



College Catalog
2015-2016

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W&J College Catalog

2015-2016 School Year

This online catalog represents the most accurate information on Washington & Jefferson College available at the time of posting. The College reserves the right to make alterations in its programs, regulations, fees and other policies as warranted.

Archived Catalogs (PDF)

Catalog 2015-2016	Catalog 2014-2015	Catalog 2013-2014	Catalog 2012-2013
Catalog 2011-2012	Catalog 2010-2011	Catalog 2009-2010 Supplement	Catalog 2008-2010

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Washington & Jefferson College (W&J) is committed to increasing diversity in our community and actively pursues individuals from all backgrounds. Additionally, W&J complies with all applicable federal, state and local laws and provides equal opportunity in all educational programs and activities, admission of students and conditions of employment for all qualified individuals regardless of race, color, sex, religion, age, disability, sexual orientation, or national origin. For more information about W&J's Title IX compliance, please visit [Title IX Compliance at W&J](#).

W&J Mission Statement

The College's mission is to graduate people of uncommon integrity, competence, and maturity who are effective lifelong learners and responsible citizens, and who are prepared to contribute substantially to the world in which they live. To this end, the College promotes the development of skills, knowledge, personal qualities, and a worldview that characterize a well-educated person.

All components of the living and learning environment at W&J are designed and intended to support this mission. This catalog and the [Student Handbook](#) describe the expectations of W&J students and resources available to support their development.

W&J Student Outcomes

W&J students, faculty, and staff are liberated by our experiences at the College. We understand that our values as a community of learners are a shared responsibility, strengthened through practice across the full range of our activities. In the classroom, on the athletic field, in clubs and professional activities, in the residence halls, we are committed to connecting formal learning experiences to our everyday engagements with the world. We ground this commitment in the language we use to express our principles and aspirations:

W&J graduates demonstrate intellectual curiosity, grounded in interdisciplinary thinking;

lifelong learning; connecting natural and social sciences, arts, humanities, to make meaning from experiences in the world

“we explore beyond boundaries”

informed analysis and decision making;

finding, evaluating, using information appropriately; effective reasoning; independence of thought; depth of knowledge; innovation

“we think carefully”

integrity

ethical reasoning; accepting responsibility; taking failure as opportunity; courage to lead; teamwork; empathy

“we teach the whole student”

and individual agency;

initiative; self-awareness; motivation; self-direction; taking responsibility for physical and emotional health

“we own our experiences”

the ability to communicate ideas;

quantitative reasoning; oral and written communication; critical and creative thinking; adaptability; textual, visual, and artistic literacies; information technologies; the study of languages

“we practice the liberal arts”

and a commitment to local and national communities,

juncta juvant; respectful of diversity; spirit of service; responsibility; knowledge of community expectations; political and social engagement; environmental conscience; civility in discourse

"we give back"

paired with responsible global citizenship.

understanding difference *and* commonality, at home and abroad; seeing one's place in the larger world; able to practice everyday diplomacy

"we engage with the world"

Curriculum and Graduation Requirements

Washington & Jefferson College offers a liberal arts education with sufficient breadth and depth to allow students to pursue a great variety of personal and career interests. There are more than 40 majors and programs. The College intends not only that students study one or more areas intensively, but also that students come to see the relationship of their fields of study to the rest of human knowledge. The College curriculum promotes the broad perspectives, academic skills, and personal qualities required for lifelong learning and responsible, productive citizenship.

Catalog of Entry	Summary of Degree Requirements
Statement of Responsibility	Additional Courses of Study
Breadth and Depth	How Courses are Counted
College Wide Requirements	Opportunities Outside the Regular Semester
The Academic Major	Other Options for Course Credit

Catalog of Entry

The catalog in effect for the term in which the student first completes coursework at Washington & Jefferson College becomes the student's College and major program catalog of entry. The catalog of entry defines the College and program requirements an entering student must complete in order to earn the bachelor of arts degree, and is in effect for the next five years from the point of entry into the College.

Changes in either major or non-major requirements that are made necessary by altered or discontinued courses or by requirements imposed by external accrediting or certification agencies will be resolved on an individual basis by the chair of the department in which you major. Whenever possible, new requirements are implemented with a beginning class.

Transfer students are governed by the same regulations.

Statement of Responsibility

It is the responsibility of each student to know both the College-wide graduation requirements and those of the major field of study, and to meet all requirements satisfactorily for graduation. Students have the assistance of numerous College personnel who will help them understand these requirements. The academic advisor, the major department chair, the Office of Academic Affairs, and the registrar are the first resources each student should turn to when questions arise.

Breadth and Depth

Washington & Jefferson College has two sets of graduation requirements: College-wide requirements, which all students must complete, and program-level requirements, which include the requirements for completing your major. College-wide requirements are discussed in this section. Specific requirements for majors, minors, and other programs can be found in [areas of study](#).

A minimum of 32 full-term semester courses and 2 Intersession courses are required for a Bachelor of Arts degree from Washington & Jefferson College. This minimum excludes physical education and wellness courses. Students must have a minimum grade point average of C or better to graduate and must be "in residence" for a minimum of four terms of full time study, one of which must be their final full-term semester. This requirement applies to all new students, including transfer students. All students must complete at least 16 full-term semester courses and 2 Intersession courses at W&J.

The diploma is awarded only to graduates who have met all obligations to the College, both academic and financial.

College-Wide Requirements

There are five components to the College-wide requirements, also referred to as "general education" requirements.

I. First Year Seminar

All new full-time, first-year students must complete a First Year Seminar as an introduction to the liberal arts, the College, and college-level expectations. The First Year Seminar is a graded course which gives students the opportunity to study a well-defined subject in a small group. Seminars aim to develop a range of learning skills, such as reading, writing, speaking and quantitative analysis, depending on the content of the individual seminar. Special emphasis will be placed on critical analysis of the subject in question, both in writing and class discussion. Seminars also provide opportunities to participate in a range of cultural and intellectual events. First Year Seminar instructors serve as academic advisors to students in the Freshman class.

II. Breadth of Study

Typically, courses taken to satisfy the breadth of study component of the general education requirements are broad introductions to a field of study, open to any student and with an emphasis appropriate for non-majors in the field. The courses will also provide opportunities for students to develop at least three of the following modes of thought:

- To observe clearly,
- To think critically,
- To make informed judgments,
- To reason abstractly,
- To solve problems,
- To think creatively.

The breadth of study requirement is completed through specially designated general education courses in each of four areas of study as described below. Each term the Office of the Registrar makes available a session schedule of classes, which indicates the courses that have been specially designated for the purpose of satisfying the breadth of study requirement.

- *Arts*--Arts courses promote an understanding of artistic process and/or the discrete application of artistic processes in art, communication, music, and theatre. Students must complete **one** specially designated arts course.
- *Humanities*--Humanities courses promote an understanding of the meaning of human life through study of language, literature, philosophical and religious texts, and history. Students must complete **three** specially designated humanities courses from at least two different disciplines.
- *Social Sciences*--Social science courses promote an understanding of fundamental features of human behavior and social structures and their role in shaping communities. Students must complete at least **two** specially designated social science courses from different disciplines.
- *Natural Sciences and Mathematics*--Natural science and mathematics courses promote an understanding of the nature or methods of scientific inquiry and mathematical reasoning. Students must complete **two** courses carrying the NSM designation from different departments or programs and **one** course carrying a lab designation. Many courses carrying lab designation will also carry an NSM designation and can be counted for both. For the purposes of counting, SCI courses shall be considered department or program neutral and the requirement may be satisfied by pairing a SCI course with any other NSM-designated course.

III. Cultural Diversity

The cultural diversity requirement is intended to introduce students to the cultural diversity of societies throughout the world, with the goal of understanding both the interconnectedness of those societies and the need to respond with intelligence and sensitivity to the peoples of varied social backgrounds and cultural frameworks. Each student must complete **one** course devoted primarily to the study of cultural diversity in American society or elsewhere, or to the study of a culture or cultures outside the United States and Western Europe. Such courses are specially designated on the session schedule of classes published by the registrar. This course may also be taken to satisfy the breadth of study or other graduation requirements.

IV. Academic Skills

All students must take steps to develop their academic skills, particularly in the areas of oral and written communication, quantitative reasoning, foreign language, and information technology. To that end, skill development is integrated into some course offerings so as to offer you intensive instruction and practice in these areas. Courses taken to satisfy an arm of the academic skills requirement may also apply towards breadth of study or other graduation requirements. Courses that are specially designated for oral communication, writing, and quantitative skill development are published each term on the schedule of classes.

- *Writing*--All students will take a **writing intensive course** in the first year. Transfer students must show similar training from courses completed prior to matriculating at Washington & Jefferson College. In addition to the first-year intensive writing course, students must pass **two** specially designated writing courses, each in a different discipline.
- *Oral Communication*--Students must pass **one** specially designated oral communication course.
- *Quantitative Reasoning*--Students must pass **one** specially designated quantitative reasoning course.
- *Foreign Language*--All students must complete either two terms of a foreign language at the first-year level (either 105 and 106 or 106 and 207) or one term at the second-year level (207). Students who place above the 207 level automatically fulfill the requirement. Students who have completed at least two years of their secondary education (grades 9-12 or equivalent) in a language other than

English as well as international students or students with backgrounds in languages other than English may petition the Chair of the Department of Modern Languages for satisfaction of the foreign language requirement. Students are encouraged to fulfill the foreign language requirement during their first two years at W&J.

- *Information Technology*---In addition to the course-based skills described above, the faculty of the College are committed to appropriate integration of information technology across the curriculum (ITAC).The faculty monitor all courses offered at the College for appropriate and sufficient integration of various technology skills.

V. Physical Education and Wellness

All students must complete the equivalent of **one** course in Physical Education and Wellness, in addition to the 32 semester + 2 Intersession courses required for graduation. Students may satisfy this requirement by taking four (half semester) 1/4 courses or two (full-semester) 1/2 courses, or any combination of 1/2 and 1/4 courses. Participation in a varsity sport, as this participation is defined by the Department of Athletics, will count as a 1/2 course; only one varsity sport may be used in this manner. All physical education and wellness courses will be taken under the satisfactory/unsatisfactory grading policy, unless the option of taking a course for a letter grade is specified in the course's description.

The Academic Major

In addition to the general education requirements described, all students must complete the requirements of an academic major. Specific requirements for majors offered at the College are detailed in the [areas of study](#) section of this catalog. You may also propose your own academic major, by pursuing a [thematic major](#).

New full-time, first-year students are not permitted to declare the major until the end of the first semester of the freshman year and enter the College as "open" in major. You may make a nonbinding declaration of major at the end of your first term. However, no student may remain "open" past the second semester of the sophomore year.

Most majors comprise eight to 10 courses; however, individual programs may stipulate additional courses within the subject area, related fields, or foreign language. All majors require a culminating project appropriate to the field, commonly called the "capstone experience."

The following policies apply towards completing any academic major:

- No course in which a student receives a grade below C- shall count toward the fulfillment of major requirements, nor shall any course which is completed under the College's satisfactory/unsatisfactory grading option.
- The overall grade point average in all courses required for the major must be C or better.
- Courses counted towards the major may also count toward fulfillment of the College's general education requirements.
- Regulations governing the application of courses towards the major program can be found in "[How Courses are Counted](#)."
- Normally, courses applied towards the major must be completed at W&J. However, with the approval of the department chair, up to three courses may be earned "off-campus" in the major. Such coursework transferred back to W&J is subject to all regulations governing external course study.
- A transfer student will consult with the major department chair regarding completion of the major at W&J. Generally the limit of three external courses is upheld, although at the major department chair's discretion, more than three may be applied towards a major for a transfer student. If fewer than three courses accepted for transfer are applied towards the major, this student may pursue external coursework under the provisions.
- Departments and programs may allow up to half the courses required for a major to be transferred to W&J, according to specific guidelines in international 2+2 agreements. All other policies regarding transfer students, and courses taken at other institutions, apply.

Summary of Degree Requirements

Each student must complete a minimum of 32 semester courses and 2 Intersession courses (exclusive of physical education and wellness), with a minimum overall grade point average of C or better and with a grade point average of C or better in major course requirements; and must complete satisfactorily:

First Year Seminar: 1 course

Breadth of Study:

- **Arts** - 1 Course
- **Humanities** - 3 Courses (at least two disciplines)
- **Social Sciences** - 2 courses (different disciplines)
- **Natural Science and Math** - 2 courses (different departments or programs, one lab experience)

Cultural Diversity: 1 course (may also count towards other requirements)

Academic Skill Development:

- **Oral Communication** - 1 course
- **Quantitative Reasoning** - 1 course
- **Writing** - 3 courses (freshman composition plus two courses in different disciplines)
- **Technology Skills** - Integrated across curriculum

- **Foreign Language** - 2 courses if study begins at first-year level; 1 course if study begins at second-year level

Physical Education and Wellness: Equivalent of 1 course (does not apply to 34-course requirement)

Academic Major: Minimum of 8 to 10 courses, including capstone experience

Electives: 8 to 10 courses

TOTAL: 32 SEMESTER COURSES + 2 INTERSESSION COURSES, PLUS ONE COURSE EQUIVALENT IN PHYSICAL EDUCATION/WELLNESS

Additional Courses of Study

Double Major

Because of the flexibility of the curriculum, and the number of electives available, students who desire to do so may use eight to 10 of their available elective courses towards fulfilling a second major, and thus graduate with two academic majors, pursuant to all policies governing the academic major. No student is required to complete a second major. A student pursuing two majors may not count more than two of the same courses toward the completion of each major.

Academic Minor

Academic minors are courses of study that provide less depth than the major. A minor may provide focused study within a discipline or from across more than one discipline. No student is required to complete an academic minor although many choose to do so. Typically, minor courses of study require six courses as stipulated by each program offering this course of study. Minors are governed by the following policies:

- A program administering a course of study may not require completion of any minor program as part of the requirements for a major.
- No course in which the student earns a grade of less than C- shall count towards fulfillment of the minor requirements, and the student must maintain an overall grade point average of C or better in courses counted towards the minor.
- Courses counted towards the minor may also count toward fulfillment of the College's general education requirements.
- Regulations governing the application of courses towards the minor program can be found in the "[How Courses are Counted.](#)"
- No more than two courses taken at another institution can be counted toward a minor without approval of the minor's program chair or director.

Emphasis

An emphasis is a course of study providing a particular focus or degree of specialization within the context of a particular major. Typically, you complete an emphasis by using elective courses within the major to provide the degree of specialization. The set of courses required to complete the major and an optional emphasis may not exceed one half of those required for graduation.

Concentration

A concentration is a course of study providing a particular focus or degree of specialization that is offered only by interdepartmental/interdisciplinary programs or special programs at the College. The number of courses required for a concentration is at least four but no more than five, and all concentrations are available to you as a course of study, regardless of your major. No more than one course taken at another institution can be counted toward a concentration without approval of the concentration's program director.

Combined Degree Programs

Combined degree programs allow a student to capitalize on the strengths of the liberal arts education offered by W&J while pursuing certain professional interests. Students in these programs complete their general education requirements and the bulk of an academic major while in residence at W&J, typically over a three-year period, after which the student commences study in an accredited graduate or professional program. The student is then eligible for a bachelor of arts degree from W&J, in addition to being eligible for a second degree from the other institution. Examples are the College's 3-2 engineering program and combined degree programs offered through the College's health professions program.

A student who has attained senior status at the College and who has fulfilled the College wide requirements, including at least six courses towards a major offered by the College with grade of C- or better and a C average in those major courses, and who then enters an accredited graduate or professional school prior to completing the senior year, may apply for a bachelor of arts degree from Washington & Jefferson College. The degree will be completed by transferring back to W&J an appropriate array of courses so that graduation requirements are met. The verification of the degree is made by the appropriate faculty review body, typically, the chair of the department in which you major. In some programs, more than six courses towards the major must be completed while you are in residence at W&J. You should consult with the director of the program you are interested in for more information.

How Courses Are Counted

Partial Courses

For the purpose of meeting the minimum of 32 semester courses and 2 Intersession courses required for graduation, students may combine partial courses (other than physical education and wellness courses) to make whole courses. For example, students may take one half semester course in mathematics and one half semester course in applied music to make one full semester course. Physical education and wellness courses do not apply towards the 34-course graduation requirement.

