school teachers in teaching reading to children, including exceptional children in the regular classroom. Emphasis on applying findings from research in reading and writing to classroom practices.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 638. Language Arts and Culture in the Classroom. 3 Credit Hours.

Extending competencies in the language arts including linguistic and cultural diversity and children with disabilities in elementary classrooms. Emphasis on research applications. 20 hours of field experience required for all students who are not currently teaching. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 640. Typical and Atypical Child Development. 3 Credit Hours.

Theories and research in the development of children from conception through eight years of age. Factors which influence development and the relationship of typical development to patterns of delayed and atypical development. Writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 641. Working with Families of Young Children with Disabilities: Strategies and Medical Issues. 3 Credit Hours.

This course will address issues related to working with families of young children with special educational and health needs. This will include strategies for effective communication and collaboration with all members of the interdisciplinary team. This is a writing intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 642. Evaluation and Assessment in Infant and Early Childhood Special. 3 Credit Hours.

Students will become familiar with a variety of formal and informal screening, evaluation, assessment instruments, and procedures currently in use with children birth to eight. They will learn criteria for selecting and using developmentally and culturally appropriate instruments and become familiar with the multi-, inter-, and trans-disciplinary team approaches. Students will write formal reports and develop an IEP and an IFSP. May require field experience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 643. Intervention Strategies in Infant and Early Childhood Special Education. 3 Credit Hours.

The focus of this course will be the implementation of IEPs and IFSPs through the use of developmentally appropriate curriculum, methods, and intervention strategies for infants, toddlers, and young children with special needs. This will include implementation and adaptation of existing curriculum and materials for young children to meet the special needs of this population. May require field experience. Writing Intensive course.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 644. Early Childhood Curriculum Development. 3 Credit Hours.

Development of curriculum for children from birth to eight years of age. Emphasis on application of research findings. 20 hours of field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

TAL 645. Methods for Communications and Language in Young Children with Disabilities. 3 Credit Hours.

This course will focus on language theories, models, and methods for birth-eight year olds. The course will present an overview of normal development in communication and discuss conditions that might impede progress as well as signs that would suggest a problem is present. This course may require field experience.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 646. Working with Children who Exhibit Challenging Behaviors. 3 Credit Hours.

Challenging behaviors in young children; influences of culture, language, ethnicity; applying Response to Intervention in Preschool settings; evidence-based classroom and behavior management strategies; planning intensive individualized interventions; applying positive behavioral support.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 647. Language and Early Reading Instruction. 3 Credit Hours.

Factors related to emergent literacy with an emphasis on diverse aspects of language that influence literacy and learning; development of emergent literacy and word perception; emergent literacy curriculum development; appropriate assessment and instructional techniques. Understanding of reading as a process of student engagement in fluent decoding and construction of meaning. Writing intensive.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 648. Practicum/Internship with Infants and Toddlers with Disabilities (0-3 yrs.). 1-6 Credit Hours.

A comprehensive program in observations and supervised teaching in a school/center for infants and toddlers with disabilities (0-3 yrs.). The student spends full time in the school/center participating in all activities of the teacher under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 649. Practicum/Internship with Children with Disabilities (3-5 yrs.). 1-6 Credit Hours.

A comprehensive program in observation and supervised teaching in a school/center for children with disabilities (3-5 yrs.). The student spends full time in the school/center participating in all activities of the teacher under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 650. Literature for Children and Adolescents.. 3 Credit Hours.

Study of literature for children and adolescents emphasizing multicultural literature and use of literature across the curriculum. Twenty hours of field experience required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 659. Practicum in Education and Social Change. 3 Credit Hours.

This practicum course is the culminating project for the Education and Social Change Master's Program. Participants will review the literature, design, and present an action project within the context of a school or community setting.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 660. Instruction and Assessment in the Secondary School.. 3 Credit Hours.

Research-based instructional processes in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 661. Instruction in Secondary English.. 2-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching language arts in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 662. Instruction In Secondary Mathematics. 1-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching mathematics in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 663. Instruction In Secondary Science. 1-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching science in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 664. Instruction In Secondary Social Studies. 1-3 Credit Hours.

Analysis of methods, materials, and content appropriate for teaching the social sciences in the secondary school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 665. Methods Of Teaching In The Elementary School. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 666. Introduction To The Politics Of Education, Teaching, And Learning. 3 Credit Hours.

Survey overview of political debates involving education as a nested and loosely-coupled system where pressures at one level can be supported or countermanded at another. Historical and critical take on present-day debates. Depending on student interests, may go in-depth on topics such as economic politics, cultural politics, state and local control.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

TAL 667. Education Reform, Policy And The Social Organization Of Schooling. 3 Credit Hours.

This course is designed to introduce students to the politics and policy debates in American education, including how the U.S. K-12 public education is organized as a socially-constructed system. We will examine the politics of a variety of recent reforms at the local, federal and state levels and their impact on institutions, students and the public.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 668. Human Development, Learning and Schooling. 3 Credit Hours.

Major theories of child development and learning will be discussed with a focus on how they apply to teaching and learning in K-12 schools.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 671. Curriculum, Assessment, Teaching and Learning for Physical Science. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching physical science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in physical science, pedagogy, and student literacy in physical science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 672. Curriculum, Assessment, Teaching and Learning for Number, Operations, and Algebra. 3 Credit Hours.

This course examines topics that address the mathematical ideas underlying number, operations and algebra. Related curriculum, instructional and assessment issues will be also discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 674. Internship in the Elementary School. 3-6 Credit Hours.

A comprehensive program of supervised teaching in a K-6 classroom in the elementary school. The student spends a full semester employed as a full-time teacher while under the guidance of school and university personnel.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 675. Curriculum, Assessment, Teaching and Learning in the Earth Sciences. 3 Credit Hours.

Analysis of content knowledge, pedagogy, and materials appropriate for teaching Earth science in the elementary school. The course content focuses on instructional practice with an emphasis on developing teacher content knowledge in Earth science, pedagogy, and student literacy in life science.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 676. Curriculum, Assessment, Teaching and Learning for Data Analysis and Probability. 3 Credit Hours.

Data in the elementary school: how to gather (biased and unbiased samples), store, manage, represent, analyze. Probabilistic inferences in elementary school: chance, odds, counting, related topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 677. Diversity And Equity In Stem Education. 3 Credit Hours.

Issues of unequal student achievement, course taking, degree-seeking, and careers that rely on science, engineering, technology and mathematics (STEM). Focus is on social-demographic groups defined along lines of race, ethnicity, social class, gender language, and their interactions. Historical and social antecedents, current day policies and practices, extant research consequences and future trends.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 690. Topics in Education. 3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 691. Workshop in Education. 1-6 Credit Hours.

A critical study of practical problems of teachers. Significant problems are defined, literature and research are reviewed, and individual or small group projects are required.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 700. Professional Seminar. 3.00 Credit Hours.

The TAL Pro-seminar consists of a series of interactive sessions at which faculty, doctoral students, and guest speakers have the opportunity to discuss current topics in education research. Its purpose is to enhance the culture of scholarship and collegiality within the Department and to provide informal guidance to doctoral students on research and career directions in education.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 701. Teacher in American Society. 3 Credit Hours.

An historical, philosophical, and sociological analysis of the teaching profession in American society. The role and status of teachers in American culture will be discussed. Contemporary issues such as the union movement, status assignment, rewards and incentives, and the role of the teacher as an instrument in the definition of the culture will also be covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 702. The Social and Cultural Foundation of Education. 3 Credit Hours.

This course is an interdisciplinary seminar reviewing the major literature in the Social and Cultural Foundation of Education. Classic, Modern and Post-Modern texts will be read with an emphasis on the literature written after 1980 (Post-Modern). Emphasis will be placed on the exploration of key policy questions, as well as the analysis of key sociological concepts related to the field such as hegemony, cultural reproduction, social capital and privilege. The course is intended to provide a "baseline" for understanding the field.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 703. Issues and Trends in Multicultural Education. 3-6 Credit Hours.

The study and critical examination of the theory and practice of multicultural education. Development of a personal theory of effective education for pluralism is included.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 720. Research in Residence - Masters. 1 Credit Hour.

Masters-degree and Ed.S. students enrolled for credit as determined by advisor. Credit awarded when thesis is accepted.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 730. Topics in Language and Literacy Learning. 1-3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 731. Language Policy And Planning (K-12). 3 Credit Hours.

The course focuses on the areas that have been of particular interest to sociolinguists and language planners, namely, status planning, corpus planning, prestige planning, language-in-education planning, the language rights of linguistic minorities and the more recent movements from macro issues on language policy and planning (LPP) to micro issues involved in indexing linguistic, ethnic and racial identities. In addition, the course will address matters of migration, imperialism, state formation and political conflicts due to LPP in the United States as well as in countries in Latin America, the Caribbean, Africa, Asia and Europe.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 732. Seminar in Reading. 3 Credit Hours.

Seminar providing intensive study of contemporary topics in reading. Open to advanced graduate students in reading.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 733. Applied Linguistics. 3 Credit Hours.

In-depth study of phonology, morphology, syntax, semantics and pragmatics of spoken and written discourse and the application to second language acquisition theories. Issues of nonstandard dialects and creoles as well as their impact on literacy challenges will be discussed. Globalization of English and linguistic imperialism will be addressed.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 734. Theory And Research In Reading. 3 Credit Hours.

This course explores the intellectual roots of theories of reading and how these are used to generate testable research hypotheses about linguistic, psychological, social, and cultural factors that influence and sustain reading development and reading performance. The course surveys works that have influenced research and theory in the field of reading from its inception in the early 1900's – through the work of experimental psychologists such as Huey – to present times. The readings and lectures will include work that represents the influence of the intellectual traditions of the introspectionists, behaviorism, cognitive psychology, constructionism, socio-cultural theory, and cognitive neuroscience.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 735. Theory And Research In Writing. 3 Credit Hours.

Seminar that explores the complementary relationship between reading and writing through the reading and analysis of theoretical and research literature on writing theory and writing instruction.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 752. Seminar in Reading/Learning Disabilities. 3-12 Credit Hours.

Contemporary topics in reading and learning disabilities. Rotating topics and faculty. Open only to advanced graduate students in reading and learning disabilities pursuing specialist or doctoral degrees. Specialist students enroll for a total of six hours, and doctoral students for a total of 12 hours. Course may be repeated for a total of 12 credits. Subtitles describing the topics to be offered will be shown in parentheses in the printed schedule, following the title.

Components: SEM.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 753. Cognitive Psychology In Special Education. 3 Credit Hours.

Learn about different cognitive theorists and discuss various theoretical positions as to their strengths and weaknesses within and across theories. Address theory refinement over time and the application of theory to research practice. Review literature in a systematic manner and write an integrated and purposeful review of research. Develop a research proposal that is theory-based. Participate in the peer review process.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 754. Disability And Diversity: Critical Views. 3 Credit Hours.

Examines critical issues in the cultural/historical conceptualization of the field of special education against the background of cross-cultural views of disabilities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 755. Current Issues In Special Education. 3 Credit Hours.

Current issues and trends in special education from historical, societal, policy, practice and research perspectives. Topics may include identification, referral and eligibility; inclusion and Least Restrictive Environment; parent involvement; participation of students with disabilities in high-stakes testing; cultural/linguistic diversity; the disproportionate placement of minorities; and teacher qualifications, certification and education.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 756. Research in Special Education. 3 Credit Hours.