Some courses are "unbilled" and cannot be used to achieve full-time status for the purpose of qualifying for financial aid. These courses include all PED and MUA courses, COM 242 and COM 252, EDU 250, MTH 320, MTH 420, PHY 441, PHY 442, BIO 301, and freshman and sophomore-level ROTC courses (MSC 101, 102, 201, and 202). While these courses (excepting PED courses) can be combined toward the 32 semester-course graduation requirement, they cannot be counted toward achieving full-time status for financial aid purposes. As a general rule, "unbilled" courses should be added to students' schedules on top of a full load (3-4 courses) of billed courses.

Application of Courses Towards Degree Requirements

- Any course used to satisfy a course of study offered by a departmental program may also be used to satisfy a course of study offered by an interdepartmental or interdisciplinary program.
- Any course outside a discipline that is required by a departmental program for a course of study may also be used to satisfy requirements for other courses of study, except for the following cases:
 - Students may not major in more than one discipline administered by the same department, but they are permitted to major and minor in different disciplines administered by the same department. In such instances, no more than two courses taken to fulfill requirements for the major may be used to satisfy the requirements for the minor. Exception: Students are permitted to major in more than one modern language.
 - A capstone experience in one major cannot count as a capstone experience in another major.
 - Students may not complete a separate major in any of the disciplines that are part of their interdepartmental or interdisciplinary major unless approved by the programs involved.

Opportunities Outside the Regular Term

Intersession

The Intersession term, a distinctive feature of the W&J academic calendar, offers sharply focused courses designed to be a change from the standard curriculum. During their four years at W&J, students are required to take two Intersession courses, which can take the form of an on-campus class, a college-sponsored course of study off-campus, or a for-credit internship. Students are limited to one regular course and one physical education course per Intersession. All travel expenses for Intersession courses are the responsibility of the student, as are any special costs for field trips. Students wishing to take an Intersession course from another institution and transfer credit to W&J must obtain prior approval for the transfer of credit. A description of the approval process is available in the Office of the Registrar.

The majority of Intersession courses are offered in January, although on occasion they are offered in May. In such circumstances, students may register for no more than one regular Intersession course per academic year without incurring additional tuition.

Some examples of recently offered Intersession courses are:

ART 247	Printmaking
BIO 273	Emerging Diseases Global and Local
BUS 395	Corporate Failures, Frauds, and Scandals
COM 141	Hitchcock
ELE 219	Zuni World (study in Southwest U.S.)
ENG 242	London Theater (study abroad)
ENG 262	Vampires and Other Bloodsuckers
ESP 265	Entrepreneurship and Sports Management
HIS 256	Chinese History Tour (study abroad)
HIS 227	Renaissance Women
CIS 233	Cyber-attacks: Viruses, Worms, and Trojan Horses
MTH 201	Origins of Mathematics

MUS 246	Music of Modern Brazil
PHL 202	Philosophy and Gender
REL 247	Disputed Questions: A Critical Introduction to Christian Theology
THR 275	Children's Theatre

The Integrated Semester

Periodically, the faculty organizes an integrated semester on a particular interdisciplinary theme. Offered in a fall or spring term, the integrated semester consists of a set of regular departmental courses dealing with the common theme and an integrative seminar involving regular meetings and an interdisciplinary project. Recent offerings are the integrated semester on dreams and fantasies and the integrated semester on Asia.

In order to participate in the integrated semester and receive a transcript designation for it, a student must satisfactorily complete at least two courses in the program and write a paper connecting material from those courses. The paper must be completed to the satisfaction of two of the faculty members affiliated with the program at the time. Courses offered for the integrated semester are open to all students as are the public lectures and events associated with the program.

Summer School

The summer session lies within the charge of the regular faculty and administrative officers, and the courses are an integral part of the regular curriculum. To provide the necessary educational opportunities, W&J offers two summer sessions. Both are day sessions. The first is typically in June; the second typically in July. The summer session has been designed to provide expanded educational opportunities for:

- W&J students seeking to satisfy academic deficiencies or to accelerate their four-year program;
- Students from other colleges who wish to take specific course offerings;
- Persons employed in the local area who are enrolled in college degree programs;
- Local school teachers who wish to take courses for permanent certification;
- Recent high school graduates who wish to begin college early

Students are limited to a total of four courses (or two lab science courses) during Summer School (two courses per term---or one lab science course per term).

Qualified high school students who have completed their junior year may be admitted to certain courses subject to approval.

Students who have matriculated at another college are responsible to certify that they are in good standing at that institution and to confirm that they have the necessary prerequisites for their Summer School course selections.

When a student attending the W&J summer session plans to transfer the credit elsewhere, it is the student's responsibility to make arrangements with the registrar.

Summer session information, including courses of instruction, tuition, and housing, is posted each spring on the W&J Web site (www.washjeff.edu/summer-program). Current W&J students may register for Summer School using WebAdvisor at the same time they register for fall courses. Visiting students should register on an online registration form available on the Summer School Web site. Questions about Summer School should be directed to the Office of Academic Affairs.

Other Options For Course Credit

Transfer of External Coursework

It is possible to earn course credit by transferring work completed at another college or university to Washington & Jefferson College. No more than 16 of the 32 required semester courses required for the bachelor of arts degree may be transfer courses, and no more than three may be applied towards the major. See "[Obtaining Course Credit from Other Colleges](#)" for more information.

Tutorials

A tutorial course is intended to provide individual students the opportunity to pursue a specific course of academic work under the close direction of an instructor who has agreed to supervise the work. The typical tutorial course is one that is listed in this catalog, but which the student pursues outside of the traditional classroom setting. Therefore, the instructor for the tutorial guides the course of the tutorial. Such courses may be offered under their standard course nomenclature or under 291/292 (freshmen and sophomores) or 391/392 (juniors and seniors) numbers.

Internship - 198, 198J (January), 198S (Summer)

The faculty has established internships so that students might better acquaint themselves with environmental, prevocational,

political, social, educational, or technical circumstances of our society. The central component of the internship is an off-campus, participatory experience, under the guidance and supervision of a qualified practitioner in the field. The experience must involve academic content. Time spent in the field may be reduced by the amount of time necessary to complete academic requirements or materials for evaluation. Also, the faculty advisor of the internship or the chair of the department offering the internship may require additional academic requirements for the student to complete, where it seems appropriate. Internships are offered primarily during Intersession and they are graded satisfactory/unsatisfactory.

A student may take no more than two internships for credit. Both may be taken in the same department. A student must have an overall grade point average of 2.50 or higher (4.00 scale) to take an internship, and a student on academic probation may not take an internship.

If a student wishes to pursue course credit for a summer internship, it is considered a summer course and is subject to the summer session course fee.

Independent Study - 500, 501, 299J (January), 299S (Summer)

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs. The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

International Education and Study Abroad International and Off-Campus Programs

Students may earn credits toward their W&J degree by participating in an approved semester- or year-long program of off-campus study. For more information, please refer to the section on [International Education and Study Abroad](#).

Areas of Study

MAJORS	MINORS
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<p><i>All W&J students must complete a major to graduate.</i></p> <p>Accounting Art Art Education Biochemistry Biological Physics Biology Business Administration Chemistry Child Development and Education Communication Arts Computing and Information Studies Economics English Environmental Studies Financial Economics French German History International Business International Studies Mathematics Music Neuroscience Philosophy Physics Political Science Psychology Sociology Spanish Theatre Thematic Major Teacher Certification (K-12) available for majors in: Art Education, Environmental Education, French, German, Spanish</p>	<p>Accounting Art History Biology Business Administration Chemistry Chinese Communication Arts Computing and Information Studies East Asian Studies Economics Education - Teacher Certification Education (Teacher Certification)</p> <p>English Entrepreneurship Environmental Studies Forensic Science French Gender and Women's Studies German History Mathematics Music Neuroscience Philosophy Physics Professional Writing Psychology Religious Studies Sociology Spanish Theatre</p>
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EMPHASES	CONCENTRATIONS
<p><i>An emphasis is a specialization offered through a particular major.</i></p> <p>Economic Development Entrepreneurship Film Studies Financial Economics Human Resource Management Public Relations Rhetoric Theatre Thematic Emphasis</p>	<p><i>A concentration is a specialization offered through an interdisciplinary or special program.</i></p> <p>American Studies Computational Science Conflict and Resolution Studies Entrepreneurship Graphic Design Professional Writing Professional Writing Russian Area Studies</p>

PRE-PROFESSIONAL AND SPECIAL PROGRAMS	OTHER ACADEMIC OPPORTUNITIES
<p>Education (elementary, secondary, and specialty certification)</p> <p>Engineering Biological Physics Health Professions Pre-Law ROTC</p>	<p>Arabic Chinese Earth and Space Science</p> <p>Physical Education Russian Interdisciplinary Courses</p>

First Year Seminar

For information on this required course for first year students, please visit the [First Year Seminar](#) page on the College website.

Accounting

Professor: Kuhn (coordinator), Robison

Associate Professor: Galley

Accounting is often called "the language of business." As with any language, to comprehend its meaning one must not only read it, write it, and speak it but also understand the context in which it is communicated. Within the college's liberal arts environment, the accounting program develops students' technical competencies while stressing critical thinking and analytical abilities as well as written and oral communication skills. Additionally, the importance of ethical considerations and the significance of the interdisciplinary nature of societal problems are emphasized as we help students prepare for careers in public accounting, private business and not-for-profit organizations, and governmental entities.

MAJOR REQUIREMENTS: ECN 101 and 102; MTH 125, and MTH 131 or MTH 151; ACC 211, 321, 331, 332, 344, 353, 471; BUS 341; and one additional 300-level or 400-level accounting (ACC) course.

The department requires that the following courses be completed at Washington & Jefferson College: ACC 211, 321, 331, 332, 344, 353 and 471, MTH 125, MTH 131 or 151, and BUS 341. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at Washington & Jefferson. Also, students may petition the department chair to waive this requirement to complete specific courses at Washington & Jefferson so as to facilitate a term of study abroad. While not required, the department encourages the students to complete an internship in accounting.

MINOR REQUIREMENTS: ACC 211, 321, 331, 332, and two additional 300- or 400-level accounting ACC courses.

The department requires that the following courses be completed at Washington & Jefferson College: ACC 211, 321 and 331 and 332. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at Washington & Jefferson. Also, students may petition the department chair to waive this requirement to complete specific courses at Washington & Jefferson so as to facilitate a term of study abroad.

NOTES:

Students majoring or minoring in accounting may not also major or minor in business administration, nor major in international business. Students majoring in accounting may obtain a minor in economics or financial economics but not a double major in economics or financial economics. Students majoring or minoring in accounting may complete a minor or a concentration in entrepreneurship.

A grade of C or better is required to satisfy the prerequisite requirement for any accounting (ACC) course serving as a prerequisite for other accounting (ACC) courses.

C.P.A. EXAM AND LICENSURE REQUIREMENTS:

Students pursuing careers in public accounting are encouraged to sit for the C.P.A. Exam soon after completing the accounting program. The requirements of Washington & Jefferson's accounting major are designed to preserve the flexibility needed for students to avail themselves of the breadth of educational opportunities offered by the liberal art and are sufficient to provide a foundation for entry into the accounting profession. Thorough preparation for the C.P.A. Exam demands, however, that the student complete not only the requirements of the major, but also, additional courses in accounting and business law and a post-graduate program of self-study review. Students should consult their advisor for more detail relative to preparing for the C.P.A. exam.

Most states now require a baccalaureate degree and 150 semester hours of credit for licensure as a C.P.A. Additionally, within the 150 semester-hour requirement, many states require a specific number of semester hours in accounting and some require a specific number of semester hours in business (as distinct from accounting). Students should consult with the accountancy board of the state in which they intend to sit for the C.P.A. exam to ascertain the specific educational requirements of that state. Additionally, students should understand that many public accounting firms offer employment only to those students who will have met the 150 semester-hour requirement by the start of their employment.

Since the typical undergraduate degree requires the completion of 120 to 128 semester hours, the 150 hour requirement demands effectively, in many cases, an additional academic year of coursework. However, upon meeting Washington & Jefferson's graduation requirement of 32 semester and 2 Intersession courses, and the physical education/wellness requirement, students are awarded 140 semester hours of credit. Thus, Washington & Jefferson graduates need only 10 additional hours of credit to satisfy the requirement. These additional hours may be obtained through additional undergraduate courses at Washington & Jefferson or other institutions, or through courses taken as part of a graduate program. Subject to satisfying credit-hour requirements in accounting and business as mandated by some states, these additional hours do not necessarily need to be in accounting and business.

ACC198 - Internship

The faculty has established internships so that students might begin to apply their talents to the world outside the classroom and obtain a taste of professional life in the political, environmental, social, educational, or technical spheres. The central component of the internship is an off-campus, participatory experience, under the guidance and supervision of a qualified practitioner in the field. The experience must involve academic content. Time spent in the field may be reduced by the amount of time necessary to complete academic requirements or materials for evaluation. The faculty advisor of the internship or the chair of the department offering the internship may require additional academic requirements for the student to complete, where it seems appropriate. Internships are offered primarily during Intersession, but can also be taken during the regular terms and in the summer. They are graded satisfactory/unsatisfactory. A student may take no more than two internships for credit. Both may be taken in the same department. A student must have an overall grade point average of 2.50 or higher (4.00 scale) to take an internship, and a student on academic probation may not take an internship. If a student wishes to pursue course credit for a summer internship, it is considered a summer course and is subject to the summer session course fee.

ACC211 - Financial Accounting

An introduction to the theory and processes used to analyze, measure, and report the activities of business entities. Includes the study of the role of the accounting function, the accounting equation, general purpose financial statements, overall principles of net income measurement, the public reporting environment and an overview of the accounting and reporting of selected operating, investing, and financing transactions of business entities.

ACC321 - Accounting & Management Information Systems

An introduction to the design and operation of systems used to process business transactions and accumulate information for both preparing general purpose financial statements and for supporting the managerial planning and control process, all within the context of computerized data processing technology. Includes the study of the flow of activities and documents in each of the major transaction cycles of business entities, the actual use of integrated accounting/business process software, and an overview of information technology concepts.

Prerequisites: ACC 211

ACC331 - Intermediate Financial Accounting I

This course and ACC 332 serve as a study of the general accepted accounting principles underlying the preparation of general purpose financial statements used primarily to communicate information to external decision makers. It includes the conceptual framework of financial accounting, the form and content of financial statements, and a study of the authoritative pronouncements of the Financial Accounting Standards Board (FASB) relative to accounting and reporting of the operating activities of business entities.

Prerequisites: ACC 321 or permission of the instructor

ACC332 - Intermediate Financial Accounting II

A continuation of ACC 331, this course is a study of the authoritative pronouncements of the Financial Accounting Standards Board (FASB) relative to accounting and reporting of the financing and investing activities of business entities.

Prerequisite: ACC 331

ACC344 - Managerial Finance and Accounting

An introduction to the financial management of corporate business organizations including investing, financing, and operating decisions within the context of financial planning and management control activities. Includes theory of corporate finance as well as analytical tools associated with the discipline of managerial accounting. This course is the same as FIN 344 and BUS 344.

Prerequisites: BUS/FIN/ECN 341

ACC346 - Cost and Advanced Managerial Accounting

A study of product costing concepts and cost accumulation systems as well as cost management concepts and profitability analysis.

Prerequisites: ACC/FIN/BUS 344

ACC353 - Taxation of Business Entities

This course is an introduction to the study of income tax regulations and analysis of income tax considerations relative to the different types of tax payers with emphasis on business entities, including sole proprietorships, partnerships, corporations, and limited liability companies. A broad range of tax concepts and issues are introduced. This course includes a review of tax compliance, tax planning matters, and the role of taxation in the business decision-making process.

Prerequisites: ACC 211

ACC354 - Taxation of Individuals

This course is a study of income tax regulations and an analysis of income tax considerations, both relative to individual taxpayers. It includes a review of tax compliance, tax planning matters, and the role of taxation in the financing and investing decisions of individuals. Basic tax research is introduced.

Prerequisites: ACC 211

ACC361 - Governmental and Not-For-Profit Accounting

A study of accounting and reporting for governmental entities as defined by the authoritative pronouncements of the Governmental Accounting Standards Board (GASB) and for private not-for-profit entities as defined by the Financial Accounting Standards Board (FASB).

Prerequisites: ACC 332

ACC431 - Advanced Financial Accounting

This course is a study of the authoritative pronouncements of the Financial Accounting Standards Board (FASB) relative to parent/subsidiary relationships, consolidated financial statements, business combinations, foreign exchange transactions, and translation of foreign currency financial statements.

Prerequisites: ACC 332 or concurrent registration in ACC 332 and permission of the instructor

ACC471 - Auditing and Assurance Services

A study of the theory and practice of auditing and other assurance services, this course includes a review of generally accepted auditing standards, auditing procedures, and professional ethics. Other topics include internal control review, audit planning, examination of evidential matter, and reporting responsibilities. This is the capstone course for the major.

Prerequisites: ACC 332 or concurrent registration in ACC 332 and permission of the instructor

ACC497 - Advanced Topics in Accounting

Topics courses are occasionally offered to broaden or enhance the accounting curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

Prerequisites: Will vary according to topic

ACC500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Prerequisites: ACC 332 or concurrent registration in ACC 332 and permission of the instructor

American Studies

The American Studies concentration is a four-course cluster available to students in any major. The concentration offers an interdisciplinary examination of American culture and what it means to be American. American Studies is a recognized field taught in many undergraduate and graduate programs in the United States and other countries. As a field, American Studies combines the perspectives of many disciplines to examine American life, history, and culture, and to consider the relationship between the United States and the world, with an interdisciplinary methodology. American Studies encourages thoughtful

reflection, and is useful for both Americans and international students wishing to study American culture and traditions more deeply.

As an interdisciplinary cluster that includes courses in several departments, the American Studies concentration at W&J is a good way to satisfy many college-wide requirements. The concentration has been designed to encourage not only learning in multiple disciplines, but synthesis of these varied perspectives. With its examination of both majority and minority perspectives in American life, as well as America's place in the world, the concentration provides a helpful background for students preparing for careers in law, government, writing, the arts, international affairs, education, and others.

In the first three courses taken in two or more departments, students gain knowledge in areas like American history, politics, literature, and the arts. In the culminating American Studies Seminar, students are then encouraged to make connections and synthesize ideas from these other courses.

REQUIREMENTS: The concentration requires four courses. The first three courses will be selected from the affiliated course list; these courses must be selected from at least two departments. The fourth course is [AMS 300: American Studies Seminar](#), which is generally offered every spring in odd-numbered years. Students may take three affiliated courses before enrolling in AMS 300, or may take two courses as pre-requisites and one course concurrently with AMS 300.

AMS200 - Topics in American Studies

Open to all students without prerequisite. This course is an in-depth study of a subject chosen from topics dealing with American culture, varying from year to year. The course is interdisciplinary in nature, combining material across traditional areas of knowledge, such as science and history, art and archaeology, or technology and literature. In addition, it teaches the art of close reading and analytical writing. The course will be a study of selected topics in American Studies focusing on one or more of the following subjects in the United States and/or its sphere of influence: culture, sense of place, institutions, identity, performance, history, etc. The course may be repeated for credit if the topic differs.

Prerequisites: None

AMS300 - American Studies Seminar

A discussion-based seminar course in which students examine primary and theoretical works in American Studies. Discussion draws on students' collective experiences in previous American Studies-affiliated classes, and each student completes an interdisciplinary final project. Pre-requisites: at least three courses from the affiliated course list; one course may be taken concurrently. Enrollment preference given to juniors and seniors enrolled in the American Studies concentration.

Prerequisites: at least three courses from the AMS affiliated course list; one course may be taken concurrently.

Arabic

Rarely in history has a language emerged more forcefully in the world than has Arabic in the recent past. Nearly every aspect of contemporary life is touched by the millions of speakers of Arabic. From energy production and the realignment of international politics, to life-changing questions of religion and philosophy and to new uses for scarce natural resources, Arabic will remain at the center of inquiry for years to come.

PLACEMENT PROCEDURES: All entering freshmen with prior experience in Arabic will receive language placement by program faculty. This placement will determine their first course in the sequence. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

ARA105, 106 - Elementary Arabic I, II

An introduction to the basics of spoken and written Arabic with emphasis on performance in culturally appropriate ways. Students engage in conversations, exchange of information and opinions, and expressions of feelings and emotions. Additionally, students will become familiar with the foundations of the Arabic writing system.

Taught largely in Arabic.

Prerequisite: ARA 105 for ARA 106, or the permission of the instructor

ARA207 - Intermediate I

Intended for students who have completed the first year sequence or its equivalent in Arabic. Students will develop listening, speaking, and writing skills. Course will address cultural situations in contemporary societies in the Arabic speaking world.

Taught largely in Arabic.

Prerequisite: ARA 106, or the permission of the instructor

ARA208 - Intermediate Arabic II

This is a course with intensive review, oral expression, listening comprehension and special emphasis on written Arabic forms. Daily activities will include authentic texts and videos and contemporary web sites from various parts of the Arabic-speaking world. Special emphasis will be placed on the multiple facets of contemporary Arabic culture.

Course taught largely in Arabic.

Prerequisites: ARA 207, or the permission of the instructor

ARA257 - Arabic Literature in Translation

An introduction to Arabic literature and culture from the classical period to the 21st century through readings from novels, short stories, drama and poetry. Taught in English.

Prerequisites: None

Art and Art History

Professor: Lambertson (chair), Maloney

Associate Professor: Schmidt

The Department of Art and Art History is dedicated to teaching studio art, art education, and the history of art and to advising majors in an atmosphere that encourages cooperation and independence among faculty and students. The department offers majors in studio art and art education and a minor in art history.

MAJOR REQUIREMENTS: Both the studio art and art education majors require a total of 10 art courses. The required courses are listed below. Additional art courses must be elected from the department's other offerings.

ART HISTORY MINOR REQUIREMENTS: Six courses: [ARH 101](#) and [102](#); any four 300-level ARH courses.

NOTE: Students majoring in studio art or art education take three art history courses for their major, but may only count two of those for the minor. These students take four additional art history courses for the minor.

- **STUDIO ART MAJOR REQUIREMENTS:** [ARH 101](#), [102](#), [ART 108](#), [112](#), [361](#) or [362](#), [363](#), one 300-level ARH course, one 300- or 400-level ART course, and two 400-level ART courses. ART 400 and 425 do not count toward the studio art major.
- **ART EDUCATION MAJOR REQUIREMENTS:** [ARH 101](#), [102](#), [355](#), [ART 108](#), [112](#), [361](#), [363](#), [400](#), one 300- or 400-level ART course, and one 400-level ART course. ART 425 does not count toward the art education major. In addition, students must complete admission procedures and required courses in education as outlined in this catalog.

CAPSTONE EXPERIENCE: In addition, as a capstone experience, departmental majors must present a Senior Art Show. During the junior year, the student's work will be screened by a committee comprised of the art faculty. A student whose work is not approved will be advised to take specific courses or to work independently to correct deficiencies. The student's work will then be reviewed and must receive committee approval before the student presents the Senior Art Show on campus.

AP Policy: The Art and Art History Department does not accept any AP Art History or AP Studio Art credits. If a student has received a 4 or 5 on an AP Studio Art evaluation, he or she may present a portfolio of work to the department chair for consideration to waive certain pre-requisites for course work in the Art Department.

GRAPHIC DESIGN CONCENTRATION: The department collaborates with the CIS department on a graphic design concentration. Please refer to the Graphic Design catalog listing for further information on this area of study.

TEACHER CERTIFICATION: Students may seek Specialty Education (grades K-12) Certification in Art by completing the Art Education major and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

ARH101 - World Art I

This course introduces the history of art from prehistory to the late middle ages and examines the world's artistic heritage in its religious, political, and social contexts.

ARH102 - World Art II

This course introduces the history of art from the fifteenth century to the present and examines the world's artistic heritage in its religious, political, and social contexts.

ARH247 - Special Topics in Art History

Study of a special topic in art history varying by semester. Possible topics include artists, movements, themes, or periods in the history of art.

ARH330 - The Renaissance

An in-depth study of the form and content of European art from the early fifteenth century to the end of the sixteenth century. Original course material from the literature of art history will supplement the slide lectures.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH340 - Baroque Art

This course explores the art of the seventeenth and early eighteenth century in Italy, Flanders, Germany, Spain, England, Holland, and France. The Counter-Reformation in Catholic countries, the celebration of riches in Holland, and the politics of absolutism will be treated as they influenced the making and experience of art.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH347 - Special Topics in Art History

Study of a special topic in art history varying by semester. Possible topics include artists, movements, themes, or periods in the history of art.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH352 - Nineteenth-Century Art

This course examines the visual arts from 1750 to 1900, surveying neoclassicism, romanticism, realism, impressionism, and post-impressionism. Intellectual currents, political revolutions, and industrialization will be addressed as they are reflected in art and as they affected its creation.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH355 - Twentieth-Century Art

This course treats the visual arts (painting, sculpture, architecture, and some film) from roughly 1880 to 2000, surveying fauvism, cubism, German expressionism, revolutionary art in Russia, Dadaism, surrealism, abstract expressionism, pop art, and postmodernism. This course seeks to combine the disciplines of intellectual, social, political, and cultural history with the study of art.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH370 - Women and Western Art

This course examines the roles women have played in the visual arts in Western traditions from the ancient world to today, concentrating on the modern period. Focus is on the work of women artists, the commissions of women patrons, the responses of audiences to these works, and the meanings generated by the female form. The course also surveys texts representative of critical trends in scholarship on women artists and gender.

Prerequisite: ARH 101 or 102, or permission of the instructor

ARH400 - Seminar in Art History

A seminar for advanced and well-prepared students, this course concentrates on an individual artist, specific problem, limited time period, or theme and serves as a capstone experience for the art history major. Students produce a significant research paper and present this work to the seminar.

Prerequisite: Permission of the instructor

ARH405 - Internship in Art History

This course is a supervised off-campus experience developed in consultation with the art history faculty.

Prerequisites: Permission of the instructor and department chair

ARH500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director. During the January Intersession term, the independent study option is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies. Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs. The deadline for application is April 15 for fall internships and November 15 for spring.

ART108 - 2-D and 3-D Design

This course is an introduction to the foundations of art. Topics of discussion will center on the principles and elements of design, both two-and three-dimensional, and color theory. Emphasis will be placed on creative problem solving using a variety of media.

ART112 - Beginning Drawing

This course acquaints the beginning student with the tools, the application, and the creative process of basic drawing media. Such areas as landscape, still-life, figure, and non-objective subjects will be considered so that the individual may find a personal statement through line.

ART240 - Ceramic Sculpture

This course presents students with the basic skills of hand-building, modeling, and working from a live model. Students explore a personal expression through observation, investigation, and the study of the human figure and portraiture. Materials used include stoneware, earthenware, slips, glazes, and stains.

ART247 - Special Topics in Studio Art

Study of a special topic in studio art varying by semester.

ART261 - Beginning Ceramics

This course introduces non-majors to the basic skills and techniques of hand-building and wheel-throwing and encourages students to explore a personal artistic vision, primarily through functional and nonfunctional vessels. Students prepare clays, mix glazes, and assist in loading and firing kilns. Lectures, slides, and videos present such topics as natural clays, ancient pottery, and contemporary ceramics.

ART262 - Beginning Sculpture

This course introduces non-majors to basic skills and techniques in sculpture and encourages them to explore a personal artistic vision. Students manipulate plaster, wood, stone, and clay through the sculptural techniques of carving, modeling, and casting.

ART263 - Beginning Painting

This course introduces non-majors to the basic skills and techniques of painting in oil and acrylic and encourages students to explore a personal artistic vision. Students will investigate the elements and principles of design as well as color theory in a progressive series of assignments designed to foster creative thinking.

ART312 - Figure Drawing

This course acquaints the student with drawing the human figure from the skeleton, wooden figurines, and the model. Students explore a variety of methods, applications, and tools in the creative process. Emphasis is placed on individual progression and finding a personal statement.

Prerequisite: ART 112

ART347 - Special Topics in Studio Art

Study of a special topic in studio art varying by semester.

Prerequisite: ART 108 or 112

ART361 - Ceramics Studio I

This course introduces students to the basic skills and techniques of hand-building and wheel-throwing. Building upon prior experience in the studio, students seek to develop a personal artistic vision through functional and nonfunctional vessels. Students prepare clays, mix glazes, and assist in loading and firing kilns. Lectures, slides, and videos present topics such as natural clays, ancient pottery, and contemporary ceramics.

Prerequisite: ART 108, 112, or 261

ART362 - Sculpture Studio I

This course introduces students to the basic language, elements, media, tools, and principles of sculpture and seeks to develop their personal artistic vision. Students manipulate plaster, wood, stone, and clay through the sculptural techniques of carving, modeling, and casting.

Prerequisite: ART 108, 112, or 262

ART363 - Painting Studio I

This course introduces students to the basic skills and techniques of painting in oil and acrylic and encourages them to develop a personal artistic vision in a series of works. Applying the elements and principles of design and color theory, students explore the psychological, emotional, and intellectual qualities of painting in a progressive series of assignments designed to foster creative thinking.

Prerequisite: ART 108 or 263

Recommended: ART 112

ART400 - Principles of Art Education

This course is designed to provide the student with a broad range of skills and knowledge in art education to become a qualified art teacher at the elementary or secondary school levels. This would include methods and materials for teaching practicum and a wide variety of studio experiences for the student to develop confidence in his or her own media of creative expression.

Offered: Fall term

ART405 - Internship in Studio Art

This course is a supervised off-campus experience developed in consultation with the studio art faculty.

Prerequisite: Permission of the instructor and department chair

ART425 - Graphic Design Studio

This course focuses on producing portfolio-quality work based on creative, visual problem solving. Class assignments build upon the theory and technical skills presented in the previous four courses in the graphic design concentration. This course is intended to provide a capstone experience for the concentration in graphic design. This course does not satisfy requirements for either the art or art education major.

Prerequisites: ART 108, ART 112, CIS 271, and CIS 361

ART461 - Ceramics Studio II

This course presents students with advanced skills and techniques in ceramics and continues to develop their personal artistic vision. Considerable emphasis is placed on creating, glazing, and firing a body of work. Students also contribute to a supportive and collaborative studio environment.

Prerequisite: ART 361

ART462 - Sculpture Studio II

This course presents students with advanced skills and techniques in sculpture and continues to develop their personal artistic vision. Considerable emphasis is placed on creating a body of work centered on an idea or theme. Students experiment with a variety of media, engage in independent critical thinking, and contribute to a strong studio dialogue.

Prerequisite: ART 362

ART463 - Painting Studio II

This course presents students with advanced skills and techniques in painting and continues to develop their personal artistic vision. Considerable emphasis is placed on creating a body of work centered on an idea or theme. Students work in oil, acrylic, or experiment with watercolor and contribute to a supportive and collaborative studio environment.

Prerequisite: ART 363

ART500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Biochemistry

Biochemistry Steering Committee:

Professor: Harris, Lee, DeBerry (director)

Associate Professors: Leonard, Matsuno

The biochemistry major is intended to prepare students for advanced study in biochemistry or entry-level positions in biochemical research. This rigorous interdisciplinary major, administered jointly by a steering committee with representation from the biology and chemistry departments, provides a broad background in biochemistry and the molecular processes of life.

MAJOR REQUIREMENTS: A total of 16 courses, including [MTH 151](#), [PHY 101](#) or [107](#), and [102](#) or [108](#); [BIO 121](#), [131](#), [212](#), and [311](#); [CHM 160](#), [170](#), [260](#), and [270](#); [BCH 320](#) (or [CHM 360](#)), [333](#), and [401](#). In addition, elect any 2.5 courses from [NSC 300](#), [BIO 201](#), [202](#), [235](#), [314](#), [CHM 320](#), [350](#), [380](#), [385](#), [420](#), and [BCH 500](#) or [501](#). [BCH 401](#) serves as the capstone for the biochemistry major.

NOTE: a student who is majoring in Biochemistry cannot also major or minor in either Biology or Chemistry.

BCH320 - Biophysical Chemistry

This course applies principles of thermodynamics and chemical kinetics and dynamics to living systems and biopolymers. Topics include homogeneous and heterogeneous equilibria, chemical potential, measurement and theories of reaction rate in biochemical systems, diffusion, osmotic pressure, and sedimentation. The laboratory is designed to develop skills necessary for independent research involving projects of a biophysical nature.

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102; CHM 160, 170, 260, and 270; MTH 151; and PHY 107 and 108 or 101 and 102

BCH333 - Biochemistry

This course is an introduction to the fundamental principles of biochemistry with an emphasis on the structure and function of proteins, carbohydrates, lipids, and nucleic acids in living systems. Metabolic pathways and their regulation are studied in detail. Modern biochemical laboratory techniques are discussed in lecture and employed in the laboratory component of the course.