Critical analysis of empirical research studies in selected areas of special education research, focusing on research designs, data analysis methods, and interpretation of findings.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 757. Seminar in Special Education. 3-12 Credit Hours.

Study in special interest areas in special education. May be taken for up to 12 credits.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

TAL 758. Topics in Special Education. 1-3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing in important educational issues for which format course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topics.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 770. Topics In Stem Education. 1-3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which format course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topics.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 772. Instructional Design and Technology in STEM Education. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 773. Stem Teaching And Teacher Education. 3 Credit Hours.

Advanced and specialized topics in research on the teaching and learning of science, technology, engineering and mathematics (STEM) including the development of teachers across their careers, professional development, design experiments, and teacher-learning in and out of school.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 774. Stem Learning. 3 Credit Hours.

Provides an overview of the historical roots and current state of the learning sciences, as they apply to the study of learning in science, technology, engineering and mathematics (STEM). Organized around reading, discussion and synthesis of research.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 775. Stem Curriculum And Policy. 3 Credit Hours.

Study of mathematics and science curricula, with the inclusion of engineering and technology as applied science and mathematics. Study of the competing forces that shape curriculum including standards documents, state and national policy, conceptions of the disciplines, modern and postmodern analyses of curriculum theory.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 776. Assessment In Stem Education. 3 Credit Hours.

Overview of the theoretical and research frameworks for student assessment in science, technology, engineering and mathematics (STEM). Topics include classroom-based assessment, testing for high stakes and other purposes, national and international comparisons in mathematics and science achievement and factors impacting on STEM-related persistence and careers.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 777. Stem-Education Research Practicum. 3 Credit Hours.

Defining an empirical or theoretical research issue, arguing for its importance; framing the study based on related research; designing, implementing and documenting appropriate research methods; reporting and interpreting the results; writing and submitting a manuscript – in the fields that comprise STEM-education.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 790. Advance Topics in Education. 1-3 Credit Hours.

Review of emerging policy, practice, empirical research and scholarly writing on important educational issues for which formal course title and syllabus have not been developed and formalized in the UM Bulletin. Allows for experimental instructional formats. Course number indicates appropriate student audience. See Course Notes for specific topic.

Components: SEM.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 793. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study form will be required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 794. Advanced Individual Study. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

TAL 796. Practicum/Internship: Elementary Exceptional Student Education Classroom. 1-6 Credit Hours.

A comprehensive program of observations and supervised teaching in an elementary exceptional student education classroom. The student spends full time in the classroom participating in all activities of the teacher under the guidance of school and university personnel.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 801. Advanced Individual Study for Doctoral Students. 1-3 Credit Hours.

Individual work on a special project under faculty guidance. Application for Admission to Advanced Individual Study form will be required.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's or Ed.S. thesis enrolls for credit. In most departments no to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 815. Post-Candidacy Thesis Research. 1-12 Credit Hours.

Masters-degree and Ed.S. students enrolled for credit as determined by advisor. Credit awarded when thesis is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

TAL 825. Continuous Registration - Master's Study.. 1 Credit Hour.

To establish residence for non-thesis master's study who are preparing for major examinations or working on culminating project. Credit not granted. Regarded as full time residence.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

TAL 830. Pre-Candidacy to Dissertation Research.. 1-12 Credit Hours.

Doctoral students enrolled for credit as determined by advisor. Credit is awarded when dissertation is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 835. Doctor of Education Dissertation. 1-12 Credit Hours.

Required of all candidates for the Ed.D. The student enrolls for credit as determined by his/her advisor. Credit is not awarded until the doctoral project has been accepted. Total enrollment may not exceed 12 credits.

Components: LEC.

Grading: SUS.

Typically Offered: Offered by Announcement Only.

TAL 840. Post-Candidacy Dissertation Research.. 1-12 Credit Hours.

Doctoral students enrolled for credit as determined by advisor. Credit is awarded when dissertation is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

TAL 850. Research in Residence. 1 Credit Hour.

Doctoral students enrolled for credit as determined by advisor. Credit awarded when dissertation is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

TAL 862. Principles of Curriculum Development and Classroom Management for TESOL. 3 Credit Hours.

Components of curriculum and instructional management in ESOL classrooms. Pupil/ teacher interaction, curriculum organization, student assessment and evaluation, materials development and adoption, utilization of resources, and classroom organization will be covered.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

TAL 865. Language Assessment. 3 Credit Hours.

Nature and methodologies of language assessment within a framework of psychometric and linguistic criteria.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

Theatre Arts (THA)

THA 101. Introduction to Theatre. 3 Credit Hours.

Intro survey course in theatre—what it is now, how it works, its practitioners and the relationship of theatre to the contemporary world. Attendance at Ring Theatre productions is required.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 102. Introduction To The Audition. 2 Credit Hours.

Students will learn the methods and techniques used to create a successful performance audition. The student will learn how to choose appropriate audition material and how to rehearse the material for an effective and professionally-minded audition.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 103. Introduction To Theatre Crafts - 1 Credit Hour.

Students will learn the techniques and methods used to create costumes, scenery and stage properties for theatrical productions. Lectures and hand-on projects will allow students to practice their skills in scenic construction, scenic painting, sewing and costume crafting.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 104. Performance Practicum. 3 Credit Hours.

Students will be cast in and rehearse a performance piece with a stage director. Students will learn effective methods for memorizing text and best professional practices in their collaboration with the director and artistic team. The piece will be performed in front of a live audience at the end of the course.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 105. Introduction to Acting. 3 Credit Hours.

Basic tools of acting craft including analysis, physical action and reacting in the moment explored through exercises, scripted work and readings. A doing class, making attendance essential.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 106. Introduction To Acting For The Musical Theatre Stage. 3 Credit Hours.

Basic tools of Musical Theatre Acting craft including vocal approaches for the actor, theatrical and musical analysis, physical action and an introduction to musical theatre acting styles explored through exercises, scripted work with an extensive listening component.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 108. Introduction To Standardized Patient Simulation. 3 Credit Hours.

Standardized patients are healthy people who are trained to realistically portray a specific patient's history, subtext, personality, physical infirmities and emotional states within a simulated interview or simulated physical examination session with a medical student. Students will learn improvisational acting skills and physiological knowledge needed to support and serve interactive clinical training.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 111. Acting I-A. 2 Credit Hours.

Introduction to the elements of drama and theatre, and to the basic tools of acting craft.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 112. Acting I-B (Script Analysis). 2 Credit Hours.

Continued work on basic tools of craft including script analysis.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 113. Movement I-A. 2 Credit Hours.

Basic movement for the actor (self-use training): physical awareness and correct habits, mind/body connections, muscle tension release, body alignment, coordination, balance, flexibility and strength. Begin study of the Alexander Technique.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 114. Movement I-B. 2 Credit Hours.

Advanced movement for the actor; study physical/emotional choices for characters through physical centers, develop process for character's physical development through observations, explore spatial awareness, rhythm, kinesthetic body, and sensory awareness. Continued study of the Alexander Technique.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 116. Dance I-A. 2 Credit Hours.

Beginning ballet and jazz for Musical Theatre with strong focus on technique and terminology. Can be taken up to three times for credit.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 117. Dance I-B. 2 Credit Hours.

Continuation of THA 116. Can be taken up to three times for credit.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 120. Freshman Studio I. 1-2 Credit Hours.

First year theatre laboratory with strong focus on ensemble, rehearsal, and performance skills.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 121. Freshman Studio II. 1-2 Credit Hours.

A continuation of THA 120.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 131. Musical Theatre Skills I. 2 Credit Hours.

The first semester of a four semester practical course sequence designed to teach musical skills, techniques, keyboard skills and theory relevant to the contemporary musical theater actor.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 132. Musical Theatre Skills II. 2 Credit Hours.

The second semester of a four semester practical course sequence designed to teach musical skills, techniques, keyboard skills and theory relevant to the contemporary musical theater actor.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 140. Introduction to Dance. 3 Credit Hours.

Beginning dance skills and stylistic elements of theatrical forms of dance (repeatable).

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 141. Introduction to Scene Design/Stagecraft I (Lecture). 2 Credit Hours.

Introduction to scene design and construction. Corequisite: THA 143.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 142. Introduction to Costume Design/Stagecraft II (Lecture). 2 Credit Hours.

Introduction to stage lighting and costume design. Corequisite: THA 144.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 143. Introduction to Theatre Crafts I (Lab). 1 Credit Hour.

Students will be assigned to run crew positions on the backstage crew for actual theatre productions in the Jerry Herman Ring Theatre or Hecht Studio Theatre. Working evenings and weekends will be required for this lab.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 144. Introduction to Theatre Crafts II (Lab). 1 Credit Hour.

Students will participate in the completion of the technical elements of Jerry Herman Ring Theatre productions. Students will be assigned to work in one of technical shops including costumes, sets, lights, props or publicity.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 150. Musical Theatre Vocal Techniques. 1 Credit Hour.

Fundamentals of Vocal Productions explored through group lessons. Enrollment limited to first-year BFA students. May be taken twice for credit.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 160. Dance Styles. 3 Credit Hours.

Presents a variety of dance forms that will vary from one semester to the next Styles such as tap, modern, ethnic and contemporary (among others) will be offered on a rotating basis. Can be repeated for up to 6 credits.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 161. Beginning/ Intermediate Tap. 3 Credit Hours.

Beginning/intermediate tap class. Not a lecture class; students will be dancing during each class period. Tap shoes are required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 162. Intermediate Advanced Tap. 3 Credit Hours.

Intermediate advanced tap class, Not a lecture class; students will be dancing during each class period. Tap shoes are required.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 191. Introductory Applied Music Theatre Voice I. 1 Credit Hour.

One-half hour individual lessons tailored to the individual needs of the students. Enrollment is limited to first-year BFA music theater students.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 192. Introductory Applied Music Theatre Voice II. 1 Credit Hour.

One-half hour individual lessons tailored to the individual needs of the student. Enrollment is limited to first-year BFA music theater students.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 194. Singing for Actors. 1-2 Credit Hours.

Fundamentals of singing to include breath control, tone production, articulation. An ensemble approach to exploring and gain self-confidence in the skill of singing for the American musical stage.

Requisite: Plan of Theatre - Performance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 196. Singing for the Stage I-A. 1-2 Credit Hours.

The selection of learning process and performance of Musical Theatre Songs with emphasis on lyrics.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 197. Singing for the Stage I-B. 1-2 Credit Hours.

Continuation of THA 196.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 198. Voice and Speech I-A. 2 Credit Hours.

Fundamentals of relaxation and breath management, alignment, tone production, pitch and resonance. Anatomy and physiology of the vocal structures. Introduction to the International Phonetic Alphabet (IPA).

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 199. Voice and Speech I-B. 2 Credit Hours.

Development of General American speech production and articulation skills through further phonetic study. Explorations in range, inflection, resonance, tempo and rhythm within the application of voice to text.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 200. Advance Musical Skills I. 2 Credit Hours.

THA 200 is the first half of a two semester practical course sequence designed to integrate the disciplines of music theory, script analysis and acting techniques. Emphasis will be on the incorporation of all aspects of a musical theatre score by the actor.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 206. BA Acting for the Musical Theatre Stage. 3 Credit Hours.