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102; CHM 160, 170, 260, and 270 (or PHY 317); and MTH 111

BCH401 - Biochemistry Seminar

(1/2 Course)

This course is intended for junior and senior biochemistry majors, but is open to all students who meet the prerequisites. Under the guidance and with the approval of the faculty facilitator, students will present the results of classic and current research published in biochemistry professional journals. Discussion will follow each oral presentation, providing critical evaluation of the article and its implications. The specific theme of the seminar will vary from year to year.

Prerequisites: BIO 101 and 102; CHM 160, 170, 260, and 270; and two of the following: BIO 212, 311, BCH 320, or 333

BCH500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Biological Physics

Professor: Sheers (director)

Associate Professors: Bayline, Leonard

Biological physics is a discipline that focuses on the physics problems presented by biological systems. It uses physics to gain new insights into biological problems. This interdisciplinary major, administered by the physics department, is intended to prepare students for study in areas of the life sciences and health professions that are increasingly technical. Examples include cell biology, neuroscience, and medical research.

MAJOR REQUIREMENTS: A total of 16 courses. Required courses are [MTH 151](#) and [152](#), [BIO 121](#) and [131](#), [CHM 160](#) and [170](#), [BCH 333](#), and [PHY 107](#) (or [101](#)), [108](#) (or [102](#)), [209](#), [234](#), [327](#), [390](#) (1/2 course), [441](#) (1/4 course), and [442](#) (1/4 course). Students completing the biological physics major must also elect one of [PHY 317](#) or [CHM 360](#); one of [PHY 313](#), [322](#), [331](#), or [381](#); one of [BIO 212](#), [311](#), [314](#), [201](#), [NSC 300](#), or any biology course at the 200 level or above approved by the Biological Physics Major Advisory Committee.

CAPSTONE EXPERIENCE: The capstone experience for the biological physics major is the biological physics senior research project, which is completed through [PHY 441](#) and [442](#).

Biology

Professors: DeBerry, Lee

Associate Professors: Bayline (chair), Contreras, Kilgore, March, Shanmuganathan

Assistant Professors: Lai, Weixel

Program Coordinator: McGrain

The Biology program engages students in an exciting and challenging environment where they master biological concepts and develop scientific competencies necessary to be critical thinkers, successful professionals, and responsible citizens.

Faculty embrace a student-centered approach in a nurturing environment that combines personalized advising, innovative curricular and extracurricular experiences, and research opportunities to promote students' personal and professional development.

- Within the liberal arts curriculum, our students forge explicit connections between their education in the life sciences and their chosen careers and pursuits.
- As actively engaged scholars in their field, the Biology faculty lead students into the exploration of the life sciences through innovative and collaborative teaching methods, including classroom discussions, technology-enhanced learning, interdisciplinary collaborations, and laboratory and field experiences.
- Biology students become scientifically proficient by critically reading, discussing, and presenting primary literature; applying current research techniques in class research projects, independent studies, and internships; and developing their responsibility as biologists through outreach and service activities and clubs.
- Biology faculty strive to provide excellent opportunities for students by leading programs in specific fields such as pre-health, neuroscience, and biochemistry; contributing to the liberal arts curriculum; sustaining and developing new programs through grant writing and student recruitment; and providing contemporary and dedicated resources and facilities for biological research.
- Biology faculty mentor students as they navigate their way to success in their academic program and progress towards their professional goals.

We build lifelong relationships among faculty, students, and alumni that extend beyond the College through mentoring, work, and service opportunities. We are a community of scholars who share experiences, triumphs, and struggles.

Available to the Department of Biology for course instruction and student independent study projects is the Abernathy Field Station, located four miles southeast of the campus. The field station is a 54-acre natural area of sugar maple-mixed hardwood forest with a small field, two streams, and an arboretum containing more than 150 different tree species.

MAJOR REQUIREMENTS: The Biology major consists of a minimum of 11.5 courses and is designed to expose students to foundational concepts across the discipline and to allow flexibility in selecting advanced courses to fulfill each student's goal. All students should complete three foundational courses in Biology by the end of their third year. In addition, students take six upper-level biology electives and a primary literature review course. Majors must demonstrate mathematical proficiency at the pre-calculus level and complete a statistics course (MTH 125 or BIO/MTH 245) and also complete CHM 160 Organic Chemistry as a prerequisite or corequisite to BIO 121. The Biology Capstone consists of a research experience; additionally, a 30-hour Biology Community Engagement requirement must be completed with biology-related service activities that have been pre-approved by the department, such as volunteering in a hospital or cleaning local rivers. Specific requirements for the major are listed below:

- Foundations in biology: BIO 111, BIO 121, and BIO 131
- Organic chemistry: CHM 160 (a prerequisite or corequisite to BIO 121)
- Upper-level biology electives:
 - Three 200-level BIO courses with laboratories
 - Two 300-level BIO courses, which can include NSC 300 or BCH 333
 - One additional BIO course at the 200-level or above. This may be fulfilled by a BIO intersession course; or BIO 245; or BIO 412/500/501.
 - Quantitative proficiency: Math placement score of 19 or higher, or MTH 111; and MTH 125 or BIO/MTH 245
 - Primary literature review course: BIO 401(1/2 course) or BCH 401(1/2 course) or NSC 400
 - Biology Capstone: Independent research experience in biology, fulfilled by completing BIO 412 or BIO 500/501 or an approved summer research internship followed by an on-campus presentation.
 - Biological Community Engagement: 30 hours of biologically-related service activity (or activities) approved by the department.

MINOR REQUIREMENTS: The Biology minor consists of 7 courses. All students take the three foundational courses in Biology: BIO 111, BIO 121, and BIO 131. In addition, students take three upper-level biology electives. Minors must also complete CHM 160 Organic Chemistry I as a prerequisite or corequisite to BIO 121. Specific requirements for the minor are listed below:

- Foundations in biology: BIO 111, BIO 121, and BIO 131
- Organic chemistry: CHM 160 (a prerequisite or corequisite to BIO 121)
- Upper-level biology electives:
 - One 200-level BIO course with laboratory
 - One 300-level BIO course; or NSC 300; or BCH 333

Note: No more than two courses used to satisfy the requirements for another course of study may be used to satisfy the Biology Minor. No more than one Intersession BIO course may be used to satisfy the Biology Minor.

TEACHER CERTIFICATION: Students may seek Secondary Education (grades 7-12) Certification in Biology by completing the Biology major, the required Biology content area requirements, and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification. The biology content area requirements are: BIO 201, 212, 235, 320, and one from 305 or 306; at least one from each of the following areas: general chemistry, physics, mathematics, and earth and space science (courses that would fulfill this requirement include CHM 160, 170, and 260; PHY 101 or 107; MTH 125 or MTH 245; and any ESS course). Also, the student must serve at least one term as a lab assistant prior to student teaching.

Students may seek Upper Elementary Education Certification (4-8) in Science in one of two ways: Option 1: Complete the Child Development and Education major and the Biology minor; Option 2: Complete the Biology major, the required Biology content area requirements, and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification.

Before being formally admitted to either program, students must satisfy – by the end of the sophomore year – the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

AP Policy: Students scoring a 4 or 5 on the AP Biology test will receive credit for BIO 100.

BCH333 - Biochemistry (BCH)

This course is an introduction to the fundamental principles of biochemistry with an emphasis on the structure and function of proteins, carbohydrates, lipids, and nucleic acids in living systems. Metabolic pathways and their regulation are studied in detail. Modern biochemical laboratory techniques are discussed in lecture and employed in the laboratory component of the course.

Three hours lecture, three hours lab

Prerequisites: BIO 101 and 102; CHM 160, 170, 260, and 270 (or PHY 317); and MTH 111

BIO100 - Introduction to Biology

An introductory laboratory biology course for non-science majors. In any one session, the content will focus on a particular topic that illustrates the basic concepts of biology. Examples of past topics include environmental issues, fitness and exercise, disease and malignancy, and evolutionary biology. Where possible, items from the current popular press will be used as a significant resource.

Offered: Fall and/or Spring term(s)

Three hours lecture, three hours lab

BIO111 - Foundations in Biology: Evolution and Biological Diversity

In this course, students examine biological evolution by natural selection and the resulting structure and function of organisms. Students also examine biological processes across scales from populations to biomes. Through small collaborative projects, students will engage in the scientific process from the generation of observations and hypotheses to the communication of results to both scientific and lay audiences. The effects of humans on biodiversity and the role of science in society are emphasized through examination of local case studies. This course includes a lab period.

Prerequisites: None

BIO114 - Topics in Biology

(For non-majors)

Course offerings in various areas of current biological interest (e.g., genetics, evolution and society, horticulture) designed to amplify the life science background of the educated individual. Consult the preregistration bulletin for the topic being offered.

Offered: Varies

Three hours lecture

BIO121 - Foundations in Biology: Cell and Molecular Biology

In this course, students will be introduced to the fundamental concepts of cell biology and molecular biology. Biological organization from macromolecules to membranes to organelles to cells will be examined in the context of structure-function relationships and biological evolution. The storage and flow of genetic information, and transformations of energy and matter in processes such as cellular respiration, will also be explored. Small collaborative research projects will engage students in the scientific process, from the generation of hypotheses to the communication of results to diverse audiences. The importance of understanding cell and molecular biology as the basis for biological research and medicine will be emphasized through use of case studies and primary research articles. This course includes a lab period.

Prerequisite/Corequisite: Organic Chemistry (CHM 160)

BIO131 - Foundations in Biology: Organismal Biology

This course is designed to address concepts in organismal biology from single celled prokaryotes to multicellular eukaryotic plants and animals. The evolutionary context of organismal diversity will be explored as well as the relationship of organisms with their environments. Special emphasis is placed upon interrelationships among the structural levels, and topics discussed are chosen to illustrate the correlation of structural and functional properties at each level. The process of scientific inquiry will be practiced in the laboratory via collaborative research projects that explore structure function relationships in model organisms culminating in a scientific manuscript. Students will also explore the ethical use of organisms in the laboratory setting. This course includes a lab period.

Prerequisite: BIO 121

BIO198 - Internship

The faculty has established internships so that students might begin to apply their talents to the world outside the classroom and obtain a taste of professional life in the political, environmental, social, educational, or technical spheres. The central component of the internship is an off-campus, participatory experience, under the guidance and supervision of a qualified practitioner in the field. The experience must involve academic content. Time spent in the field may be reduced by the amount of time necessary to complete academic requirements or materials for evaluation. The faculty advisor of the internship or the chair of the department offering the internship may require additional academic requirements for the student to complete, where it seems appropriate. Internships are offered primarily during Intersession, but can also be taken during the regular terms and in the summer. They are graded satisfactory/unsatisfactory. A student may take no more than two internships for credit. Both may be taken in the same department. A student must have an overall grade point average of 2.50 or higher (4.00 scale) to take an internship, and a student on academic probation may not take an internship. If a student wishes to pursue course credit for a summer internship, it is considered a summer course and is subject to the summer session course fee.

BIO201 - Genetics

An introduction to Mendelian genetics, molecular genetics, and population genetics, discussions during this course will include problem solving, fundamentals of inheritance, linkage, chromosomal aberrations, molecular control at the gene level, gene expression, mutation, gene manipulations, polygenic inheritance, and analysis of population variation. Laboratory investigations will provide students with the opportunity to use various biological materials and organisms to collect and mathematically analyze genetic data to promote insight as to the way genetics and geneticists work.

Offered: Spring term

Three hours lecture, three, hours lab

Prerequisites: BIO 121

BIO205 - Invertebrate Zoology

This course provides students with an up-close introduction to the wonderful world of invertebrates. Students will learn to collect and identify a diverse array of invertebrate taxa with an emphasis on insects. Through lecture and discussion students will survey invertebrate phyla while focusing on their natural history and the ecosystem services that they provide.

Offered: Fall term (not every year)

Three hours lecture, three hours lab

Prerequisite: BIO 111

BIO209 - Vertebrate Anatomy

Lectures on vertebrate morphology are structured around the themes of evolution and ecology. The various vertebrate groups are discussed, from fish to mammals. In laboratory, we will perform thorough dissections of the shark and the cat.

Offered: Spring term

Three hours lecture, three hours lab

Prerequisites: BIO 111 or 131

BIO212 - Cell Biology

This course examines the internal functioning of cells and the interactions involved in multicellular systems. Topics include structure and function of biological macromolecules, membrane transport, organelle function, signal transduction systems, extracellular matrix interactions, cytoskeletal elements, cell motility, cell cycle control, protein sorting and distribution, apoptosis, cancer, and stem cells. Laboratory activities involve the culture of different types of eukaryotic cells and utilize molecular techniques in the study of cell structure and function. The second half of the laboratory is devoted to group projects.

Offered: Fall term

Three hours lecture, three hours lab

Prerequisites: BIO 121

BIO215 - Microbiology

This course is designed to expose students to many different aspects of microbiology to allow them to glimpse the excitement of a dynamic scientific field. Emphasis in this course is on bacteria, viruses, immune response, microbial genomes, and applied

microbiology. The laboratory is designed to prepare students to function in a clinical setting, while dealing mostly with non-pathogenic bacteria.

Offered: Spring term

Three hours lecture, three hours lab

Prerequisites: BIO 121 and (BIO 111 or 131)

BIO219 - Field Biology

Students will develop their knowledge of natural history and learn skills for identifying common plants, birds, and mammals of Southwestern Pennsylvania (SW PA). Students will also learn methods for assessing species diversity and the distribution and abundance of individual plants and animals, and become familiar with local and regional biological conservation issues.

Offered: Fall term

Three hours lecture, three hours lab

Prerequisites: BIO 111

BIO235 - Animal Physiology

This course is a study of the major physiological phenomena as illustrated by members of the animal kingdom. Although mammalian physiology will be an important component of the course, the physiology of other vertebrates and invertebrates will also be considered to produce a broad comparative investigation. Lecture and laboratory will emphasize heart and muscle physiology, control and distribution of body fluids, hormonal regulation, sensory biology, and nervous function.

Offered: Fall term

Three hours lecture, three hours lab

Prerequisites: BIO 121 and 131

BIO245 - Applied Statistics for the Life Sciences

This course is an introduction to statistics and experimental design as used in the life sciences. Emphasis will be placed on the practical use of statistical tests. The course will examine the more commonly used parametric and non-parametric tests. By the end of this course, students will be able to determine when, why, where, and how to use statistics. Students will become well versed with using computers to examine data, run and interpret statistical tests, and formally present final results. This course assumes no prior statistical background and will be well suited for students who intend to pursue graduate study in the life sciences. This is the same course as MTH 245.

Offered: Spring Term

Three Hours Lecture

Course is not available to first-year students or students who have taken MTH 125.

Prerequisite: BIO 111 or BIO 121

BIO247 - Special Topics in Biology

This special topics course provides an opportunity for students to focus on a particular area of biology that is not currently offered as a catalog course at the 200 level. At this level, the course includes a laboratory component. Successful completion of this course would count toward the Biology Major as an elective but would not count toward the Biology Minor.

Prerequisites: BIO 101 and 102

BIO250 - Plant Diversity

In this course, students explore the morphologic and phylogenetic diversity of plants from nonvascular liverworts and mosses to the angiosperms. The lectures, labs, and field trips focus on the evolution of plants in their competition for limited resources and attempts to maximize reproduction. Students will use plants from the region and throughout the world to illustrate diversity in form and function, as well as the relationships between and among plant species and their environment. Human reliance on plants for survival will be a theme in the course. This course includes a lab period.

Prerequisite: BIO 111

BIO288 - Conservation Biology

This course will be an introduction to Conservation Biology and will examine 1) the evolution of this scientific discipline, 2) the basic theory and methodologies used by Conservation Biologists to assess biodiversity loss over multiple spatial and temporal scales, and 3) the current social attitudes and governmental policies concerning the loss of biodiversity in the US and abroad. The laboratory portion of the course will incorporate case studies, current methodologies used in the field and laboratory (including GIS and GPS), and individual student research projects.

Offered: Spring Term (alternate years)

Three hours lecture, three hours lab

Prerequisites: BIO 111 or EVS 100 or EVS 101

BIO305 - Developmental Biology

This course will provide an introduction to the major events and mechanisms of organismal development. Topics will include classical embryology such as cleavage, gastrulation, and organogenesis. Additionally, the evolutionary conservation of molecular mechanisms regulating developmental events will be emphasized. The laboratory will include anatomical, physiological, and genetic approaches to the study of developmental biology.

Offered: Fall term

Three hours lecture, three hours lab

Prerequisites: BIO 131 and (BIO 201 or 212 or 235)

BIO306 - Animal Behavior

This course will examine the evolutionary processes that shape the behavior of animals. Course topics include the role of evolution in shaping behaviors and a survey of methods for observing, quantifying, and evaluating behavior. We will also examine the effects of behavior on the survival and persistence of individuals and populations.