Prerequisite: THA 106.

Components: LEC.

Grading: GRD.

THA 208. Intermediate Standardized Patient Training. 3 Credit Hours.

Standardized patients are healthy people who are trained to realistically portray a specific patient's history, subtext, personality, physical infirmities and emotional states within a simulated interview or simulated physical examination session with a medical student. Students with previous SP experience will learn intermediate improvisational acting skills and work with patient histories that deal with behavioral health.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 211. Acting II-A. 2 Credit Hours.

Intensive scene study for sophomore conservatory actors. Basic tools of craft developed through use of contemporary plays, script analysis, and rehearsal techniques.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 212. Acting II-B. 2 Credit Hours.

A continuation of THA 211.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 216. Dance II-A. 1 Credit Hour.

Intermediate Musical Theatre dance taught through ballet and jazz, with an emphasis on technique and style. Can be taken up to three times for credit.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 217. Dance II-B. 2 Credit Hours.

A continuation of THA 216 incorporating characterization and additional style. Can be taken up to three times for credit.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 231. Music Theatre Skills Iii. 2 Credit Hours.

The third semester of a four semester practical course sequence designed to teach musical skills, techniques, keyboard skills and theory relevant to the contemporary musical theatre actor.

Prerequisite: THA 132.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 232. Music Theatre Skills Iv. 2 Credit Hours.

The fourth and final semester of a four semester practical course sequence designed to teach musical skills, techniques, keyboard skills and theory relevant to the contemporary musical theatre actor.

Prerequisite: THA 231.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 240. Introduction to Dance II. 3 Credit Hours.

Continuation of THA 140 (repeatable).

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 241. Basic Costume Sewing And Scenic Painting. 3 Credit Hours.

Basic scenic painting and costume construction techniques. Scenic painting includes fundamentals in wood, marbles, brick, stones, lights and shadows. Costume construction includes fundamentals in hand/machine sewing, dyeing, distressing and pattern reading.

Prerequisite: THA 141 and THA 142.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 242. Drafting for the Theatre. 3 Credit Hours.

Drafting standards and techniques used for the theatre to produce scenic and lighting plans. Hand drafting and computer aided drafting.

Prerequisite: THA 141 and THA 142.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 243. Introduction to Drawing for the Theatre. 3 Credit Hours.

Basic sketching, mechanical drawing and rendering techniques used for costume and scenic design. Basic black and white figure drawing, lights and shadows and perspective elevations.

Corequisite: THA 141.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 244. Advance Drawing for the Theatre. 3 Credit Hours.

Advanced training in drawing and rendering used for costume and scenic design for the theatre. Color costume plates and scenic renderings.

Prerequisite: THA 243.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 245. Technical Planning for Theatrical Productions. 3 Credit Hours.

Characteristics and structure of Scenery, Properties, Scenic Art, Costumes, Lighting, Sound and Video departments for theatrical performance. Study of each production department's budgeting, scheduling and logistical needs.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 246. Survey of Design for Theatre and Live Entertainment. 3 Credit Hours.

Principles and procedures of the design and technical production aspects of theatre and live entertainment.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 247. Master Electrician for the Stage. 3 Credit Hours.

Training for the position of Master Electrician and Assistant Lighting Designer (or theatrical productions. Practical application of production planning, lighting paperwork, overseeing lighting crews, advanced electrical theory, power distribution, and creative problem solving.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 248. Introduction to Design for Film. 3 Credit Hours.

Various aspects of costume design and production in films by introductions the designer' roles, design models, design language, and collaborative efforts in film to the student. Later in the semester students will experience developing their own designs through simpler projects, such as designing a song or scene from novels.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 251. Intermediate Acting I. 3 Credit Hours.

Basic tools of the actor's craft are developed through script work, scene study, and improvisational techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Summer.

THA 252. Intermediate Acting II. 3 Credit Hours.

A continuation of THA 251 focusing on script analysis and choice making for scene work.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 253. Voice for the Stage. 3 Credit Hours.

The mechanics, techniques and professional tricks used by voice-over artists in the entertainment industry. Also, the Business of voice-over, the needs of a home studio, and how to best market newly acquired skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 254. Movement for Actors. 3 Credit Hours.

Physical range and control, physicalization and condition of character, and stage violence.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 281. History of Western Theatre Architecture. 3 Credit Hours.

Covers the evolution of performance spaces in Europe and the United States, from Ancient Greek structures to modern-day multi-venue Performing Arts complexes.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 291. Beginning Applied Music Theatre Voice I. 1 Credit Hour.

One-Hour individual lessons tailored to the individual needs of the students. Enrollment is limited to second-year BFA music theater students.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 292. Beginning Applied Music Theatre Voice II. 1 Credit Hour.

One-hour Individual lessons tailored to the Individual needs of the student. Enrollment is limited to second-year BFA music theater students.

Requisite: Plan of Theatre - Musical.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

THA 294. Singing for Actors II-A. 2 Credit Hours.

Development of musical theatre singing technique for BFA Acting majors. Skills to be developed include proper breathing, tone, articulation, lyric interpretation, and physical presentation. Course is repeatable.

Requisite: Plan of Theatre - Performance.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 296. Singing for the Stage II-A. 1 Credit Hour.

A continuation of ideas presented in THA 196 and 197.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 297. Singing for the Stage II-B. 1 Credit Hour.

Instruction in preparing vocal material for musical scenes drawn from American musical theatre as well as other challenging musical material.
Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 298. Voice and Speech II-A. 1 Credit Hour.

Improvement of individual voice and speech skills: through in-depth examination of habitual speech formation and vocal patterns. Application of the IPA within American accent study.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 299. Voice and Speech II-B. 2 Credit Hours.

Strengthening the connection between the acting impulse and speaking voice. Extended voice production within scene work. Introduction to Shakespeare's verse structure.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 300. Theatre Criticism. 3 Credit Hours.

Develops the reviewing, interviewing, and editorial skills of a professional theatre critic, guiding and teaching students to produce critical responses to their experience of physical performance.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 301. Theater and the Holocaust. 3 Credit Hours.

Through readings, research, class discussions and personal reflections this course explores the philosophical and historical context of Holocaust-related plays written in the aftermath of World War II.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 302. People, Places And Play: Theatre That Changed The World. 3 Credit Hours.

An examination through the lens of the drama, the seminal events that brought about the death of romanticism and gave birth to the modern era. Emphasis is placed on social change as evidenced through theatre as a mirror to the world in events, dramatic literature and the people that shaped it from the Revolutions of 1848 to the present; exploring the great minds outside the world of theatre and the effect this had on the great minds in the theatre. *Not open to Theatre Majors or Minors: for BGS students only.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

THA 311. Acting III-A. 2 Credit Hours.

A scene study class focusing on plays with elevated language, with an emphasis on Shakespeare. May include Restoration and Greek drama as well.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 312. Acting III-B. 2 Credit Hours.

A continuation of THA 311 with focus on high style and Comedy of Manners. May include Shaw, Wilde, and Coward.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 313. Movement II-A. 1 Credit Hour.

Period Movement: special movement requirements and techniques for four different periods of history - 16th, 17th, 18th and 19th centuries, including manners, etiquette, social mores, history and costume.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 314. Movement II-B. 1 Credit Hour.

Fundamentals of mask work through the study of a "personal clown"; the character mask and/or an in-depth study of Commedia dell'Arte masks and character types.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 315. Auditioning I. 2 Credit Hours.

First semester of a two semester sequence designed to aid BFA students in the development of material and techniques necessary for professional audition circumstances.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 316. Dance Iii-A. 2 Credit Hours.

Advanced Musical Theatre Dance incorporating high technical proficiency for expression, characterization and style. Can be taken up to three times for credit.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 317. Dance Iii-B. 2 Credit Hours.

A continuation of THA 316. Can be taken up to three times for credit.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 341. Sound for the Theatre. 3 Credit Hours.

A basic sound design class to develop an ear for music and sound.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 342. Scenic Design. 3 Credit Hours.

Techniques for analyzing, planning and designing stage scenery, executing color rendering and stage models.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 343. Costume Design. 3 Credit Hours.

Techniques for analyzing, planning, and designing theatrical costumes.

Executing color rendering plates.

Prerequisite: THA 243.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 344. Lighting Design. 3 Credit Hours.

Techniques for analyzing, planning and designing theatrical lighting.

Executing light plots and corresponding paperwork.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 345. Scenic Materials And Structures. 3 Credit Hours.

Materials used in scenic construction and advantages of each. Students will perform basic structural analysis on scenery built with these materials and will study rigging systems and knots used in backstage work.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 347. Stage Make-Up. 3 Credit Hours.

A lecture-laboratory course in make-up for the stage, television and motion picture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

THA 350. Musical Theatre Vocal Techniques II. 1 Credit Hour.

Advanced Musical Theatre Vocal Techniques explored through group or private lessons.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 351. Auditioning and Preparing for the Profession. 3 Credit Hours.

How to succeed in the theatre profession. Students will prepare audition pieces and learn resume preparation, headshots, interviewing, and other aspects of searching for and obtaining work. Not for BFA Students.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 352. Singing for the Musical Theater. 3 Credit Hours.

The process of acting and singing a song for a musical play or review.

Song selection, technical and acting mechanics, and how to deliver the song using 16 and 32 bar material.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 356. Improvisational Acting. 3 Credit Hours.

Exploration of the unique skills involved in Improvisational Acting.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 364. The Theatre Industry. 3 Credit Hours.

Producing trends on Broadway, the Road, and Regional Theatre. The basics of producing, managing, and marketing a play from securing the performance rights to closing night.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 365. Principles of Stage Management. 3 Credit Hours.

The study of the basic work of a theatrical stage manager from pre-production to post production, including preliminary work, auditions, rehearsals, coordinating of departments, technical & dress rehearsals, performance and post production duties. Much class time is devoted to discussing the role of the stage manager as a theatre collaborator. Also discussed are stage and business techniques as applied to the entertainment industry with a focus on strengthening organizational and interpersonal skills in order to function successfully as an effective leader.

Prerequisite: THA 141 or THA 142. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 366. Theatre Management Practicum I. 3 Credit Hours.

Practical experience on the annual season ticket campaign, marketing, finances, house management, and facilities management at the Jerry Herman Ring Theater. Open only to Theatre Management majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 367. Theatre Management Practicum II. 3 Credit Hours.

Practical experience on the annual season ticket campaign, marketing, finances, house management, and facilities management at the Jerry Herman Ring Theatre. Open only to Theatre Management majors.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 369. Producing New Plays And Musicals. 3 Credit Hours.

The components needed to produce a new body of theatrical work. Topics that will be discussed are the selection of a creative team, developmental timelines, budgeting, and approaches to managing a new work from both a business and creative perspective. This is a hands-on class that will span the entire process from creation of a script to performance.

Prerequisite: THA 364.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 370. Popular Culture And Entertainment: Performance, Spectacle, And Audience Experience. 3 Credit Hours.

An exploration of the ways in which performance uses spectacle to create events that captivate audiences. What purpose does popular entertainment serve for the general public in different eras? How does entertainment encourage us to play? What does this playful diversion do for us as individuals? Why do artists use spectacle to manipulate our experience and perception of the world?

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 375. Introduction to Playwriting. 3 Credit Hours.

Understanding of the basic principles involved in play construction.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 376. Beg, Borrow And Steal: Adapting For The Stage. 3 Credit Hours.

How to turn narrative description into stage action; how to research for devised projects and how to refine a specific point of view that makes clear the original impetus for adaptation. Students will complete a series of short adaptation exercises and a longer self-directed adaptation project. Primarily a writing workshop, however information will also be presented through readings and discussion.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 377. Make Them Laugh: How To Write Comedy. 3 Credit Hours.

Analysis of Comedic Masters in order to create your own comedic material.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 381. Play Analysis I. 3 Credit Hours.

Play structure from the viewpoints of the actor, director, designer, and audience. Understanding the play and making production choices.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 382. Play Analysis II. 3 Credit Hours.

A continuation of THA 381. Emphasis on non-realistic theatre.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

THA 383. Queer Theatre: Body Politics/Staging Sexuality. 3 Credit Hours.

Examines theatrical representations of GLBTQ issues in the U.S. from the 1960s to the present, in terms of the aesthetic/political project of "Queer Theater." Considering theater as a transformative social form, students will have opportunities for creative practice and scholarship. May be taken for Writing Credit.

Prerequisite: ENG 106.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 384. Music In The American Theatre: Its Dramaturgy, Music, And Cultural Participation. 3 Credit Hours.

A survey of the history of musical theater in America, from its earliest days with American colonial works to our present era of Internet-facilitated global artistic exchange. As a result, the course encompasses a vibrant diversity of intimately related musical-theatrical forms, styles, methods, and cultural responses, represented by such heterogeneous labels as ballad opera, minstrel show, operetta, and mega-musical, to name just a few.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 385. History of Decor. 3 Credit Hours.

A History of interior decor and furniture. To provide a research background for theatrical design. Classical Greece through the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 386. History of Fashion. 3 Credit Hours.

A history of clothing and other visual elements that provide a research background for theatrical design, prehistoric through present.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 391. Intermediate Applied Music Theatre Voice I. 1 Credit Hour.

One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to third-year BFA music theater students.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 392. Intermediate Applied Music Theatre Voice II. 1 Credit Hour.

One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to third-year BFA music theater students.

Requisite: Plan of Theatre - Musical.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

THA 396. Singing for the Stage III-A. 1-2 Credit Hours.

Instruction and coaching of advanced vocal and audition material drawn from American musical theatre.

Requisite: Plan of Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 398. Voice and Speech III-A. 1 Credit Hour.

Application of voice and speech in classic texts-particularly that of Shakespeare and translation plays. Accent monologues and scenes.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 399. Voice and Speech III-B. 1 Credit Hour.

Accent monologues and scenes. Independent accent study culminating in student presentations. Compilation of monologue rep book.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 400. Acting for Motion Pictures. 2 Credit Hours.

This course is designed to build an advanced set of professional skills and practices for motion picture acting through scene work, shooting, cutting and creative collaboration. Upon completion of this class each actor will have performed in staging and shooting exercises and a variety of shot scenes. They will learn non-linear editing, cut their own acting reels, collaborate with a variety of directors, learn how camera and editing affects performance and learn to work efficiently and optimally on a professional film set.

Corequisite: THA 312. Requisite: Theatre - Performance or Theatre - Musical.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 401. Internship. 1-3 Credit Hours.

Prescribed work and study at a theatre, opera, or dance company as it pertains to the major's concentration of study. Collateral reports, readings, conference s with faculty supervisor.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 402. Internship. 3 Credit Hours.

Continuation of THA 401.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: THI.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 403. Internship. 3 Credit Hours.

Continuation of THA 402.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 404. Internship. 3 Credit Hours.

Continuation of THA 403.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 410. Independent Study. 1-3 Credit Hours.

Individualized instruction on special topics.

Components: THI.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 411. Acting IV-A. 2 Credit Hours.

Scene study focusing on early modern European playwrights that may include Ibsen, Chekhov, Strindberg, and others.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 412. Acting IV-B. 2 Credit Hours.

Scene study focusing on contemporary playwrights who use elevated language. May include Pinter, Stoppard, Mamet, Anouilh, Churchill, and others.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 413. Movement III-A. 3 Credit Hours.

Unarmed combat for the stage: basic and advanced techniques including punches, slaps, kicks, rolls and fight choreography. As sanctioned by the Society of American Fight Directors (SAFD).

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 414. Movement III-B. 3 Credit Hours.

Weapons for the stage: basic and advanced techniques of armed combat including rapier, rapier and dagger, broadsword and/or quarterstaff as sanctioned by the Society of American Fight Directors (SAFD).

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 415. Auditioning-I. 2 Credit Hours.

A course dedicated to the business of theatre for actors. Students will prepare three to five audition pieces. Covers headshots, resumes, income tax situations, unions, and methods of searching for and obtaining work.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 416. Auditioning-II. 2 Credit Hours.

Continuation of THA 415.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 420. Senior Studio. 3 Credit Hours.

Rehearsal and production of a showcase culminating in a New York performance for agents and casting directors.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 431. Musical Theatre Styles I. 2-3 Credit Hours.

Focus on the preparation of a professional musical theatre audition book. Emphasis on all current musical theatre song styles. 16 and 32 bar audition cuts, full songs and appropriate monologues.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 432. Musical Theatre Styles II. 2-3 Credit Hours.

Musical scene study class exploring scenes from various styles and genres of musical theatre. Scenes will consist of spoken dialogue and singing. Continuation of THA 431.

Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 441. Design Studio I. 3 Credit Hours.

Hands on practicum training working as a designer or technical craftsperson for a mainstage or studio production; or as an assistant designer or assistant technical craftsperson for a mainstage production. Repeatable once for credit toward major.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 442. Design Studio II. 3 Credit Hours.

Hands on practicum training working as a designer or technical craftsperson for a mainstage or studio production; or as an assistant designer or assistant technical craftsperson for a mainstage production. Repeatable once for credit toward major.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 451. Advanced Acting: Classical Poetic Text. 3 Credit Hours.

An introduction to styles focusing on the Greeks, Shakespeare, Restoration and other plays on poetic language.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 452. Advanced Acting: Contemporary Poetic Text. 3 Credit Hours.

Acting and scene study focusing on contemporary playwrights who use poetic language, such as Mamet, Stoppard, Pinter, Shepard, Vogel, and Churchill.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 455. Acting For The Camera. 3 Credit Hours.

An advanced set of professional skills and practices for motion picture acting through scene work, episodic series work and collaboration. Upon completion of this class each actor will have performed in staging and shooting exercises and a variety of shot scenes. They will work with an editor to cut their reels, collaborate with a variety of directors, learn how camera and editing affects performance and learn to work efficiently and optimally on a professional film set.

Prerequisite: THA 312.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 459. Stage Management Practicum. 3 Credit Hours.

Practical experience as a stage manager for a production. Weekly individual meetings with instructor for analysis of performance and evaluation.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 461. Play Direction I. 3 Credit Hours.

The art and craft of stage direction.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 462. Play Direction II. 3 Credit Hours.

A continuation of THA 461 in which the student directs a one act play. Enrollment limited.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 463. Advanced Stage Management I. 3 Credit Hours.

A study of stage management techniques and practices as applied to the professional theatre: Career preparation including cover letter and resume skills. This course provides discussion on the Actor's Equity LORT Rule Book, the discovery and understanding of personality types and traits, goal setting and cue calling skills.

Prerequisite: THA 365. Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 464. Advanced Stage Management II. 3 Credit Hours.

Advanced stage management techniques and practices as applied to the professional theatre: Touring, including an analysis of the basic practices and procedures of Advance Calls, Route Sheets and Itineraries. Cueing: reading, writing and calling in "Dance Eights." This course also provides leadership assessments and an examination of leadership styles and methodologies.

Prerequisite: THA 365. Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 465. Theatre Management I. 3 Credit Hours.

History of producing on Broadway along with the evolution of contemporary producers and producing organizations. Copyright Law, securing property rights, budgeting and financing the production, business structure and current developments and trends in both Broadway and commercial Broadway tours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 466. Theatrical Unions. 3 Credit Hours.

History of theatrical unions in America. Major unions and their contracts: actors, directors and choreographers, playwrights, composers and lyricists, designers and non-union personnel management and organizational structure.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 467. Producing for Regional Theatre. 3 Credit Hours.

History of American Regional Theatre. Forming the non-profit corporation; the mission statement; the Board of Directors; legal and tax requirements; budgeting and record keeping; staffing and organizational management.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 468. Theatrical Fundraising and Marketing. 3 Credit Hours.

Marketing and fundraising for the non-profit, professional theatre. Detailed instruction in single ticket and subscription sales; other sources of earned revenue; marketing and public relations; research for fundraising and grant writing.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 469. Producing Musical Theatre II. 3 Credit Hours.

Designed to develop, refine, rehearse, mount, and present a new musical.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 471. Directing the Actor for Film. 3 Credit Hours.

The craft of directing actors for work before a camera.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 472. Where Stage And Film Meet. 3 Credit Hours.

The relationship between theatre and film combining a theoretical-critical as well as a practical perspective. Viewing of seminal films and readings from a selection of texts from the early days of cinema until the 2000's touch on the point of view or critics, playwrights, and directors. Also explores the concept of theatricality in film, or the ways in which different theatrical practices, concepts, and techniques can play fundamental roles in filmmaking.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

THA 475. Lyric Writing for Musical Theatre. 3 Credit Hours.

Lyric-writing laboratory for musical theatre, operating on a workshop model. Following a study of musical theater's basic lyrical forms and functions, students will, on a weekly basis, craft their own theatre lyrics - intended to be set to music-according to studied models and will share them in a safe, collaborative environment for consideration and critique.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 481. Theatre History I. 3 Credit Hours.

Theatre history from the Greeks through European Renaissance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

THA 482. Theatre History II. 3 Credit Hours.

Theatre history from the 17th century to the present.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

THA 485. Playwriting II. 3 Credit Hours.

Further examination of dramatic writing techniques including Hero's Journey model, adaptation and experimental structures.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 487. Advanced Projects. 3 Credit Hours.

Advanced practical projects in directing, stage management, dramatic writing or dramaturgy. Repeatable up to four times for credit towards minor.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

THA 491. Advanced Applied Music Theatre Voice I. 1 Credit Hour.

One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to fourth-year BFA music theater students. Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

THA 492. Advanced Applied Music Theatre Voice II. 1 Credit Hour.

One-hour individual lessons tailored to the individual needs of the student. Enrollment is limited to fourth-year BFA music theater students. Prerequisite: 9 Credits in THA. Or Requisite: Permission of Instructor.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

Theory and Composition (MTC)

MTC 101. Composition I. 2 Credit Hours.

Course covers elementary principles of composition; class performance of composition projects is also included. Required of theory-composition majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 102. Composition II. 2 Credit Hours.

Continuation of MTC 101.

Prerequisite: MTC 101.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 107. Skills Lab I. 1 Credit Hour.

Chamber-music ensemble (vocal or instrumental) for intensive work on aural skills (transcription, sight-singing, etc.), analysis of literature in and through performance, and improvisation, with focus on music of the Baroque and Classical periods.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MTC 108. Skills Lab II. 1 Credit Hour.