Offered: Fall term

Three hours lecture, three hours lab

Prerequisites: BIO 111 and (any 200 level BIO, EVS, NSC, or PSY course)

BIO311 - Molecular Biology

This course is intended to introduce students to the concepts of molecular biology and to some of the important insights that have come from molecular approaches. Lectures will focus on how genetic information is organized, expressed, maintained, replicated, and on methods in molecular biology and genomics. Laboratories will include experiments intended to introduce students to the techniques used by molecular biologists, including analysis of DNA structure, cloning, identification, PCR, and an introduction to bioinformatics.

Offered: Fall term

Two hours lecture, three hours lab

Prerequisites: BIO 121 and 131 and (BIO 201 or 212 or 215 or BCH 333)

BIO314 - Immunology

Immunology is the study of the immune system -- both its helpful and harmful faces. This system is made up of a multitude of factors working together to protect us from the daily onslaught of would-be attackers, but at the same time it can turn on oneself, as seen in allergies or autoimmune disease. Today, immunology is bridging many areas of life. Immunological principles are being applied to clinical, industrial, and research realms. This course allows the student to glimpse some of the excitement present in this dynamic field of biology.

Offered: Alternating Fall

Two hours lecture, three hours lab

Prerequisites: BIO 121 and (BIO 201 or 212 or 215 or 235 or BCH 333)

BIO317 - Genomics

This course is an introduction to Genomics. Students will learn about the structure of genomes, whole genome biology and genome evolution. Students will also learn about new and rapidly changing technologies that explore genome functions, such as genome-wide RNA expression by microarray and direct sequencing. We will discuss the relatively brief history of this field, and

how the technological developments of recent years are changing the way we look at genomes and organisms, including ethical and medical issues raised by the possibility of individualized genomics.

In the laboratory section, students will perform microarray experiments to look at RNA changes in different environmental conditions, and use DNA barcoding to look at species identification. Students will explore bioinformatics databases and learn how to extract and analyze genomic information, and they will apply the skills learned to data generated from their own microarray experiments.

Offered: Alternating Spring

Prerequisites: BIO 111 and 121 and 131 and (BIO 201 or 212 or 215 or BCH 333)

BIO318 - Medical Microbiology

This course will focus on mechanisms by which microbes cause diseases and ways in which hosts respond and fight the infectious agents. Structure to function relationship of pathogenic determinants in various bacterial, viral, fungal and protozoan pathogens will be described. Evolution of pathogens and emerging infectious diseases, response of pathogens to specific cues in the environment, and virulence strategies and their regulatory mechanisms will be analyzed. Clinical case studies and primary research articles will be discussed with special emphasis on understanding the principle and application of specific techniques that are used to study pathogens and pathogenesis. This course includes a lab period.

Offered: Alternating Fall

Prerequisites: BIO 121 and (BIO 201 or 212 or 215 or 235 or BCH 333)

BIO320 - Ecology

This course is a study of the interrelations between organisms and the integration of organisms with their natural environments. Aspects of energy flow, nutrient cycling, population growth and regulation, and community organization and dynamics are considered in the context of the ecosystem. Laboratories include field work and emphasize techniques for collecting data and testing hypotheses.

Offered: Spring term (not every year)

Three hours lecture, three hours lab

Prerequisites: (BIO 111 and any 200 level BIO course) or (EVS 101 and any 200 level EVS course)

BIO350 - Environmental Plant Physiology

In this course, students learn how plants function in response to their changing environment through readings from key texts and primary literature, concept-driven lectures, exploratory laboratories, and an experimental research project using modern instrumentation. Students integrate principles from biology, chemistry, and physics to describe maintenance of homeostasis and response to shifting environmental conditions through data-driven exercises. The course focuses on identifying, describing, and measuring key physiological processes, such as water relations, carbon exchange, energy balance, and nutrient partitioning, in varying environmental conditions. This course includes a lab period.

Offered: Alternating Spring

Prerequisites: BIO 111 and 121 and 131 and 250

BIO351 - Virology

This course will focus on the fundamental mechanisms that are adopted by all viruses to replicate, survive and infect a host cell. The diversity of various classes of viruses will be studied. In particular the molecular basis of alternative reproductive cycles from

DNA and RNA viruses will be explored. The interactions of viruses with their hosts, the evolution of viruses, as well as disease mechanism and how to combat viral diseases will be discussed through case studies and peer-reviewed articles. This course includes a lab period.

Offered: Alternating Spring

Prerequisites: BIO 111 and 121 and 131 and (BIO 201 or 212 or 215 or BCH 333)

BIO401 - Biology Seminar

In this course, students read, discuss, analyze, and critically evaluate information obtained from peer-reviewed primary research articles in the biological sciences. Techniques for reading primary research articles, understanding the experimental design, and evaluating the quality of the research will be emphasized. Scientific communication skills such as giving an effective oral presentation and discussing scientific findings will also be promoted. This discussion- and presentation- based seminar course will focus on a specific biology topic. Topics under discussion may vary from year to year. Students may take up to two BIO 401 courses, if the topic of the seminar differs. However, only one BIO 401 course can be used to apply to their major requirements.

(1/2 course; 2 credits)

Prerequisites: BIO 111 and 121 and 131, others may be determined by instructor

BIO412 - Experimental Biology

The course is designed to acquaint students with current research topics in experimental biology. In any one session, the content will be restricted to one or two particular fields of biology, with possible variation in the subject matter from year to year.

Offered: Spring and/or Fall term(s)

Two three-hour lecture/lab sessions

Prerequisites: BIO 111 and 121 and 131, others may be determined by instructor

BIO500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Prerequisites: BIO 111, 121 and 131

NSC210 - Introduction to Neuroscience (NSC)

This course is intended to expose students to the world of the neuroscientist. Students will learn the subject matter of neuroscience and gain insight into the interdisciplinary nature of the field, bridging psychology and biology, as well as topics in physics and chemistry. To this end, we will examine various topics from the perspectives of these different disciplines. Examples of topics may include: cognition, motor systems, emotion, sensory systems, development, consciousness, evolution, and pharmacology. Each module will include lecture and background information, a discussion on a specific research question within the topic, and some type of demonstration or applied experience.

Offered Intersession

Prerequisite: One of the following courses: BIO 101 or 102, PSY 101, CHM 160, or PHY 101 or 107

NSC300 - Experimental Neuroscience (NSC)

This course will combine lectures, laboratory exercises, discussions, and independent projects to allow students to explore topics across the breadth of the field of neuroscience. These topics will include neuroanatomy, neurophysiology, synaptic transmission, anatomy and physiology of sensory and motor systems, behavioral and cognitive neuroscience, and neural development. In the laboratory, students will learn a wide variety of experimental techniques focused on anatomical techniques, physiological techniques, behavioral techniques, and computational techniques. Through these exercises, the students will learn to design, implement, and analyze experiments. Scientific writing will be emphasized. Finally, students will learn to critically read and evaluate research as presented in the primary literature through class presentations and discussions.

Offered fall term

Prerequisite: BIO 102 or NSC 210

Business Administration

Associate Professors: Gidas, Liberatore (coordinator), Litchfield

Assistant Professors: Kuo, Park

Business administration provides students with a base of knowledge in the core business disciplines of economics, accounting, finance, marketing, quantitative analysis, and management--disciplines essential to a career in management. Students are exposed to current business issues and practices through classroom visits by active professionals and through opportunities for field trips, internships, and independent studies with organizations.

In addition to a major and minor in business, the department offers an emphasis in entrepreneurship for business majors. Additionally, in conjunction with the Psychology Department the department offers an emphasis in human resource management for both business and psychology majors.

MAJOR REQUIREMENTS: ACC 211; ECN 101 and 102; MTH 125 and MTH 131 or 151; BUS 201, 301, 307, 315, 341 and 406, and two additional 300-level or 400-level business (BUS) courses.

The department requires that all business administration majors complete the following courses at Washington & Jefferson College: ACC 211; MTH 125 and MTH 131 or 151; BUS 201, 301, 307, 315, 341 and 406. A student admitted to the College after having completed any of these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at Washington & Jefferson.

MINOR REQUIREMENTS: ACC 211; ECN 101 and 102; BUS 201, 301 and 307. and one additional 300-level business (BUS) course.

The department requires that all business administration minors complete the following courses at Washington & Jefferson College: ACC 211; BUS 201, 301 and 307. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of these required courses to his or her minor at Washington & Jefferson.

EMPHASIS IN ENTREPRENEURSHIP: Students majoring in business administration may complete an optional emphasis in entrepreneurship. In addition to the requirements of the business major, the emphasis requires the following courses: BUS 381, 382 and an additional designated 300-level Business topics course, per approval of the Department Chair. These courses may also be used to satisfy the elective business (BUS) courses required by the major.

NOTES:

Students majoring or minoring in business administration may not also major or minor in accounting, nor major in international business. Students majoring in business administration may obtain a minor in economics or financial economics, but not a double major in economics or financial economics. Students majoring in business administration may not complete a minor or concentration in entrepreneurship, since they may complete the optional emphasis in entrepreneurship allied with the major.

BUS201 - Entrepreneurship, Business, and Society

This course provides a conceptual foundation to students aiming to study entrepreneurship, business, and international business. Specifically, this course examines processes of venture creation, management of existing firms, and the interactions between business organizations and their local and global contexts in economic, social, and ethical terms.

Prerequisites: none

BUS301 - Organizational Behavior and Management Principles

A course designed to introduce the student to the origins of management and the contributory bodies of knowledge that have been emphasized. The various functions and areas of management are stressed with special emphasis being placed on decision making.

Prerequisite: ECN 101

BUS307 - Principles of Marketing

A study of motivation and behavior of the individual consumer, the industrial purchaser, the government, and institutional buyer, this course studies pricing, product planning and promotion, market research, and analysis.

Prerequisite: ECN 101 and BUS 201

BUS315 - Principles of Operations Management

As an introduction to management science, this is a course that will focus on tools and techniques used to analyze and solve management decision problems. Application and interpretation of methodology in case studies of transportation, assignment, project planning, and inventory problems. Computers used in analysis of these problems and in simulating and forecasting.

Prerequisites: ECN 101, MTH 125, MTH 131 or 151, and BUS 201

BUS317 - Operations Research Methods

Operations Research describes the systematic application of a wide variety of quantitative methodologies with a view towards arriving at optimal or near optimal solutions related to the performance and/or efficiency of complex systems. This course is designed as a follow-up to BUS 315, Operations Management, and will present a wide range of modeling techniques including physical, analogic, simulation, and the mathematical modeling techniques of genetic algorithms, tabu search, evolutionary programming and simulated annealing. Particular attention will be paid to the optimum seeking and heuristic techniques of linear programming and discrete event simulation respectively with a view towards providing students a working knowledge of these methods and the software platforms designed for them.

Prerequisites: BUS 315

BUS319 - Business Law

A study of the nature, formation, and application of our legal system as a means to social, political, and economic change, this course emphasizes legislation and judicial decisions that have led to a regulated economy and which, at the same time, provide an overview of the major areas of basic substantive law.

Prerequisite: ECN 101

BUS320 - Business Law II

A study of advanced legal subjects, primarily in the area of administrative and constitutional law, as pertain to the business environment and including the legal aspects of the various forms of business organizations and utilizing examination of statutes, court cases, and ethical considerations in application of the law.

Prerequisite: ECN 101, BUS 319

BUS341 - Principles of Finance

This course is an introduction to the three primary areas of finance - financial markets and institutions, investments, and managerial (corporate) finance. Basic principles of finance are introduced and applied to the study of financial market operations, the valuation and pricing of securities and other financial assets, and corporate decision making including capital budgeting analysis. This course is the same as ECN 341 and FIN 341.

Prerequisites: ECN 102, ACC 211, and MTH 125

BUS342 - Investments and Portfolio Theory

This course introduces the theory and related applications of the field of investments, including portfolio theory and management. Investment opportunities and strategies related to equity, fixed income, and derivative securities are discussed in depth. Additionally, the process of creating, maintaining, and evaluating the performance of professional investment portfolios is investigated. This is the same course as FIN 342.

Prerequisites: BUS/FIN/ECN 341

BUS344 - Managerial Finance and Accounting

An introduction to the financial management of corporate business organizations including investing, financing, and operating decisions within the context of financial planning and management control activities. Includes theory of corporate finance as well as analytical tools associated with the discipline of managerial accounting. This course is the same as FIN 344 and ACC 344.

Prerequisites: BUS/FIN/ECN 341

BUS350 - Human Resource Management

This course includes the study of personnel management and industrial relations, unions and labor legislation, collective bargaining, recruitment, interviewing techniques, testing, training, employee benefits, and other employee relations problems and ideas.

Prerequisite: ECN 101

BUS361 - International Business Environment

An introduction to the environment of global business operations including an examination of international trade theory, international monetary and financial systems, and the role of political and legal systems, as well as of culture in shaping global business activity.

Prerequisite: ECN 102

BUS381 - New Venture Finance and Law

This course addresses finance and law as applied to new entrepreneurial ventures. The primary focus of the course is on financing new firms where access to traditional sources of business funding such as bank loans or traditional stock issues are impossible and funding must therefore often be arranged in the context of equity stakes. Forms of business organizations such as corporations and limited liability companies, contractual arrangements such as licenses and franchises, and other legal considerations are also discussed.

Prerequisites: BUS 201

BUS382 - Business Plan Development

Development of a viable and convincing business plan is often critical to the early ability of new ventures to attract resources and organize for success. This course will focus on the development of business plans in new organizations and focus on providing students with the skills to develop and evaluate such plans.

Prerequisites: BUS 201, BUS 381

BUS406 - Strategic Management

This course is a capstone of previous departmental and other business-related courses and is designed to integrate the several skills previously learned into a concept of general management. Emphasis will be on policy and strategy issues. In addition, by means of extensive reading assignments and case study analysis, it seeks to broaden the students' knowledge and awareness of the emerging issues and concerns that affect our system of capitalist enterprise.

Prerequisites: BUS 301, 307, 315, and 341

BUS451 - International Management

This seminar covers the substantive differences between domestic and international dimensions of management. Topics covered include internationalization of the firm, industry globalization, international strategy framework, strategy implementation requirements, management of relationships with nation-states, cross-cultural management techniques, international human resources management, and labor relations as well as the conducting of international business research.

Prerequisites: BUS 300 (or 302), BUS 301, and ECN 101 and 102

BUS457 - International Marketing

This seminar covers the substantive differences between domestic and international marketing concepts and strategies with particular emphasis on organizational philosophies, international segmentation, and the influence of culture on the development

of the marketing plan. Critical issues dealing with standardization versus adaptation strategies, counterfeiting and the protection of industrial property, distribution alliances, and export marketing are discussed, as is the conducting of international market research.

Prerequisites: BUS 307 and ECN 101 and 102

BUS497 - Advanced Topics in Business

Topics in courses are occasionally offered to broaden or enhance the business curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

Prerequisites: Will vary according to topic

BUS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Prerequisites: Will vary according to topic

Chemistry

Professor: Brletic, Harris, Iuliucci

Associate Professors: J. Bayline, Leonard (chair), Matsuno, Malinak

Assistant Professor: Polvani

The goals of the Department of Chemistry are to instill in all students an appreciation and understanding of chemistry and the methods of scientific inquiry and to develop the appropriate skills, knowledge, and personal qualities that prepare citizens to understand chemically oriented issues and that prepare students for careers in chemistry and its allied fields.

MAJOR REQUIREMENTS: A minimum of nine CHM courses, including 160 , 170 , 260 , 270 , 300 (or BCH 333), 360 , 365 , 370 , and 380 or 385 plus electives numbering above 300, PHY 101 or 107 , PHY 102 or 108 , and MTH 151 and MTH 152 .

Students may elect a chemistry major approved by the American Chemical Society by completing CHM 160, 170, 260, 270, 300 (or BCH 333), 360, 365, 370, 380, 385, 460, 470, 500, PHY 101 or 107, PHY 102 or 108, MTH 151, 152, and one from MTH 208, 217, or 308.

The chemistry department also contributes to the biochemistry major. Please refer to the catalog listing for further information on this course of study.

MINOR REQUIREMENTS: CHM 160 , 260 , 270 , the equivalent of two CHM courses at the 300 level or higher, and the equivalent of one additional CHM course numbering 170 or above. Either CHM 300 or BCH 333 , but not both, can be used to satisfy the minor requirements.