Chamber-music ensemble (vocal or instrumental) for intensive work on aural skills (transcription, sight-singing, etc.), analysis of literature in and through performance, and improvisation, with focus on music of the Baroque and Classical periods.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MTC 109. Music Theory Skills I. 3 Credit Hours.

A first course in music theory and musicianship for non-music majors; covers basic literacy, fundamentals, tonal harmony, and elements of musical form in a wide variety of traditional and contemporary styles and genres. Includes intensive training in aural and singing skills.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 110. Music Theory Skills II. 3 Credit Hours.

Course is designed for students deficient in the knowledge of the basic fundamentals of music. Includes the study of notation, keys, scales, and chord construction. Credits do not count toward music degree requirements.

Prerequisite: MTC 109.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 111. Music Theory I. 1-3 Credit Hours.

Introduction to basic concepts of melody, harmony, rhythm, and formal structure through analysis and writing. Topics include intervals, scales, elementary melodic and four-part writing, phrase structure and cadences, and diatonic harmony. Laboratory: MTC 121.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 12. Composition Forum. 0 Credit Hours.

A weekly forum for all Music Theory/Composition majors, both undergraduate and graduate. Course involves guest lectures by visiting composers and performers, presentations of faculty compositions, and group discussions of important compositional and theoretical issues.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 125. The Nature of Music. 3 Credit Hours.

A study of sound, pitch, rhythm, meter, melody, scales, intervals, tempo, expression terms, and highlights of music in history. Enrollment is limited to honors students who are non-music majors.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 140. Experiential Musicianship I. 3 Credit Hours.

Study of tonal harmony, voice leading, and elements of musical form, covering diatonic procedures and basic modulation, using the chorales of J.S. Bach, with other repertoire, as models for composition.

Corequisite: MTC 107.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 141. Experiential Musicianship II. 3 Credit Hours.

Continuation of MTC 140, enlarging the study of tonal harmony and voice leading, covering harmony of the Classical period and sectional musical forms through small rondo and compound ternary, culminating in a large independent model-composition project for each student.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 148. Electronic Music Ensemble. 1 Credit Hour.

An in-depth study and performance of electroacoustic music compositions.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 15. Media Writing and Production forum. 0 Credit Hours.

This course provides a weekly forum for sharing information about issues, current developments, and other matters related to commercial music composition and production as a field of study and as a profession. The course is required for all undergraduate MWP majors during each semester.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 182. Composition Workshop. 1 Credit Hour.

Variety of composition concepts and problems are dealt with through assignments and projects with special emphasis on practical considerations.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 197. Studio Rhythm Section. 1 Credit Hour.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 199. The Other Music Ensemble. 1 Credit Hour.

An in-depth study and performance of 20th century music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 201. Composition III. 2 Credit Hours.

Principles of composition with special emphasis on stylistic considerations.

Prerequisite: MTC 102.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 202. Composition IV. 2 Credit Hours.

Continuation of MTC 201.

Prerequisite: MTC 201.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 203. Pop Composition I. 2 Credit Hours.

Introduces students to the concept of form in commercial music through a survey of representative past and current works. Emphasis is placed on acoustic repertoire. Assignments include leadsheet transcriptions and an introduction to the 3, 4, and 5-piece rhythm section.

Prerequisite: MTC 141.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 204. Pop Composition II. 2 Credit Hours.

Continuation of MTC 203. Survey of lyrics from different pop genres. Compositional assignments are for rhythm section and vocalist, and include the writing and setting of lyrics.

Prerequisite: MTC 203.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 207. Skills Lab III. 1 Credit Hour.

Chamber-music ensemble for intensive work on aural skills (transcription, sight-singing, sight-reading, etc.), analysis of literature excerpts in performance, and improvisation, with focus on tonal music of the Classical period and the nineteenth century.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MTC 208. Skills Lab IV. 1 Credit Hour.

Chamber-music ensemble for intensive work on aural skills (transcription, sight-singing, sight-reading, etc.), analysis of literature excerpts in performance, and improvisation, with focus on selected music of the twentieth century.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MTC 240. Experiential Musicianship III. 3 Credit Hours.

Continuation of MTC 141; study of advanced tonal harmony, voice leading, and larger musical forms, based primarily on music of the Classical period and the nineteenth century.

Prerequisite: MTC 141.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 241. Experiential Musicianship IV. 3 Credit Hours.

Continuation of MTC 240; study of materials and techniques in composition of music from the early and middle twentieth century, based on works by Debussy, Stravinsky, Schoenberg, Bartok, and other models.

Prerequisite: MTC 240.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 301. Composition V. 2 Credit Hours.

Individual compositional projects with an emphasis on smaller formal structure.

Prerequisite: MTC 202.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 302. Composition VI. 2 Credit Hours.

Individual compositional projects including all media with an emphasis on extended formal structures.

Prerequisite: MTC 302.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 303. Music For Media. 3 Credit Hours.

Project-based lecture course designed to provide students the opportunity to compose and realize a varied array of music projects for media applications including music branding "logos" radio/television ID packages, and 30-second television ads. Particular emphasis is placed on the technical considerations, aesthetic issues and the psychology of music as they relate to advertising on radio and television.

Prerequisite: MTC 204.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 304. Multimedia Projects. 3 Credit Hours.

Project-based lecture course designed to provide students the opportunity to compose and realize the music for a series of commercial multimedia including television program themes/bumpers, sound design and FX, film trailers, and corporate/industrial videos. Emphasis is placed on making appropriate stylistic and compositional choices, as well as developing real-world deadline/time-management skills.

Prerequisite: MTC 303.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 311. Analysis and Experience. 3 Credit Hours.

Musical analysis and its relationship to listening and performance. An introduction to musical aesthetics is also included.

Prerequisite: MTC 241.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 312. 20th And 21st Century Techniques. 3 Credit Hours.

Analysis of twentieth century compositional resources. Topics include Impressionism, expanded tonal resources, Neo-classicism, serialism, post-serialism, aleatoric procedures, minimalism, and other recent trends. Prerequisite: MTC 241.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 313. 18th Century Counterpoint. 3 Credit Hours.

Two-part keyboard counterpoint in the style of J. S. Bach, beginning with a modified species approach and including composition of dance-suite movements and inventions. Introduction to three-part writing is also included.

Prerequisite: MTC 240.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 401. Composition VII. 2 Credit Hours.

Individual compositional projects including all media with an emphasis on advanced problems in composition.

Prerequisite: MTC 302.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 402. Composition VIII. 1 Credit Hour.

Advanced Composition. Continuation of MTC 401.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 403. Advanced Music Editing. 3 Credit Hours.

Project-based practicum course designed to provide students the opportunity to compose, record and reproduce a wide variety of music projects that combine the use of pre-existing as well as new musical elements. Particular emphasis is placed on technical considerations, aesthetic issues, and the commercial viability of the end product.

Prerequisite: MTC 304.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

MTC 404. Live Performance Musical Direction. 3 Credit Hours.

Project-based practicum course in collaboration with other Performance department, designed to provide students the opportunity to prepare music for a live concert and serve as Musical Director (MD) thereof. Particular emphasis is placed on musical material (repertoire, arrangements, score/parts preparation), rehearsal techniques, and real-time/live performance direction/conducting.

Prerequisite: MTC 403.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 416. Orchestration. 3 Credit Hours.

The uses and possibilities of orchestral instruments as well as scoring for various instrumental groups, including the symphony orchestra.

Prerequisite: MTC 240.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 452. Media Production Project Lab. 2 Credit Hours.

Laboratory component to MTC 404. Course can only be taken concurrently with MTC 404.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MTC 493. Special Projects In Music Theory & Composition. 1-3 Credit Hours.

Advanced individual instruction pertaining to faculty member's area of expertise and student's area of interest. This course includes a culminating project.

Requisites: Undergrad Music Students Only and Dean's Approval and Signature.

Components: LAB.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 499. Senior Recital. 1 Credit Hour.

A public recital of original compositions required of all Music Composition majors.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 501. The Aesthetics Of Music. 3 Credit Hours.

Survey of thought and discourse about the nature, roles, values, experiences, and meanings of music. Variety of perspectives, including those of the listener, performer, and composer are addressed. Application to musical interpretation and criticism is included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 505. Analysis And History Of Electroacoustic And Acousmatic Music. 2 Credit Hours.

Course examines electroacoustic and acousmatic music from both a historical/literature and analytical perspective. Analytical techniques with a focus on an ecological analysis approach will be conducted as well as a survey of electroacoustic, acousmatic, and digital music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 506. DIGITAL EDITING AND SEQUENCING. 3 Credit Hours.

Computers as control devices for music synthesis and digital manipulation of pre-recorded sounds. Topics include interfacing sequencing software with software synthesizers, performance techniques, and sound design using samples.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 507. Studio Licensing. 2 Credit Hours.

Licensing for access to Digital Arts and Media Writing Studios. Topics covered include digital audio recording and editing, sound synthesis/design, audio signal processing, sound analysis and spatial placement of sound. Course includes studio-use qualifying exams.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 511. Film Scoring I. 3 Credit Hours.

Seminar in the aesthetics and psychology of mood music, sound-film synchronization, timing techniques, and scoring procedures. Analysis and performance of student projects is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 512. Film Scoring II. 3 Credit Hours.

Adaptation of previous semester's techniques to television scripts and performed music. Pre-recording, direct recording, and dubbing procedures are included as well as preparation and performance of complete film cues. Each student is required to conduct his/her project.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 515. Choral Arranging. 3 Credit Hours.

Arranging for choir and vocal groups with and without instrumental accompaniment in all styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 516. Advanced Orchestration. 3 Credit Hours.

Scoring for the symphonic orchestra with an emphasis on recent techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 517. Analysis Of Popular Music Since 1950. 3 Credit Hours.

Course examines popular music in the second half of the Twentieth Century from a music analytical perspective. Critical skills needed for this analysis are identified and developed. Analytical techniques for understanding the determination and utilization of musical elements and structures in contemporary popular music are applied. Various contemporary genres and some precursors are examined and particular stylistic determinants of their compositional and performance models are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 518. Advanced Counterpoint. 3 Credit Hours.

Three-voice fugal writing in Bach's style, followed by compositional projects in a variety of twentieth-century contrapuntal styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 521. Multimedia For Musicians. 3 Credit Hours.

Presents an overview and introduction to the creation of multimedia projects for presentation on the Web. Focus is placed on building websites, and the creation of multimedia content for online delivery. Software tools for the manipulation of digital media, including audio and video, are utilized in the realization of course projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 567. Electronic and Computer Music Seminar. 1-3 Credit Hours.

Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 593. SPECIAL PROJECTS IN MUSIC THEORY OR COMPOSITION.**1-3 Credit Hours.**

Supervised topics and other activities in specific areas of Music Theory-Composition.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 594. SPECIAL TOPICS IN MUSIC THEORY OR COMPOSITION. 1-3**Credit Hours.**

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 601. The Aesthetics Of Music. 3 Credit Hours.

Survey of thought and discourse about the nature, roles, values, experiences, and meanings of music. Variety of perspectives, including those of the listener, performer, and composer are addressed. Application to musical interpretation and criticism is included.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 605. Analysis And History Of Electroacoustic And Acousmatic Music. 2 Credit Hours.

Course examines electroacoustic and acousmatic music from both a historical/literature and analytical perspective. Analytical techniques with a focus on an ecological analysis approach will be conducted as well as a survey of electroacoustic, acousmatic, and digital music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 606. DIGITAL EDITING AND SEQUENCING. 2 Credit Hours.

Computers as control devices for music synthesis and digital manipulation of pre-recorded sounds. Topics include interfacing sequencing software with software synthesizers, performance techniques, and sound design using samples.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 607. Studio Licensing. 2 Credit Hours.

Licensing for access to Digital Arts and Media Writing Studios. Topics covered include digital audio recording and editing, sound synthesis/design, audio signal processing, sound analysis and spatial placement of sound. Course includes studio-use qualifying exams.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 611. Film Scoring I. 3 Credit Hours.

Seminar in the aesthetics and psychology of mood music, sound-film synchronization, timing techniques, and scoring procedures. Analysis and performance of student projects is included.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 612. Film Scoring II. 3 Credit Hours.

Adaptation of previous semester's techniques to television scripts and performed music. Pre-recording, direct recording, and dubbing procedures are included as well as preparation and performance of complete film cues. Each student is required to conduct his/her project.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 615. Choral Arranging. 3 Credit Hours.

Arranging for choir and vocal groups with and without instrumental accompaniment in all styles.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 616. Advanced Orchestration. 3 Credit Hours.

Scoring for the symphonic orchestra with an emphasis on recent techniques.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 617. Analysis Of Popular Music Since 1950. 3 Credit Hours.

Course examines popular music in the second half of the Twentieth Century from a music analytical perspective. Critical skills needed for this analysis are identified and developed. Analytical techniques for understanding the determination and utilization of musical elements and structures in contemporary popular music are applied. Various contemporary genres and some precursors are examined and particular stylistic determinants of their compositional and performance models are discussed.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 618. Advanced Counterpoint. 3 Credit Hours.

Three-voice fugal writing in Bach's style, followed by compositional projects in a variety of twentieth-century contrapuntal style

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 621. Multimedia For Musicians. 3 Credit Hours.

Presents an overview and introduction to the creation of multimedia projects for presentation on the Web. Focus is placed on building websites, and the creation of multimedia content for online delivery. Software tools for the manipulation of digital media, including audio and video, are utilized in the realization of course projects.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 667. Electronic and Computer Music Seminar. 1-3 Credit Hours.

Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 693. SPECIAL PROJECTS IN MUSIC THEORY OR COMPOSITION. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Music Theory-Composition

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 694. SPECIAL TOPICS IN MUSIC THEORY OR COMPOSITION. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 705. Digital Art And Sound Design. 2 Credit Hours.

Software-based techniques of sound synthesis. Topics will include synthesis using Ircam Tools, Max/Msp, Jitter, Csound, and PureData. Prerequisite: MTC 507.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 711. Theory Pedagogy. 3 Credit Hours.

Seminar in methods and materials pertinent to the teaching of theory in high school and college.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 712. Advanced Comprehensive Theory. 3 Credit Hours.

Melodic, harmonic, and contrapuntal devices as revealed through analysis and applied in composition.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 713. Twentieth Century Idioms. 3 Credit Hours.

Relevant modes of perception, influences, and technical devices in 20th century music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 715. Composition Seminar I. 2 Credit Hours.

Creative work in composition requiring a multi-movement work scored for full orchestra, symphonic band, or chorus with orchestra or band.

Components: LSN.

Grading: GRD.

Typically Offered: Fall.

MTC 716. Composition Seminar II. 2 Credit Hours.

Continuation of MTC 615.

Prerequisite: MTC 615.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 717. Analytical Techniques. 3 Credit Hours.

Examination and practice of various techniques used in the analysis of music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 719. Introduction to Schenkerian Analysis. 3 Credit Hours.

A first course in the theory and analytical practice of Heinrich Schenker. Students will learn the principles and techniques of Schenkerian analysis and will apply them to the study of works in smaller sectional forms.

Prerequisite: MTC 617.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 730. Introduction To Spectralism. 3 Credit Hours.

To give the student a further understanding of the art and techniques of spectral composition, through listening, research, analysis and composition (optional).

Requisite: Must be in the School of Graduate Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MTC 746. Studio Production. 2 Credit Hours.

Recording studio production procedures. Topics include artist and material selection, session planning, and analysis of the producer's role. Course may be repeated for credit.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 748. Electronic Music Ensemble. 1 Credit Hour.

Components: ENS.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 752. Research Seminar II. 2 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 763. Virtual Orchestration. 3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MTC 767. Advanced Electronic and Computer Music Seminar. 1-3 Credit Hours.

Advanced techniques and applications in electronic and computer music. Topics may include electronic projects in composition, performance, research, programming, or other as approved by instructor.

Prerequisites: MTC 505, MTC 506, MTC 507.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 782. Composition Workshop. 1 Credit Hour.

Variety of composition concepts and problems are dealt with through assignments and projects with special emphasis on practical considerations.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 793. Special Projects In Music Theory Or Composition. 1-3 Credit Hours.

Projects in any phase of theory-composition in which the student is interested and qualified to work.

Requisites: Graduate Music Students Only and Dean's Approval and Signature.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 794. Special Topics In Music Theory Or Composition. 1-3 Credit Hours.

Projects in any phase of theory-composition in which the student is interested and qualified to work.

Requisites: Graduate Music Students Only and Dean's Approval and Signature.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MTC 796. Studio Production Ensemble. 1 Credit Hour.

Components: LAB.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

MTC 797. Studio Rhythm Section. 1 Credit Hour.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 799. The Other Music Ensemble. 1 Credit Hour.

An in-depth study and performance of 20th century music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MTC 810. Master's Thesis. 1-6 Credit Hours.

The student working on his/her master's thesis enrolls for credit, in most departments not to exceed six, as determined by his/her advisor. Credit is not awarded until the thesis has been accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTC 813. Master's Media Writing Project. 1-3 Credit Hours.

The student working on his/her master's media writing project enrolls for credit as determined by his/her advisor. Credit is not awarded until the project paper is accepted.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTC 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MTC 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTC 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MTC 731 may be taken in a regular semester, nor more than six in a summer session.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MTC 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

University Internship (UMI)

UMI 105. University Internship Part-time. 1.00 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: SEM.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 110. University Internship Full-time. 1.00 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 205. University Internship Part-time. 1.00 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: SEM.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 210. University Internship Full-time. 1.00 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 305. University Internship Part-time. 1.00 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: SEM.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 310. University Internship Full-time. 1.00 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 405. University Internship Part-time. 1.00 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: SEM.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 410. University Internship Full-time. 1.00 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: CNC.

Typically Offered: Fall, Spring, & Summer.

UMI 605. University Of Miami Internship. 1.00 Credit Hour.

A part-time 1 credit internship (minimum of 160 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

UMI 610. University Of Miami Internship. 1.00 Credit Hour.

A full-time 1 credit internship (minimum of 320 hours) designed to provide opportunities for career exploration, skill development, and exposure to career field. Completion of at least one semester of coursework at UM is required.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

University of Miami Experience (UMX)

UMX 100. The University Of Miami Experience. 0 Credit Hours.

The University of Miami Experience (UMX 100) is a graded, comprehensive virtual self-paced course specifically designed to assist first year students, transfer students included, in making a successful transition to the University of Miami. The course creates opportunities for students to learn skills integral to developing connections with students, staff, administrators, and faculty. UMX provides an opportunity for students to utilize UM resources necessary for success in college and beyond. Specifically, students will be exposed to campus leadership opportunities, academic and career planning, university traditions, study abroad opportunities, personal wellness programs, as well as advising and registration through videos, power points, blogs, threaded discussions, and more. These resources and opportunities are only a click away for the students enrolled.

Components: DIL.

Grading: GRD.

Typically Offered: Fall.

Urban Studies (URB)

URB 201. Metropolitan Miami. 3 Credit Hours.

This course provides interdisciplinary perspectives on the urbanization of South Florida and on Miami's urban milieu. The course uses the case of Metropolitan Miami to introduce and illustrate a range of basic concepts in urban studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

URB 301. Cities in Time and Space. 3 Credit Hours.

This course provides interdisciplinary perspectives on the city, urbanity, and urbanization through a series of wide-ranging historical-geographical contexts.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

Vocal Performance (MVP)

MVP 101. Voice Class for Voice Principals. 1-2 Credit Hours.

Class instruction for beginning voice principals. Fundamentals of singing, breath control, and tone production are taught. Appropriate solo repertoire is assigned.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 144. Vocal Techniques for Non-Majors. 1 Credit Hour.

Class instruction in fundamentals of singing, breath control, tone production, diction, and solo singing for non-music majors. Basic music reading skills are taught.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 147. Men's Chorale. 1 Credit Hour.

This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 148. Women's Chorale. 1 Credit Hour.

This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 167. Music Theatre Workshop. 1 Credit Hour.

Participation in a fully-staged production or supervised classwork and projects which integrate the skills of the musical theatre singer/actor.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 180. Symphonic Choir. 1 Credit Hour.

Study and performance of choral literature appropriate for large choir, including choral orchestral masterworks.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 181. Choral Conducting I. 2 Credit Hours.

This course provides practical procedures and materials for beginning conducting students. Students demonstrate basic conducting patterns, preparations, and releases in all meters.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 182. Choral Conducting II. 2 Credit Hours.

This course provides practical procedures and materials for advanced conducting students. Students demonstrate refined skills in conducting musical styles and independence of gesture. A strong emphasis is placed on conducting of mixed meters.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 184. Chamber Singers. 1 Credit Hour.

An ensemble of eighteen to twenty undergraduate and graduate students, the ensemble performs challenging chamber choir repertoire from the Renaissance through the Twentieth Century.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 185. UM Chorale. 1 Credit Hour.

This ensemble performs significant choral literature with an emphasis on music of the Twentieth-Century and on choral/orchestral works including opera. Open to all qualified undergraduate students, regardless of major.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 188. Opera Theater I. 1 Credit Hour.

Typically taken in the first semester of freshman year by vocal performance majors. Basic stage techniques will be studied and mastered. The learning process repertoire, basic acting and performance techniques will be addressed. Methods of communication of text and emotion will be studied and applied. Emphasis will be on solo repertoire with possible participation in fall opera production.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 189. Opera Theater II. 1 Credit Hour.

Typically taken in the second semester of the first year by vocal performance majors. Further research, development and application of stage deportment, character development, acting skills, communication of emotion and text. Repertoire will include solo songs, arias and small ensembles and possible participation in spring opera production.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MVP 196. Singing for the Stage I-A. 1 Credit Hour.

The selection, learning process, and performance of Musical Theatre Songs with emphasis on tone production and style.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 197. Singing for the Stage I-B. 1 Credit Hour.

Continuation of MVP 196.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 205. Acting for Opera. 2 Credit Hours.

This course is designed to combine acting techniques with singing, dealing specifically with challenges presented to the singing actor and including musical styles and periods, period fashion and props, movement, and stage techniques for recitative, aria and ensemble performance.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 206. Acting for Opera - Intermediate. 2 Credit Hours.

Course designed to continue to develop acting and character development skills for operatic performance.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 250. Lyric Diction For Singers --English And Italian. 2 Credit Hours.

Designed for voice majors and principals, focus on pronunciation skills for singing in English and Italian. International Phonetic alphabet and rules for singers Italian languages will be applied to Art Song, Opera, and Oratorio.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 252. Lyric Diction For Singers-German And French. 2 Credit Hours.