CAPSTONE EXPERIENCE: The capstone experience for the chemistry major will consist of two parts. One will be the successful completion of CHM 365: Chemistry Seminar with a grade of C- or better. In addition, all chemistry majors will take a standardized, comprehensive exam during their senior year. The exam will give students the opportunity to apply knowledge from their accumulated coursework and will allow the department to assess its instructional efforts.

AP Policy: Students scoring a 4 or 5 on the AP Chemistry test will receive credit for CHM 100.

TEACHER CERTIFICATION: Students may seek Secondary Education (7-12) Certification in Chemistry by completing the Chemistry major and an Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

CHM101 - Chemistry of the Environment

This course teaches the fundamental concepts of chemistry as they apply to the world around us. The impact of chemistry in the context of social, political, and economic issues is emphasized. Through the study of environmental topics such as air quality, water quality, and alternative energy sources, students develop analytical skills and the ability to assess risks and benefits. They also discover the theoretical and practical significance of chemistry, and directly experience chemical phenomena through laboratory experimentation. The course is designed for non-science majors and will satisfy the laboratory science requirement.

Three hours lecture, three hours lab

CHM102 - Chemistry of Brewing

This course introduces the fundamental concepts of chemistry and biochemistry as they apply to brewing, a process that dates back to the ancient Sumerians. Topics will include the history of brewing, brewing ingredients, the brewing process, beer styles, and evaluating beers. Students will apply their knowledge through experimentation involving malting, mashing, fermentation, and quality control. The class will also focus on a key chemical component, ethanol - what it is, sources and uses, fate in the body, and social implications of abuse. This course will satisfy the laboratory science requirement.

Three hours lecture, three hours lab

CHM147 - Topics in Chemistry

(Half to full course as determined by instructor)

The topics will vary from offering to offering as determined by faculty interest. Topics may include the chemistry of beer and brewing, nutritional chemistry or food chemistry. The course is designed to provide students with the fundamental chemical principles as applied to everyday life.

Prerequisites: Determined by instructor

CHM160 - Organic Chemistry - Structure and Fundamentals

This course introduces general chemistry concepts and is the first course in a systematic study of the standard nomenclature, reactions, preparations, and characteristic properties of the principal classes of carbon compounds. Emphasis will be placed on developing an understanding of stoichiometry; the electronic structure of atoms and molecules; conformation, configuration, and functional groups as related to a deeper appreciation of molecular structure; and the use of reaction mechanism to predict products and design syntheses. Examples from biochemistry will be included throughout the course. Laboratory experiments will introduce students to standard techniques (extraction, recrystallization, distillation, gas chromatography, stoichiometric calculation, and reporting of yields) as well as molecular modeling computer software. Organic compounds will be synthesized and characterized.

Three hours lecture, three hours lab

CHM170 - Organic Chemistry - Reactions and Synthesis

This course will build upon the concepts introduced in CHM 160. A number of standard organic compounds, reactions, and mechanisms will be addressed including aromatic systems, substitution and elimination reactions, and carbonyl chemistry. Laboratory work, designed to reinforce and complement concepts from lecture, will include a number of syntheses followed by product characterization by spectroscopy and/or chromatography.

Three hours lecture, three hours lab

Prerequisite: CHM 160 (with a grade of C- or better)

CHM260 - Introduction to Inorganic Chemistry

This course will explore many of the fundamental models and theories that chemists employ in their attempts to understand the physical world, with an emphasis on inorganic systems. Topics will include introductory quantum mechanics; the electronic and nuclear structures of the atom, including nuclear chemistry; bonding theory of covalent molecules and inorganic complexes; electronic and magnetic properties of inorganic complexes; models describing the solid, liquid and gas states; kinetics; equilibria involving gases and inorganic complexes; thermodynamics; and electro-chemistry. The laboratory work is designed to reinforce concepts from the course and to introduce several laboratory techniques.

Three hours lecture, three hours lab

Prerequisites: CHM 160 and MTH 111 (with a grade of C- or better in each)

CHM270 - Analytical Chemistry

This course in chemical analysis focuses on the fundamental principles of quantitative analysis and chemical equilibrium. Topics

include solution equilibria (acid-base, precipitation, complexation, and oxidation-reduction), acid-base theory, statistical treatment of data, error analysis, sampling and design of experiments, separations, and spectroscopic methods. The laboratory involves gravimetric, titrimetric, and colorimetric analyses along with selected separation techniques and spectroscopic methods as applied to problems in biochemistry, environmental science, and forensic chemistry.

Three hours lecture, three hours lab

Prerequisites: CHM 160, 260, and MTH 111 (with a grade of C- or better in each)

CHM300 - Biological Chemistry

This lecture-only course is designed to introduce the major concepts of biological chemistry. A treatment of the structure of major biomolecules and the architecture of biological cells will lay a foundation for discussion of various aspects of metabolism including cellular respiration, biosynthesis, and regulation of metabolic cycles. Aspects of biological equilibria, thermodynamics, and enzyme mechanisms also will be considered.

Three hours lecture

Prerequisites: CHM 160, 170, 260, 270, and MTH 111

CHM320 - Intermediate Organic Chemistry

This course will bridge the gap between the Introductory and Advanced Organic Chemistry courses through a comparison of classical synthetic methods to approaches employed in the modern literature. Additional reaction paradigms, such as radical and organometallic, will be introduced. Organic structure determination using advanced spectroscopic methods will also be discussed.

Three hours lecture

Prerequisites: CHM 160, 170, 260, 270, and MTH 111

CHM347 - Special Topics in Chemistry

(Half to full course as determined by instructor)

The topics will vary from offering to offering as warranted by student and faculty interest. Topics may include nuclear chemistry, polymer chemistry, industrial chemistry, environmental chemistry, forensics, geochemistry, materials science, the history of chemistry, or food chemistry.

Prerequisites: Determined by instructor

CHM350 - Bio-organic Chemistry

(1/2 Course)

This lecture-only course will focus on the organic chemistry of proteins, nucleic acids, and carbohydrates. Specific topics to be addressed may include synthesis of proteins and nucleic acids, enzyme and coenzyme mechanisms, and the biological roles of carbohydrates.

Two hours lecture

Prerequisites: CHM 160, 170, 260, 270, and MTH 111

CHM360 - Thermodynamics and Kinetics

This course in physical chemistry has as its focus thermodynamics and kinetics especially as related to chemical and engineering practices. Topics covered include kinetic molecular theory of gases, properties of ideal and real gases, transport phenomena, rate laws and reaction mechanisms, theories and measurement of reaction rate, the laws of thermodynamics, thermochemistry, spontaneity and equilibrium, systems of variable composition, phase equilibria, phase diagrams, real and ideal solutions, and properties of solutions. The laboratory is designed to develop skills necessary for independent research involving projects of a physical nature.

Three hours lecture, three hours lab

Prerequisites: CHM 160, 260, and 270; MTH 151 and 152; and PHY 101 or 107 as a pre- or co-requisite

CHM365 - Chemistry Seminar

(1/2 Course)

Upon completion of the course, students will be able to effectively communicate and discuss information obtained from the

primary chemical literature and scientific presentations. In addition to attending seminars outside of class, students will select and present the results of current research published in professional journals. Discussion will follow each oral presentation, providing a critical evaluation of the article and its implications. Techniques for giving an effective oral presentation in the sciences, searching the primary literature, and becoming an active listener will also be provided.

Weekly seminar

Prerequisites: CHM 160, 170, 260, and 270; MTH 151 and 152; PHY 101 or 107, PHY 102 or 108; and either CHM 360 or 370 as a pre- or co-requisite.

CHM370 - Quantum Mechanics

The goal of this course is to emphasize the physical principles of chemistry from the molecular level. Since all materials are really a collection of atoms and/or molecules, one can achieve an understanding of their macroscopic properties by studying the laws that govern subatomic particles, atoms, and molecules. To do so, a fundamental understanding of quantum mechanical principles, the laws that relate to atomic and subatomic particles, as well as statistical mechanics, the laws that describe an ensemble of particles, must be developed. All topics of quantum chemistry will be covered, i.e. atomic structure, molecular structure, and spectroscopy. The fundamental principles of statistical mechanics such as the partition function, the Boltzmann distribution, and the canonical ensemble will be discussed. Using these results, thermodynamic properties will be predicted in order to make a correspondence between the microscopic and macroscopic world. Computer modeling will be used to assist in the meaning of these abstract principles and to help the student overcome the mathematical complexities associated with physical chemistry. The laboratory component of this course will focus primarily on computational chemistry techniques and the analysis of spectroscopic data.

Three hours lecture, three hours lab

Prerequisites: CHM 160, 260, and 270; MTH 151 and 152; and PHY 101 or 107; and PHY 102 or 108 as a pre- or co-requisite.

CHM380 - Synthesis Laboratory

(1/2 Course)

This laboratory-only course is designed to provide experience in a variety of advanced techniques used in the preparation and characterization of organic and inorganic products. These techniques will include asymmetric synthesis, inert atmosphere synthesis, chromatography, and application of spectroscopy, as well as other appropriate supplemental techniques.

Six hours lab

Prerequisites: CHM 160, 170, 260, 270, and MTH 111

CHM385 - Chemical Measurements Laboratory

(1/2 Course)

Advanced chemical measurements typically involve instruments that utilize state-of-the-art technology. This laboratory course provides students the hands-on experience with scientific instrumentation that is commonly used for chemical analysis. Opportunity will be provided to expose students to basic electronics and the major components of instruments. The techniques of chemical separations, electrochemical methods and spectroscopy will be explored. An understanding of the physical and chemical principles behind each method as well as the processes that limit the chemical measurement will be conveyed through formal laboratory reports.

Six hours lab

Prerequisites: CHM 160, 170, 260, 270; MTH 151; and PHY 101 or 107, PHY 102 or 108

CHM420 - Advanced Organic Chemistry

This course will provide an in-depth study of organic topics. These topics may include chemical bonding and structure, molecular orbital theory, stereochemistry (including prochirality), conformational and steric effects on structure and reactivity, the study of organic reaction mechanisms, and concerted pericyclic reactions.

Three hours lecture

Prerequisites: CHM 160, 170, 260, 270 and 320; MTH 151; PHY 101 or 107, PHY 102 or 108; and either CHM 360, 370, or BCH 320 as a pre- or co-requisite.

CHM460 - Advanced Inorganic Chemistry

This course will explore many of the fundamental principles of inorganic chemistry, with significant emphasis on group theory,

molecular orbital theory, angular overlap theory, coordination chemistry, organometallic chemistry, and bio-inorganic chemistry. Specific topics will vary, but will generally include coverage of atomic structure, simple bonding theory, donor-acceptor chemistry, the crystalline solid state, coordination compounds and isomerism, electronic and infrared spectroscopy applied to inorganic complexes, substitution mechanisms, and catalysis.

Three hours lecture

Prerequisites: CHM 160, 170, 260, 270; MTH 151 and 152; PHY 101 or 107, PHY 102 or 108; and CHM 370 as either a pre- or co-requisite.

CHM470 - Principles of Instrumental Analysis

This lecture course covers the principles behind and the techniques associated with chemical measurements that utilize scientific instrumentation. Chemical measurements are designed to provide the most accurate and precise information possible and, to acquire information to this level, chemical techniques must be understood in terms of detection limit, sensitivity, and/or spectral resolution. Chemical information obtainable from various techniques will be presented. A particular emphasis will be given to spectroscopic techniques and detectors. Error analysis and data processing techniques that reduce or filter instrument noise and provide signal enhancement will be introduced.

Three hours lecture

Prerequisites: CHM 160, 170, 260, and 270; MTH 151 and 152; and PHY 101 or 107, PHY 102 or 108; and either CHM 360, 370, or BCH 320 as a pre- or co-requisite.

CHM500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Child Development and Education

Professors: Bennett, Carpenter, Cavoti (chair), Crabtree, R. Easton, Longo (chair), Wilson

Associate Professors: Klitz, McDonald

Instructors: Bunting, P. Easton, Petchel, Podgurski, Wagner

Child Development and Education is an inter-departmental major that offers a holistic approach to how children learn, focusing on development from birth through childhood. The major combines coursework in education and psychology. The requirements have been selected to provide students with a firm grounding in developmental psychology and the principles of elementary instruction and assessment. This curriculum has been designed to prepare students with an understanding of the developmental needs and cognitive abilities of students across a broad range of situations and academic disciplines. Students majoring in Child Development and Education have the option to seek certification in the State of Pennsylvania for Early Childhood Certification in grades Prek-4 and/or Elementary/Middle Level Certification in grades 4-8 for Language Arts or Mathematics or Science or Social Studies.

MAJOR REQUIREMENTS: All students must successfully complete a minimum of 13 courses in psychology and education plus a capstone experience: Psychology: [PSY 101](#) (must be taken at W&J), [102](#), [225](#), [265](#), [275](#); Education: [EDU 201](#), [207](#), [301](#), [302](#), [303](#), [304](#), and either [PSY 330](#) (non-certification track only) or [EDU 403](#) (either track).

CAPSTONE EXPERIENCE: [EDU 406](#) and [407](#) plus [EDU 350](#) for certification or [408](#) and [409](#) for noncertification.

CERTIFICATION AREAS: Students seeking any teacher certification must also complete the Certification Program Requirements. *On-line courses are not accepted in the certification or education program.* See the Education (Teacher Certification) section of the catalog for more information.

Early Childhood Certification in grades Prek-4: Students seeking certification to teach at the early childhood level in grades Prek-4 must also take additional specific academic content courses: one English composition course such as ENG 111 or 112 and one English literature course, two math (MTH 123 and 124), history (colonial HIS 201), geography (EDU 205), PED 200, and science (two approved science courses with one as an approved lab science for certification). For more information please see *Handbook for Students Seeking Certification to Teach* available in the W&J Education Office.

Elementary/Middle Level Certification in grades 4-8: Students majoring in Child Development and Education who wish to seek Elementary/Middle Level Certification in grades 4-8 will also minor in a specialization area by selecting one of the following minors:

- Minor in Biology or EVS for Science grades 4-8
- Minor in English for Language Arts grades 4-8
- Minor in History for Social Studies grades 4-8
- Minor in Mathematics OR take a series of courses identified by the Math department. [See the Math catalog page](#) for details.

See the catalog section for the appropriate discipline for the details of the minor requirements. The other option for certifying in Elementary/Middle Level grades 4-8 involves majoring in a discipline and completing a selection of education courses. See the sections of the catalog for the appropriate discipline and Education (Teacher Certification) for more information about this option.

Special Education PreK-8: Students who would like to add Special Education as a dual certification for PreK-8 to their certification area(s) in either PreK-4 or Elementary/Middle Level Certification in grades 4-8 need to complete additional designated coursework and program requirements in special education to qualify for dual certification in special education PreK-8. The required courses are EDU 221 School Law, EDU 309 Individualized Instruction, EDU 321 Diagnostic Teaching, and EDU 250 Teaching Internship (with Special Education focus). For more information, please see *Handbook for Students Seeking Certification to Teach* available in the W&J Education Office.

Chinese

Assistant Professor: Han Ye

The Department of Modern Languages offers a minor in Chinese language. The Chinese program seeks to immerse students in the Chinese language and the practices and perspectives of cultures that are part of the Chinese-speaking world. Students will gain the skills and knowledge necessary to communicate and interact appropriately in Chinese-speaking parts of the world. This is accomplished through immersing students in culturally authentic contexts both in and out of the classroom. Linguistic and socio-linguistic skills are integrated with critical reading at all levels of language instruction. Students who complete this course of study will be better able to participate actively and meaningfully in an increasingly interconnected world.

MINOR REQUIREMENTS: Chinese minor requirements vary according to entry level. All entering first-year and transfer students in Chinese will receive language placement by Chinese program faculty. Because of the varying requirements for completing a minor in Chinese, it is to the student's advantage to begin at the highest level possible, usually [CHN 207](#) or [CHN 208](#). However, students with very limited or no background in Chinese will begin their studies with [CHN 105](#) or [CHN 106](#).

- Students who begin in [CHN 207](#) will take five courses, including [207](#), [208](#), [309](#), [310](#) and one 400-level course.
- Students who begin in [CHN 208](#) must still take five courses to complete a minor.
- Students who begin in [CHN 309](#) are not eligible for a minor.

PLACEMENT PROCEDURES: All entering freshmen with prior experience in Chinese will receive language placement by program faculty. This placement will determine their first course in the sequence. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

AP Policy: Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.

CHN105, 106 - Elementary Chinese I, II

An introduction to the basics of spoken Mandarin with an emphasis on performance in culturally appropriate ways. Students engage in conversations, provide and obtain information, express feelings and emotions, exchange opinions in Chinese, and become familiar with the foundations of the Chinese writing system.

Taught largely in Chinese.

Prerequisite: CHN 105 for CHN 106

CHN207, 208 - Intermediate I, II

Intended for students who have completed the first-year sequence or its equivalent in Mandarin, these courses develop listening

and speaking skills as well as skills in reading and writing Chinese characters. In addition to addressing situations in contemporary Chinese, courses will create in the students an awareness of culture in China.

Taught largely in Chinese.

Prerequisite: CHN 106 for 207; CHN 207 for 208

CHN309 - Advanced Chinese I

This course focuses on the development and application of advanced functional Chinese language skills, with emphases on speaking and writing. Reading and cultural skills are developed through a content-based approach with concentration on contemporary Chinese issues.

Taught largely in Chinese.

Prerequisite: CHN 208, or the permission of the instructor.

CHN310 - Advanced Chinese II

This course focuses on the development and application of advanced Chinese language skills, with emphases on reading, speaking and writing. A variety of texts, web sites and selected videos serve as departure points for daily discussions, assignments and presentations. Included in the course are reviews of grammar topics. CHN 310 is offered traditionally in the spring term.

Taught largely in Chinese.

Prerequisite: CHN 309, or the permission of the instructor.

CHN450 - Topics in Chinese Literature and Culture

This course is designed to deepen students' understanding and appreciation of Chinese language and culture through the study of selected masterpieces of Chinese literature. The topic, such as 17th-century Chinese poetry, the 18th-century Chinese novel, or Modern Chinese society and culture, varies from year to year and will be published in the preregistration bulletin.

Prerequisite: CHN 310 or permission of the instructor

Communication Arts

Professors: Cameron, Frank

Associate Professors: Fleury (chair), Maresh

Assistant Professor: Shaw

The mission of the Department of Communication Arts is to graduate citizens determined to build productive lives and vibrant communities through skilled communication, artful performance, and purposeful collaboration. Practice in the ancient disciplines of rhetoric and theatre, as well as the recent arts of radio and cinema, can develop habits of perception and expression that guide one toward the rewards of human communication.

The Department of Communication Arts offers a major and minor in communication arts. The major can be general, or focused toward one of four specific areas: theatre, rhetoric, public relations, or film studies.

As a general area of study communication arts positions students to do the following: appreciate diverse cultures and communication styles; create informative messages, persuasive arguments, and engaging performances; and carefully analyze communication texts and performances. Study of the similarities and differences between live and mediated communication, as well as a range of often contradictory theoretical perspectives on human interaction, is intended to foster an expansive view of humanity and an ability to adapt to and participate in an array of communities.

The emphasis in theatre is designed to enable students to participate knowledgeably in multiple aspects of the creation of works performed before a live audience. Students are encouraged to gain appreciation for and develop skills in the writing, staging, performance, and analysis of theatrical productions, with special attention to relationships among artists, audiences, and communities.

The emphasis in rhetoric is designed to familiarize students with issues relevant to the study of persuasive communication, from the roots of rhetorical studies in the classical world to recent developments in theory, criticism, and practice.

The emphasis in public relations is intended to provide skills for graduate study or participation in the enterprise defined by the Public Relations Society of America as "a strategic communication process that builds mutually beneficial relationships between organizations and their publics." Coursework in this emphasis includes training in the creation and assessment of oral, written,

and visual messages; as well as exposure to theoretical knowledge of rhetorical principles foundational to building individual, organizational, and public relationships.

The emphasis in film studies aims to prepare students to ask and answer questions about film as artistic expression. How do technical, social, and historical constraints shape cinematic storytelling practices? How does a specific film invite a particular interpretation for a certain audience in a given time and culture? How do the interactions of a filmmaking collaborative (writers, directors, technicians, performers, editors, and others) create meanings for audiences? The theoretical and critical orientation of the emphasis can be complemented by production courses available at Pittsburgh Filmmakers.

The Department of Communication Arts contributes to interdisciplinary programs in conflict and resolution studies, gender and women's studies, and professional writing.

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. 1-credit practicums in theatre (COM 252) and radio (COM 242) are available each semester, and each course may be taken up to four times.

The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company. Participation in the WNJR radio station is also available to all W&J students. After a meeting with the student Station Manager or the Faculty Advisor, followed by completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit wnjr.org.

COMMUNICATION ARTS MAJOR REQUIREMENTS: COM 101; COM 102; COM 111 or COM 112; three courses from COM 198 (Internship), COM 211, COM 221, COM 241, COM 242 (must be taken four times to count as one four-credit course), COM 251, COM 252 (must be taken four times to count as one four-credit course), COM 261, COM 271, and COM 291; COM 301; two courses from COM 311, COM 321, COM 331, COM 341, COM 351, and COM 391; COM 401. A general communication arts major requires 10 courses total.

COMMUNICATION ARTS MINOR REQUIREMENTS: Two courses from COM 101, COM 102, COM 111, COM 112; two courses from COM 198 (Internship), COM 211, COM 221, COM 241, COM 242 (must be taken four times to count as one four-credit course), COM 251, COM 252 (must be taken four times to count as one four-credit course), COM 261, COM 271, and COM 291; COM 301; one course from COM 311, COM 321, COM 331, COM 341, COM 351, and COM 391. A communication arts minor requires 6 courses total.

THEATRE EMPHASIS REQUIREMENTS: COM 101; COM 102; COM 111; COM 211; COM 251; COM 271; COM 301; COM 341; COM 351; COM 401 (the Senior Project completed in COM 401 must be relevant to theatre). A communication arts major with an emphasis in theatre requires 10 courses total. The practicum COM 252 is recommended and may be taken up to four times.

FILM STUDIES EMPHASIS REQUIREMENTS: COM 101; COM 102; COM 112; 200-level elective (may include COM 198 (Internship), COM 251 recommended); COM 211; COM 261; COM 301; COM 331; COM 351; COM 401 (the Senior Project completed in COM 401 must be relevant to film studies). A communication arts major with an emphasis in film studies requires 10 courses total.

PUBLIC RELATIONS EMPHASIS REQUIREMENTS: COM 101; COM 102; COM 112; COM 221; COM 241; 200-level elective (may include COM 198 (Internship), recommended for this emphasis); COM 301; COM 311; COM 341; COM 401 (the Senior Project completed in COM 401 must be relevant to public relations). A communication arts major with an emphasis in public relations requires 10 courses total.

RHETORIC EMPHASIS REQUIREMENTS: COM 101; COM 102; COM 111; COM 221; COM 271; 200-level elective (may include COM 198 (Internship)); COM 301; COM 311; COM 331; COM 401 (the Senior Project completed in COM 401 must be relevant to rhetoric). A communication arts major with an emphasis in rhetoric requires 10 courses total.

COM101 - Introduction to Rhetoric and Communication

This course is an introduction to communication as a field and rhetoric as a discipline. Rhetoric began over two thousand years ago as the study of citizenship through oral persuasion, and in the past century has broadened into an examination of how humans shape social realities through the use of symbols. The course also introduces students to theories that contradict the common perception of communication as information exchange, or language as a transparent medium for ideas. Instead,

communication is investigated as a central human activity that simultaneously opens and closes doors of possibility.

Prerequisites: NONE

No seniors. One third of seats are reserved for freshmen, one third for sophomores, and one third for juniors.

COM102 - Introduction to Theatre and Film

An introduction to the art, practice, and theories of the ancient discipline of theatre and the more recent discipline of film, as well as how these disciplines connect to and influence one another. This course also focuses on the relationships between and the collaboration amongst artists and audiences, as well as the more practical matter of learning how to read and analyze a dramatic text, both written and performed live and on film.

Prerequisites: NONE

No seniors. One third of seats are reserved for freshmen, one third for sophomores, and one third for juniors.

COM111 - History of Communication Arts pre-1875

A survey of the history, theories, and practices of the arts of theatre and rhetoric up to 1875. Students will examine the technological developments, ethical issues, and communication practices of specific historical eras, such as ancient Greece and medieval Europe.

Prerequisites: NONE

No seniors. One third of seats are reserved for freshmen, one third for sophomores, and one third for juniors.

COM112 - History of Communication Arts post-1875

This course is a survey of the history, theories, and processes of modern media and performance since 1875, with an emphasis on mass media. It examines the technological developments, ethical issues, and rhetoric of a variety of media, including theatre, motion pictures, radio, recorded music, and television among them. Students will also examine how the increased technologies of the late 20th and early 21st centuries continue to impact how we receive our entertainment and information.

Prerequisites: NONE

No seniors. One third of seats are reserved for freshmen, one third for sophomores, and one third for juniors.

COM211 - Acting: Improvisation, Analysis, and Performance

This course examines the theories and methodologies of the actor's technique. Analysis of dramatic texts, performance assignments and improvisation prepare the student to make intelligent, informed and creative decisions in bringing dramatic characters to life on the stage and screen.

Prerequisites: NONE

Half of all seats are reserved for freshmen and sophomores.

COM221 - Public Speaking

This course is an introduction to theory and practice of oral rhetoric. Exposition, narration, and argument are studied and practiced as methods for influencing audiences and contributing to communities.

Prerequisites: NONE

Half of all seats are reserved for freshmen and sophomores

COM241 - Community Radio: Theory, Performance, and Production

This course is an extension of the critical examination of dissemination and dialogue as alternate modes of communication considered in Introduction to Rhetoric and Communication. "Broadcasting" is explored conceptually as a method for establishing and maintaining immediate and imagined communities. In addition to an introduction to the academic literature of cultural studies in audio, this course involves students preparing live programs and short pre-recorded pieces for broadcast on WNJR (the college radio station). Completion of the course requires at least two hours of presence at the radio station studios outside of class meetings at regularly scheduled times each week of the semester.

Prerequisites: NONE

Half of all seats reserved for freshmen and sophomores.

COM242 - Radio Performance or Production

This course allows the student to explore self-expression and community involvement in the context of a noncommercial radio

station. With each instance of the course, the student must pass the associated training level.

NOTE: This is a one-credit course. This course may be taken up to four times to equal one four-credit course, but credits from COM242 and COM252 Theatre Performance or Production may not be combined to add up to the equivalent of one four-credit course.

Prerequisites: NONE

Half of all seats are reserved for freshmen and sophomores.

COM251 - Stagecraft: Theatre Production and Design

This course is an introductory studio in technical production and design. It examines the behind-the-scene aspects of public presentations, providing students with relevant experiences. Students observe and demonstrate creative problem solving through artistic collaboration. Students examine contemporary practices in production design and implementation, their function as non-verbal expressions, and their effect on intended audiences.

Prerequisites: NONE

Half of all seats are reserved for freshmen and sophomores.

COM252 - Theatre Performance or Production

This course is a practicum in the theatre arts. The student assumes some role in a departmental production; e.g., actor, stage manager, stage hand, etc. Overseen by members of the departmental faculty, students are expected to perform in a professional manner, being present, prepared and ready to work at all times.

Note: This is a one-credit course. This course may be taken up to four times to equal one four-credit course, but credits from COM252 and COM242 Radio Performance or Production may not be combined to add up to the equivalent of one four-credit course.

Prerequisites: NONE

Half of all seats reserved for freshmen and sophomores.

COM261 - Film Form and Genre

This course is an overview of narrative film as an artistic form and cultural practice. Students examine relationships between image and reality, as well as relationships between artistic process, social meaning, and film genres.

Prerequisites: NONE

Half of all seats reserved for freshmen and sophomores.

COM271 - Narrative Theory and Performance

This course investigates storytelling techniques used in different media. Students study theories and practices of storytelling in oral tales, plays, radio, television, and cinema. The course compares storytelling in the various media, marking the similarities and differences among them.

Prerequisites: NONE

Half of all seats reserved for freshmen and sophomores.

COM291 - Topics in Communication Arts

A course exploring a particular topic in communication arts not covered in regular catalog courses.

Prerequisites: NONE

Half of all seats reserved for freshmen and sophomores.

COM301 - Research Methods in Communication Arts

This course is an overview of methods and practices of primary and secondary research in rhetoric, media, and theatre. Students learn how to discover, assess, and use secondary and primary research in print and digital forms for literature reviews. Primary research includes interview and observation methodologies. Serious research is necessary for understanding the

contexts of texts and performances, for building persuasive arguments, and for making useful contributions to a community. This course is a prerequisite for all other 300 and 400 level communication arts courses.

Prerequisite: One of the following: COM 101 Introduction to Rhetoric and Communication; COM 102 Introduction to Theatre and Film; COM 111 History of Communication Arts pre-1875; or COM 112 History of Communication Arts post-1875

COM311 - Advanced Public Speaking

This course builds on the concepts and skills encountered in Public Speaking, with greater attention to rhetoric as the foundational discipline for this art. The course includes presentations informed by critical examination of oral and visual communication, civic and commercial spheres, gender, race, and social media as factors that shape rhetorical action.

Prerequisites: COM 301 Research Methods in Communication Arts (or equivalent for non-majors/minors); and COM 221 Public Speaking

COM321 - Cultural Studies in Communication Arts

A thematic course designed to provide advanced study in theories and critical materials central to cultural studies in theatre, rhetoric, film, and/or audio. Examples include topics such as Gender in Theatre and Film, Cultural Study of Sound, and Alternatives to the Western Rhetorical Tradition.

Prerequisite: COM 301 Research Methods in Communication Arts

COM331 - Rhetoric of Documentary Film

This course is an advanced study of early cinema verite and the recent renaissance of documentary film. Through close textual criticism students investigate strategies filmmakers use to influence audiences.

Prerequisites: COM 301 Research Methods in Communication Arts; and COM 261 Film Form and Genre or COM 271 Narrative Theory and Performance

COM341 - Radio Drama and Documentary

This course is an advanced laboratory in audio theory and performance, enabling students to create live and recorded audio dramas and documentaries for broadcast and podcast. Students examine the history and literature of audio drama and documentary and, in the production phase, will participate in all areas of technical and creative production. Throughout the course, a major concern will be the creation of audio artifacts that connect the individual student to a community.

Prerequisites: COM 301 Research Methods in Communication Arts; and COM 211 Acting: Improvisation, Analysis, and Performance or COM 241 Community Radio: Theory, Performance, and Production.

COM351 - Writing for Stage and Screen

This course is designed to teach the fundamentals of playwriting and screenwriting to students who write a series of exercises, scenes, and short dramatic pieces for stage and screen. First the course focuses on the language of the playwright and dramatic action; and second, on the language of the screenplay and telling stories with pictures.

Prerequisites: COM 301 Research Methods in Communication Arts; and COM 261 Film Form and Genre or COM 271 Narrative Theory and Performance.

COM391 - Advanced Topics in Communication Arts

An advanced level course exploring a particular topic in communication arts not covered in regular catalog courses, with special emphasis on more extensive consideration of theory and/or skills encountered in introductory or mid-level courses.

Prerequisite: COM 301 Research Methods in Communication Arts

COM401 - Senior Project

This course is the capstone for the communication arts major, allowing students to demonstrate the breadth and depth of the skills and knowledge they have developed. As individuals or in small groups, students work on semester-long projects and meet weekly in a seminar format to discuss with peers their progress on the projects. An overview or summary of the project is shared with an audience at the end of the term, in addition to any other performance aspect of the project. Proposals are submitted to department faculty for review in the semester before enrollment in the course.

Prerequisites: COM 301 Research Methods in Communication Arts; at least one other 300 level COM course.

Computational Science

Computational science is the application of computer modeling, visualization and analysis for the purpose of complex problem solving tasks in a wide variety of disciplines. The interdisciplinary computational science concentration provides students with the essential skills to construct and analyze computer models in a number of disciplines. Students may choose from a variety of courses to suit their interests and are encouraged to pursue projects or independent research applying course content to problems from their major or other programs of study. All students who complete the program should be able to model complex phenomena supporting analysis and problem-solving.

The program addresses the growing importance of modeling and simulation in professional and academic settings. Since computational models are increasingly used in the natural and social sciences as well as the humanities and arts, the program serves as a foundation for integrating computing and technology across the curriculum. The program supports interdisciplinary computing by providing a set of foundational courses in the basics of computer modeling that students can apply across the curriculum.

REQUIREMENTS: Four of the following: [CIS 112](#), [CIS 220](#), [CIS 221](#), [CIS 207](#), [CIS 241](#), [CIS 245](#), and [CIS 351](#). Courses may be taken in any order, although some have prerequisites. The concentration is available to students in any major except Computing and Information Studies. Students may not complete both the CIS minor and the Computational Science concentration.