Designed for voice majors and principals, focus on pronunciation skills for singing in German and French. International Phonetic Alphabet and rules for singers. Italian languages will be applied to Art Song, Opera, and Oratorio.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 281. Choral Conducting III. 1 Credit Hour.

This course provides a synthesis of the skills demonstrated in Choral Conducting I and II, while developing error detection skills in musical scores.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 282. Choral Conducting IV. 1 Credit Hour.

This course focuses on quality choral literature for middle school and high school ensembles.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 288. Opera Theater III. 1 Credit Hour.

Taken by vocal performance majors in the first semester sophomore year, this course is designed to combine acting techniques with singing, dealing specifically with challenges unique to the singing actor and including musical styles and periods, period fashion and props, movement, and stage technique for recitative, aria and ensemble performances. Movement will be more specific to stage requirements, but include dance steps and period movement.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 289. Opera Theater IV. 1 Credit Hour.

Typically taken in the 2nd semester, sophomore year by vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I, II, and III.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MVP 294. Singing for Actors. 1 Credit Hour.

The preparation of song literature and audition material for actors (can be repeated for credit).

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 296. Singing for the Stage II-A. 1 Credit Hour.

Instruction in auditioning methods and materials for American musical theatre.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 297. Singing for the Stage II-B. 1 Credit Hour.

Instruction in preparing vocal material for musical scenes drawn from American musical theatre.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 388. Opera Theater V. 1 Credit Hour.

Typically taken in the first semester, junior year vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I, II, III and IV.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 389. Opera Theater VI. 1 Credit Hour.

Typically taken in the 2nd semester, junior year by vocal performance majors. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I-V.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 399. Junior Recital. 1 Credit Hour.

A public recital of one half-hour or more. Course required of all Vocal Performance majors.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 415. Auditioning I. 2 Credit Hours.

Students prepare three to five audition pieces, photos, and resumes. Income tax, unions, opportunity, and methods of searching for and obtaining work is included. Course culminates in a seven to ten day trip to New York attending auditions.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 416. Auditioning II. 2 Credit Hours.

Continuation of MVP 415.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 431. Musical Theatre Styles I. 3 Credit Hours.

Course topics include creating a character through song and dialogue, making transition from songs in to and out of scenes, and becoming comfortable and familiar with the style and performance unique to musical theatre.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 488. Opera Theater VII. 1 Credit Hour.

Typically taken by Vocal Performance majors in the first semester, senior year. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater 1-VI.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall.

MVP 489. Opera Theater VIII. 1 Credit Hour.

Typically taken by Vocal Performance majors in the 2nd semester, senior year. Course designed to continue to develop acting and character development skills and apply techniques learned in Opera Theater I-VIII.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Spring.

MVP 493. Special Projects In Vocal Performance. 1-3 Credit Hours.

Supervised readings and other activities in specific areas of Vocal Performance.

Requisite: Frost School of Music.

Components: SEM.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 494. Special Topics In Vocal Performance. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 499. Senior Recital. 1 Credit Hour.

A public recital of one hour or more. Course is required of all performance majors.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 508. Choral Score Study. 2 Credit Hours.

In depth study of selected choral or choral/orchestral works related to literature being performed by university ensembles during the academic year.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 538. Vocal Pedagogy. 2-3 Credit Hours.

Course covers methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production with practical application, observing and teaching individual and class voice in a supervised environment.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 552. Vocal Performance Preparation. 1 Credit Hour.

Musical preparation of a wide range of assigned vocal literature from all periods for performance in forums, juries, and recitals. Special emphasis is on musical values, styles, translations of texts, diction, pronunciation of Italian, German, French, and English, and memorization.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 580. Opera Production. 1 Credit Hour.

Opera production for main stage production, scenes, and other productions. Open only to students that are cast in productions, as determined by audition and faculty decision. Typically taken by vocal performance majors.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 588. Voice Performance in Salzburg, Austria. 0 Credit Hours.

Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive vocal training from University of Miami faculty as well as distinguished guest artists. A class in vocal repertoire is also included.

Requisite: Must be in Salzburg Program.

Components: LEC.

Grading: AUD.

Typically Offered: Summer.

MVP 593. Special Projects In Vocal Performance Or Choral Conducting. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Vocal Performance.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 594. Special Topics In Vocal Performance Or Choral Conducting. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 608. Choral Score Study. 2 Credit Hours.

In depth study of selected choral or choral/orchestral works related to literature being performed by university ensembles during the academic year.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 638. Vocal Pedagogy. 2-3 Credit Hours.

Course covers methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production with practical application, observing and teaching individual and class voice in a supervised environment.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 652. Vocal Performance Preparation. 1 Credit Hour.

Musical preparation of a wide range of assigned vocal literature from all periods for performance in forums, juries, and recitals. Special emphasis is on musical values, styles, translations of texts, diction, pronunciation of Italian, German, French, and English, and memorization.

Components: LAB.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 680. Opera Production. 1 Credit Hour.

Opera production for main stage production, scenes, and other productions. Open only to students that are cast in productions, as determined by audition and faculty decision. Typically taken by vocal performance majors.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 688. Voice Performance in Salzburg, Austria. 0 Credit Hours.

Course is conducted at Salzburg College, Austria. Students receive comprehensive and intensive vocal training from University of Miami faculty as well as distinguished guest artists. A class in vocal repertoire is also included.

Components: LEC.

Grading: AUD.

Typically Offered: Summer.

MVP 693. Special Projects In Vocal Performance Or Choral Conducting. 1-3 Credit Hours.

Supervised topics and other activities in specific areas of Vocal Performance.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 694. Special Topics In Vocal Performance Or Choral Conducting. 1-3 Credit Hours.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 710. Vocal Literature For Teaching: English. 3 Credit Hours.

Study of the historical body of English language vocal repertoire as it relates to voice classification, age, and technical development of a singer.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 711. Vocal Literature for Teaching: Italian. 3 Credit Hours.

The student working on his/her recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 712. Vocal Literature for Teaching: German. 3 Credit Hours.

Study of the historical body of German vocal repertoire as it relates to voice classification, age, and technical development of a singer.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

MVP 713. Vocal Literature For Teaching: French. 3 Credit Hours.

Study of the historical body of French vocal repertoire as it relates to voice classification, age, and technical development of a singer.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 714. Vocal Literature for Teaching: Musical Theater. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the Artist Diploma Recital.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 730. Studio Teaching Techniques. 1 Credit Hour.

Application of the principles studied in MVP 638. Candidates will be assigned students for applied voice study, under supervision of the instructor.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Fall.

MVP 732. Teaching the Singer Actor. 2 Credit Hours.

Exploring teaching techniques for developing the skills of the singer.

Requisite: Frost School of Music.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 736. Voice Disorders. 2 Credit Hours.

Assessment and treatment of the human voice. Course promotes an understanding of the terminology, clinical assessment, and therapy protocols used in treating the dysfunctional or damaged voice.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

MVP 738. Advanced Vocal Pedagogy. 3 Credit Hours.

Course addresses advanced methods and concepts in the teaching of singing. Emphasis is placed on psychological, physiological, and acoustical principles involved in voice production; historical perspectives; and comparative pedagogical publications. Includes practical application, observation and teaching individual and class voice in a supervised environment.

Requisite: Frost School of Music.

Components: LEC.

Grading: SUS.

Typically Offered: Fall.

MVP 739. Vocal Pedagogy Internship. 1 Credit Hour.

Observation in the field of choice, including, but not limited to studio work, medical setting or speech pathology setting.

Requisite: Frost School of Music.

Components: PRA.

Grading: GRD.

Typically Offered: Fall.

MVP 747. Men's Chorale. 1 Credit Hour.

This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 748. Women's Chorale. 1 Credit Hour.

This ensemble is open to the entire university community. Students will work on all aspects of choral singing, including skills in basic musicianship. This ensemble presents two or three concerts per semester.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 752. Lyric Diction For Singing - German And French. 1 Credit Hour.

Class designed for voice majors and principals, with a focus on the development of pronunciation skills for teaching and singing in German. International Phonetic Alphabet is used as a learning tool.

Components: LAB.

Grading: GRD.

Typically Offered: Spring.

MVP 772. Choral Conducting: Major Work Emphasis. 1 Credit Hour.

Course focus is placed on major choral-orchestral works with particular emphasis on two or three major works. In addition, conductors preparation for choral-orchestral works, including instrument transportation, score preparation, musical line, historical context, and score marking. are included.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

MVP 773. Choral Conducting Workshop: Smaller Choral Works. 1 Credit Hour.

Study of smaller choral works by Poulenc, Hindemith, Ravel, Debussy, Brahms, Mendelssohn, Schubert, Schumann, etc., with emphasis on style, interpretation, and gesture.

Requisite: Frost School of Music.

Components: LEC.

Grading: GRD.

MVP 780. Symphonic Choir. 1 Credit Hour.

Study and performance of choral literature appropriate for large choir, including choral orchestral masterworks.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 784. Chamber Singers. 1 Credit Hour.

An ensemble of eighteen to twenty undergraduate and graduate students. The ensemble performs challenging chamber choir repertoire from the Renaissance through the Twentieth Century.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 785. UM Chorale. 1 Credit Hour.

This ensemble performs significant choral literature with an emphasis on music of the Twentieth-Century and on choral/orchestral works including opera. Open to all qualified graduate students, regardless of major.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 788. Opera Theater. 1 Credit Hour.

Taken by Graduate Students in Vocal Performance. The preparation and public performance of staged operatic scenes and operas with supplemental classes in acting skills, stage movement and characterization.

Requisite: Frost School of Music.

Components: ENS.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 793. Special Projects In Vocal Performance Or Choral Conducting. 1-3 Credit Hours.

Projects in any phase of vocal performance in which the student is interested and qualified to work. Prerequisite: Graduate Music students only. Dean's approval and signature required.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 794. Special Topics In Vocal Performance Or Choral Conducting. 1-3 Credit Hours.

Projects in any phase of vocal performance in which the student is interested and qualified to work.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP 8. Voice Forum. 0 Credit Hours.

A weekly informal recital setting and performance class for voice principals and majors with guest artists, master classes, and faculty presentations. Required for all two, three, and four credit applied voice students.

Requisite: Frost School of Music.

Components: FOR.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP 811. Master's Recital Paper. 1-3 Credit Hours.

The student working on his/her recital paper enrolls for credit as determined by his/her advisor. Credit is not awarded until the paper has been accepted.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MVP 812. Master's Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the master's recital.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MVP 814. Artist Diploma Recital. 1 Credit Hour.

The student enrolls for recital credit during the semester in which he/she presents the Artist Diploma Recital.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall & Spring.

MVP 820. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the thesis for the master's degree after the student has enrolled for the permissible cumulative total in MVP 710 (usually six credits). Credit not granted. May be regarded as full time residence.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MVP 831. Doctoral Essay. 1-12 Credit Hours.

Required of all candidates for the D.M.A. The student will enroll for credit as determined by his/her advisor, but not for less than a total of 12. Not more than 12 hours of MVP 731 may be taken in a regular semester, nor more than six in a summer session.

Requisite: Frost School of Music.

Components: THI.

Grading: SUS.

Typically Offered: Fall, Spring, & Summer.

MVP 832. Doctoral Recital. 1-2 Credit Hours.

Required of all candidates for the D.M.A.

Requisite: Frost School of Music.

Components: PRA.

Grading: SUS.

Typically Offered: Fall & Spring.

MVP 850. Research in Residence. 1 Credit Hour.

Used to establish research in residence for the Ph.D. and D.M.A., after the student has been enrolled for the permissible cumulative total in appropriate doctoral research. Credit not granted. May be regarded as full-time residence as determined by the Dean of the Graduate School.

Requisite: Frost School of Music.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP CD6. Conducting. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CD7. Conducting. 1-2 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CDJ. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CDK. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP CDL. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CDN. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CDO. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CDP. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CDQ. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP CDR. Conducting. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO1. Voice. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate a beginning concept of breath management, legato connection for moderate length phrases, clear articulation and projection of vowels and consonants in English, emotional connection to and communication of text, release of vibrato in sustained singing, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO3. Voice. 2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, knowledge of musical styles and historical periods of music, effective communication of song literature, an established warm-up regimen and technical exercises as prescribed by the voice teacher, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO5. Voice. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VO7. Voice. 1-2 Credit Hours.

Private lessons for providing progress towards establishing an efficient and balanced concept of posture, breath management, phonation, resonance with clarity of articulation and workable knowledge of required languages, the ability to sustain a professional sound in the upper register and perform with advanced skills for vocal, physical and emotional communication in voice juries and performances of concert and opera, and the potential for a professional career as a classical singer and/or teacher of music.

Requisite: Frost School of Music.

Components: STU.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOB. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate a beginning concept of breath management, legato connection for moderate length phrases, clear articulation and projection of vowels and consonants in English, emotional connection to and communication of text, release of vibrato in sustained singing, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOC. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate consistent breath support, firmly established legato line, evidence of musical phrasing, consistent vibrato, ability to execute technical exercises evenly throughout the range, and jury repertoire, language, and performing (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOD. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate consistent breath support, firmly established legato line, evidence of musical phrasing, consistent vibrato, ability to execute technical exercises evenly throughout the range, and jury repertoire, language, and performing (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOF. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate evidence of upper range extension with fully supported sound and appropriate modification of resonators, ability to self-prepare a song, knowledge of musical styles and historical periods of music, effective communication of song literature, an established warm-up regimen and technical exercises as prescribed by the voice teacher, and jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOG. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required lyric languages, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performing with accuracy in pitch, rhythm, good posture, breath management, phonation, and resonance in addition to jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOH. Voice. 1-2 Credit Hours.

1-hour lesson for students enrolled for 2 credits. 1/2-hour lesson for students enrolled for 1 credit. Technical Requirements: Demonstrate perfect facility in required lyric languages, ability to evaluate performances critically and coherently, facility with register changes in upper range, polished and artistic performing with accuracy in pitch, rhythm, good posture, breath management, phonation, and resonance in addition to jury repertoire, language, and performance requirements (See Guidelines for Voice Study).

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOI. Voice. 1-4 Credit Hours.

Private lessons for providing progress towards establishing an efficient and balanced concept of posture, breath management, phonation, resonance with clarity of articulation in required languages, the ability to sustain a professional sound in the upper register and perform with established skills for vocal, physical and emotional communication in voice juries and performance s of concert and opera, and the potential for a professional career as a classical singer.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VOK. Voice. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

MVP VOL. Voice. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP VON. Voice. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP V00. Voice. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP V0P. Voice. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP V0Q. Voice. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Typically Offered: Fall & Spring.

MVP V0R. Voice. 1-4 Credit Hours.

Requisite: Frost School of Music.

Components: LSN.

Grading: GRD.

Womens and Gender Studies (WGS)

WGS 201. Introduction to Women's and Gender Studies. 3 Credit Hours.

Conceptions of masculinity and femininity; gender relations; gender inequalities; the intersections of gender with other categories of identity such as class, race, sexuality, and stages in the life cycle; and the broad impact of gender on society.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 202. Introduction to LGBTQ Studies. 3 Credit Hours.

Introduction to the Lesbian, Gay, Bisexual, Transgender and Queer Studies minor. The LGBTQ Studies program is designed to allow students to explore sexuality and sexual minorities from a variety of perspectives. The course will provide students with an introduction to a broad array of LGBTQ issues including visual and performing arts, literature, languages, history, social science, various theories, public policy and the law, families and other types of intimate relationships, crime, popular culture, and LGBTQ identities and communities. It will be a core to the LGBTQ minor. The history of LGBTQ Studies extends to the beginnings of the LGBTQ movements of the last third of the previous century. Today, the field addresses work in a broad range of scholarly disciplines including biological and cultural studies, in literature and anthropology, in the health sciences, history, and the visual arts. It ranges from archival research to the elaboration of queer theory, from the analysis of constitutional law to questions of public health, from the study of popular culture to investigations into the development and social construction of sexual identity. Students are usually only exposed to these studies at the upper division levels of the curriculum in disparate departments. An introductory course will make these upper division courses more accessible and meaningful, as well as serve as the basic core to the minor in LGBTQ studies.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 210. Popular representations of Queer sexualities. 3 Credit Hours.

Critical analysis of queer subjects in popular culture.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

WGS 220. European Sexualities. 3 Credit Hours.

The history of European sexuality from the Greeks to present day.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 301. Feminist Inquiries. 3 Credit Hours.

A history of feminist thought, central issues in contemporary feminist theory, the emergence of feminist methodologies across a range of disciplines, and the ways in which feminist inquiry transforms our understanding of key issues across the curriculum. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

WGS 305. Queer Studies. 3 Credit Hours.

Gay, lesbian, bisexual, transgender, transexual, and queer identities; alternative family structures; queer theory; and current debates over the meaning and validity of sexuality as a way of understanding human sexual desire, emotions and behavior.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Summer.

WGS 315. Gender, Race, and Class. 3 Credit Hours.

Conceptions and intersections of gender, race, and class in historical and contemporary cultures; the impact of these experiences on individuals and society as a whole.

Components: LEC.

Grading: GRD.

Typically Offered: Fall.

WGS 320. Comparative Perspectives on Gender and Sexuality. 3 Credit Hours.

A comparative study of gender identities, gender relations, and sexualities in different cultures and societies. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 335. LGBTQ Communities. 3 Credit Hours.

Sociology of Lesbian, Gay, Bisexual Transgendered and Queer communities and identities. The history, methods, theory and concepts of social science research on these topics over the last half century and examines contemporary issues.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 344. Gender and Politics. 3 Credit Hours.

Compares the roles played by men and women in political systems worldwide; examines public policy outcomes with significant gender-based effects, including policies on sexuality & reproductive health, gender-based violence, work & the family, and access to education.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 345. Religion and Gender. 3 Credit Hours.

Religious constructions of gender identity within Christianity, with some attention to Judaism and Islam. The second Genesis creation account, which focuses on the figures of Adam and Eve, will be the focal point of our studies. An emphasis will be placed on the manner in which sexism functions within historical and present-day religious thought and practice, as well as alternative understandings of male and female identity.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 347. Issues In Reproductive Medicine. 3 Credit Hours.

Social, economic, political, legal, religious, philosophical, and psychological aspects of the global reproductive medicine industry and related genetic technologies.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 348. Mental Illness, Gender, And Psychiatry. 3 Credit Hours.

An investigation of often unquestioned ideas surrounding mental illness, including the definition of mental illness itself, in the context of the burgeoning field of disability studies. The course focusses on giving a voice to those who suffer from mental illness while critiquing the mainstream discourse of mental illness as articulated and managed by mental health professionals. Particular attention is placed on the role of gender in the discourse of mental illness.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 350. Special Topics in Women's and Gender Studies. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 360. Special Topics in Women's and Gender Studies: Arts & Humanities. 3 Credit Hours.

Special topics approaching gender and sexuality from the disciplinary perspectives of the arts and humanities.

Prerequisite: WGS 201 or WGS 202. Or Requisite: 3 Credits in the Arts & Humanities.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 361. Gender and Language. 3 Credit Hours.

The ways in which language is used in the constitution of gender, from a cross-linguistic and cross-cultural perspective.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 370. Special Topics in Women's and Gender Studies: People & Society. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 405. Gender and Sexuality in Cultural Context. 3 Credit Hours.

How cultural values shape our understanding and experience of gender and sexuality; how those values are produced and policed; and the impact of codes of conduct for gender relations on individuals and society as a whole within a specific cultural milieu. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 410. Gender, Sex, and the Law. 3 Credit Hours.

The impact of legal institutions and laws in shaping and regulating gender relations and sexual practices; the evolving relationship between legal codes and social values for women and men. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 420. Interpreting Bodies. 3 Credit Hours.

Perceptions, representations, and regulation of the physical body as a gendered and sexual site, as a source of pleasure, as a means of social validation, and as an object of coercion. Writing Credit.

Components: LEC.

Grading: GRD.

Typically Offered: Spring.

WGS 450. Special Topics in Women's and Gender Studies. 3 Credit Hours.

Content varies by semester.

Components: LEC.

Grading: GRD.

Typically Offered: Fall & Spring.

WGS 469. LGBTI Politics. 3 Credit Hours.

The empirical variation in public policies towards issues of concern to lesbian, gay, bisexual, transgender, and intersex citizens. Examines the social scientific literature on social movements to identify the factors which have helped or hindered LGBTI rights activists' efforts to improve the legal status of LGBTI citizens.

Prerequisite: POL 201 or POL 202 or WGS 202 or WGS 301.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 471. Sex Babies and the State. 3 Credit Hours.

In one of the most profound revolutions of the past century, gender roles have irreversibly changed and equal rights for women and men has become a stated goal in western societies, even if not the reality. This course examines policies on reproduction, work and the family in advanced industrialized countries including Latin American Countries.

Prerequisite: POL 202.

Components: LEC.

Grading: GRD.

Typically Offered: Offered by Announcement Only.

WGS 499. Independent Study. 1-3 Credit Hours.

By arrangement with instructor; content varies.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

WGS 501. Senior Research Project. 3 Credit Hours.

A student initiated research project with a faculty member of the student's choice and approved by the Program director. Writing Credit.
Requisite: Plan of Women and Gender Studies.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

WGS 505. Senior Thesis. 3 Credit Hours.

Women's and Gender Studies majors with a cumulative GPA of at least 3.5 in WGS courses and an overall GPA of at least 3.0 may earn departmental honors by completing an honors thesis instead of the senior research project. Candidates for departmental honors are responsible for finding a faculty member who is willing to serve as thesis adviser and then must complete a thesis proposal of approximately 400 words which must be approved by the thesis adviser and then the program director. Most students will take this course twice, for a total of six credits. Writing Credit.

Requisite: Plan of Women and Gender Studies.

Components: THI.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

WGS 590. Women's and Gender Studies Internship. 1-3 Credit Hours.

Internship in a community organization focusing on issues of gender or sexuality. Students arrange the internship and propose an exhibit, project, term paper, or other materials that will be presented for academic credit at the end of the internship to the Director of the Women's and Gender Studies Program and a faculty sponsor for approval prior to beginning the internship. Open only to WGS majors or minors or LGBTQ Studies minors with junior or senior standing.

Components: LEC.

Grading: GRD.

Typically Offered: Fall, Spring, & Summer.

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