Computing and Information Studies

Professors: Fee (chair), Hannon

Associate Professors: Holland-Minkley

Assistant Professor: Lombardi

Designed to be an interdisciplinary program, the Computing and Information Studies curriculum comprises aspects of history, sociology, psychology, communication, art, design, science, and mathematics. The program stresses problem solving and effective communication skills while addressing issues in computational thinking, visual culture, interaction design, information management and analysis, systems development, and security.

The major and minor in CIS have been designed to give students a strong background in a breadth of approaches to computing; students with an interest in a particular subfield within computing are encouraged to consider other programs or concentrations associated with the program as well, such as Computational Science; Environmental Studies; Graphic Design; or Professional Writing. Students majoring in other fields looking for a computing course to complement their studies are encouraged to consider [CIS 100](#), [CIS 105](#), [CIS 112](#), [CIS 241](#), [CIS 271](#) or [CIS 275](#).

MAJOR REQUIREMENTS: 11 CIS courses, including [CIS 100](#), [112](#), [220](#), [271](#), either [CIS 301](#) or [CIS 310](#), and [CIS 400](#) (the capstone experience). In addition, students must take at least one additional course with each of the following designations: Coding and Production, Design and Interaction, and Analysis and Modeling. At least four of the eleven total courses must be at the 300-level or higher.

Notes: These requirements allow students significant flexibility in course selection. Majors should work closely with their advisor to select a path through the curriculum that best fits their long-term career or graduate study goals. Elective courses may carry multiple designations but students may not use a single course for more than one category. Students completing a senior honors project may have the [CIS 400](#) requirement waived, with the approval of the department, but still must take 11 CIS courses total, including independent studies. Majors are strongly encouraged to pursue at least one professional summer or intersession internship during their course of study.

MINOR REQUIREMENTS: Six courses, including [CIS 100](#), two of [CIS 112](#), [220](#), or [275](#), one additional course designated Design and Interaction, and one additional course designated Analysis and Modeling. At least one of these six courses must be at the 300-level or higher. While minors do not have official academic advisors within the department, they are also encouraged to consult with one of the CIS faculty in planning their coursework.

AP Policy: Students scoring a 4 or 5 on the Computer Science A or AB test will receive credit for [CIS 220](#) upon successful completion of [CIS 221](#).

CIS Elective Designation Descriptions

Coding and Production

These courses require students to undertake significant implementation or construction projects that strengthen their development skills. This may include programming projects, database implementations, film development, or other courses where at least half the student's time is spent on creation and development.

Courses: CIS 221, CIS 275, CIS 349, CIS 351, CIS 361, CIS 365, CIS 380, CIS 425

Design and Interaction

These courses require students to focus on designing content or systems that are both aesthetically pleasing and intuitively useful to varying audiences. Students will focus the bulk of their time on understanding user audiences and then designing user experiences, content or systems such as digital media, web sites, mobile applications, or information systems that effectively meet the needs of those users.

Courses: CIS 146, CIS 271, CIS 275, CIS 301, CIS 349, CIS 361, CIS 365, CIS 380, CIS 425

Analysis and Modeling

These courses engage students in using various tools and techniques for understanding authentic problems and creating functional information technology solutions. Students will use methods from data mining, networking, artificial intelligence, systems analysis, or related disciplines to test, evaluate, document and recommend solutions to real-world problems.

Courses: CIS 146, CIS 207, CIS 221, CIS 241, CIS 310, CIS 330, CIS 335

CIS100 - Information Technology & Society

A survey of information technology innovations that changed society in fundamental ways within the context of a more broadly defined discussion of the "history of technology." Topics within the history of information technology include the development of the integrated circuit, the personal computer, the Internet and the World Wide Web, etc. Topics within the history of technology (broadly defined) include ethical, legal, environmental, and feminist issues involved in the development and implementation of new technologies. The course entails a combination of historical overview and a number of individual case studies of technology development and implementation. The latter will focus on issues of leadership, the identification and solution of complex problems, and the unexpected consequences of technological advances.

CIS105 - Game Design and Development

An introduction to game design and development, this course takes a broad view of the problem of producing engaging, playable video games. Students will learn the principles behind good gameplay design and put those principles to practice by reviewing existing games and implementing new games in a gaming development system. Students will also apply lessons from studying usability, visual design, and the social context of games in their own games.

CIS112 - Database Concepts

An overview of the role of databases within a variety of academic, business, and governmental organizations, and an introduction to database design and management. Students will be required to create databases related to their major fields or areas of academic interest using both small business and enterprise-class database management systems.

CIS146 - Geographic Information Systems

A survey course in Geographic Information Systems (GIS) designed to provide functional knowledge of GIS theory and applications. The course is appropriate for any major or minor where the student may be interested in learning to create and analyze layered digital maps. The course will be taught using a combination of lectures, demonstrations, and hands-on interactive tutorials in the classroom. Course topics include display and query of spatial data, map overlay and production, global positioning systems (GPS), and the application of spatial analytical tools to answer questions, solve problems, and make decisions.

Prerequisite: At least sophomore standing

CIS207 - Networking Foundations

In this project-based course on networking, students develop the foundational knowledge and skills required to apply networking models and techniques to problems of data analysis. Students will use network modeling software to model, analyze, and visualize complex network systems. The course includes topics such as TCP/IP networking, the OSI model, network topologies, and the analysis of networks in the humanities, social sciences, and sciences.

CIS220 - Object-Oriented Programming

This course is an introduction to object-oriented programming with an emphasis on program design, problem solving, methodology, and algorithms. Students will master the fundamental concepts and structures common to programming.

CIS221 - Data Structures

A second-level course in programming that focuses on classic data structures and their associated algorithms. Students will learn how the organization of data within a program affects the efficiency of the program, and how algorithms and data structures can work together to support the most efficient code for the particular problem being solved. Students will put these tools to practice in order to create robust, interesting software applications.

Prerequisite: CIS 220

CIS241 - Introduction to Data Mining

An introduction to the concepts and practices involved in data mining, this course addresses data mining activities in three phases: data preparation (or preprocessing), mining techniques, and classification and analysis. These concepts will be taught using industry-standard tools for data mining activities. Projects and assignments will be completed as students organize and mine data sets taken from various disciplines of study including marketing, finance, and natural and social sciences.

CIS245 - Information Visualization

An introduction to the analysis and visual presentation of complex information. Students will learn to creatively apply visualization tools, techniques, and concepts to explore large data sets, understand difficult problems, discover meaningful patterns and relationships, and explain complex data to a variety of audiences. The course begins with a brief history of information visualization techniques, covering basic statistics for data analysis and concepts of color theory and visual perception necessary for the production of effective graphic displays. Additional topics include strategies for effective information design; the evaluation of evidence used in tables, charts, and other forms of graphic illustration; and the effective presentation of quantitative information. Students will use industry-standard software to discover meaningful patterns in data and to present their findings effectively. Because information visualization is an interdisciplinary endeavor, examples, projects, and assignments in the course will be derived from a variety of subject areas including medical and business analytics, graphic art, population studies, environmental studies, political campaigns, etc.

Prerequisites: None

CIS271 - Digital Media

An introduction to electronic media theory and practice, this course actively engages in the development and application of new media. Students will create electronic media and study the design issues regarding their implementation. Visual literacy and communication will form the basis of the theoretical explorations of this course. This is a Group 1 course for the Professional Writing concentration.

CIS275 - Web Design and Development

A project-based course in Web design and development, students will develop Web-based materials and study the design issues surrounding their production and implementation. The study of hypertext environments as well as digital design will form the basis of the theoretical explorations of this course. This is a Group 2 course for the Professional Writing concentration.

CIS297 - Topics in Computing and Information Studies

This course is an introductory survey of a selected topic in information technology, varying from year to year. Specific topic and prerequisites will be announced in the preregistration bulletin. This course includes significant writing and presentation requirements for all students. Course can be retaken for credit when topics are different.

CIS301 - Human-Computer Interaction

A survey of human-computer interaction research and an introduction to issues in cognitive psychology useful in the design of computing systems for human use. Particular emphasis is placed on developing a knowledge of the basic psychological phenomena of human cognition, memory, problem solving, and language, and on how those processes relate to and condition the interaction between humans and interactive computing systems.

Prerequisites: CIS 112 or CIS 220 or CIS 275 or PSY 101

CIS310 - Systems Analysis

An overview of the concepts, procedures, and tools necessary for identifying, analyzing, modeling, pricing, and presenting computer-based information systems, the primary objective of this course is to develop skills necessary to conduct the analysis side of the systems development cycle. Students will learn about various methodologies for pursuing systems development. They will gain hands-on experience with techniques for determining user and organizational needs and carry out the steps of a detailed systems analysis based on an interpretation of these needs. Students will also practice their written and oral communication skills in the presentation of a formal systems proposal.

Prerequisite: CIS 112, 220 or 275

CIS330 - Artificial Intelligence

An introduction to artificial intelligence, this course examines the ways in which we can use computation to mimic human intelligence. The problems of knowledge representation and search will be covered, as well as topics in game playing, learning,

and natural language processing. Students will implement selected artificial intelligence algorithms to gain hands-on experience with the special problems involved in AI software, particularly issues of training and testing in a statistical setting. Students will also study the philosophical discussion surrounding the pursuit of computation-based intelligent systems.

Prerequisite: CIS 220

CIS335 - Information Security

This course is an in-depth examination of best practices for securing and protecting modern information systems. Students will learn about the vulnerabilities of networked computers and study the tools and techniques used to secure them, from the basics of encryption up to firewalls and hardening tools. Students will also study the principles of information security policy development and the legal, social and privacy issues related to information management.

Prerequisite: CIS 112, 220 or 275

CIS351 - Advanced Database Concepts

A project-based course on advanced database management system design principles and development techniques. Topics include access methods, query processing and optimization, transaction processing, triggers, stored procedures, distributed databases, object-oriented and object-relational databases, database security and administration, and data warehousing. Students will learn these concepts using an industry standard enterprise-class database management system.

Prerequisites: CIS 112

CIS361 - Digital Imaging

A project-based course focusing upon the production of digital images, this course provides opportunities for the development of expertise in the creation of digital imagery. The activities of this course include collaborative group development projects and intensive work with computer-based image editing hardware and software. The theoretical explorations of this course will focus on the study of visual culture.

Prerequisite: CIS 271

CIS365 - Digital Film

A project-based course focusing upon the development of digital film, this course provides opportunities for the development of expertise in digital video creation. The activities of this course include collaborative group development projects and intensive work with computer-based video editing hardware and software. Students will also study film and develop a critical eye for digital film enhancements and productions.

Prerequisite: CIS 271

CIS375 - Advanced Web Development

An advanced course designed to provide an understanding of concepts, techniques and software products used in building dynamic software applications for the World Wide Web. The course uses standard methodologies for application design and development and will teach evaluation, implementation and configuration of common operating system, database and scripting components to create powerful web applications. The class will culminate with each student designing, building and deploying a custom web application. Discussion and use of emerging web technologies is also included.

Prerequisites: CIS 112, 275, or permission of the instructor

CIS380 - Mobile Application Design and Development

Mobile Application Design and Development provides students with the opportunity to develop applications for mobile devices including cell phones and tablet computers. Specifically, students will study the interface design and programming development of mobile apps. In this course students will learn how to develop applications that will run on any mobile device, regardless of OS platform.

Prerequisites: CIS 271 and 275

CIS397 - Advanced Topics in Computing and Information Studies

An in-depth examination of a selected topic in information technology, varying from year to year. This course is project-based; student learning will be focused on the production of specialized projects, whether individual, class-based, or both. Specific topic and prerequisites will be announced in the preregistration bulletin. Course can be retaken for credit when topics are different.

CIS400 - Service Learning Project Management

A service-learning course in partnership with one or more local nonprofit organizations. Students will be involved in every stage of the process of assisting local nonprofit organizations with information technology needs, including performing a needs assessment, developing a plan for addressing indicated needs (including a schedule of deliverables), and meeting the schedule

in a timely manner. Identified needs will likely include such things as demographic analyses of the organization's client base, assistance with the development of networking systems and infrastructure, Web page development, and computer skills training. The course includes readings in the fields of service and leadership and coursework in the technologies necessary to complete the service compact.

Prerequisites: CIS 100, 112, 220, 271, and 301 OR 310

CIS425, ART425 - Graphic Design Studio

This course focuses on producing portfolio-quality work based on creative, visual problem solving. Class assignments build upon the theory and technical skills presented in the previous four courses in the graphic design concentration. This course is intended to provide a capstone experience for the concentration in graphic design.

This course does not satisfy requirements for either the art or art education major.

Prerequisites: ART 108, ART 112, CIS 271, and CIS 361

CIS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Conflict and Resolution Studies

Professor Emeritus: R. Easton (Director)

Program Faculty Members: Bennett, East, P. Easton, Fleury, Frank, Lewis, Longo, Malinak, March, Misawa, Rembert, Seltzer, Solovieva, Vdovichenko, Verdun

The Conflict and Resolution Studies Concentration provides interdisciplinary and international perspectives on the causes of conflict and the possibilities of resolution. The concentration offers theoretical insights into the causes of conflict—some positive and creative but far too many tragically destructive. The concentration courses embrace the study of interpersonal, intergroup, and societal conflicts in different cultures across the world. Exploration of resolution strategies, social justice issues, and leadership qualities are features of the concentration.

Concentration Requirements: Four courses are required for the completion of the concentration. They are [CRS 101: Introduction to Conflict and Resolution Studies](#) (fall only) and three additional courses approved by the CRS Steering Committee. These three courses must represent at least two academic disciplines. With advance approval by the program director, a student may complete either an internship or independent study as one of the electives.

CRS101 - Introduction to Conflict and Resolution Studies

An interdisciplinary course open to all students but required for students completing the conflict and resolution studies concentration. Students learn to analyze interpersonal, intergroup and societal conflicts from multiple perspectives and to comprehend the complex values, motives, reactions and circumstances involved in conflict from different cultures and various historical periods.

Prerequisites: NONE

CRS500,501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the

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Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Earth and Space Science

Professor: Sheers

Associate Professor: McCracken

The Earth and Space Science Program offers elective courses related to the physics of the Earth and the universe.

ESS201 - Physical Geology

This course is a study of the composition and structure of the Earth and the geological processes that shape its surface. Major topics include minerals and rocks; igneous, metamorphic, and sedimentary activity; landforms, rivers, glaciers, and oceans; and plate tectonics.

One all day field trip is required.

Three hours lecture, three hours lab

ESS202 - Historical Geology

A study of the evolution of the Earth, major topics of the course include formation of the planet, transformation and development of the crust, and the evolution of life. Techniques of petrology and paleontology are discussed.

One all-day field trip is required.

Three hours lecture, three hours lab

ESS209 - Planetary Astronomy

This course is a study of the planets and their motions; the sun, the moon, the other members of the solar system; and astronomical instruments.

Three hours lecture, three hours lab

ESS210 - Stellar Astronomy

This course is a study of the sun as a star, the stars, the galaxies, and the universe.

Three hours lecture, three hours lab

ESS232 - Meteorology

A course dealing with the various aspects of the science of the weather, areas of study will include clouds, weather variables and their measurements, atmospheric motion, wave cyclone formation, precipitation, storm types, and special problems in modern meteorology, such as weather modification, satellite weather forecasting, and water and air pollution.

East Asian Studies

Professor: Gai (Political Science) (director)

Associate Professors: Caffrey (History)

MINOR REQUIREMENTS: The East Asian Studies Minor requires seven courses: two to four language courses in Mandarin Chinese or Japanese and three to five non-language courses on East Asia. Students may choose to do 2 language courses + 5 non-language courses, 3 language courses + 4 non-language courses, or 4 language courses + 3 non-language courses. Students may take Mandarin Chinese or Japanese on campus or take them off campus. They may choose to take their language courses all in one language or in both languages. Students are to choose three to five non-language courses from the following list and these courses must be from at least two disciplines, and one of them must be at the 300 level or above:

HIS 151	Asian Heritage
HIS 250	History of Modern Japan

HIS 251	China through Film*
HIS 254	Ancient China
HIS 255	History of Modern China
HIS 350	Contemporary East Asia
HIS 352	China through Literature
HIS 256	Chinese History Tour*
POL 231	Politics of China
POL 250	Special Topics China!*
POL 250	Special Topics Political Economy of East Asia
POL 350	Special Topics East Asia in World Politics
SOC 251/351	Japan in Japan*

*Intersession or Intersession Abroad Course

NOTE: Students who are familiar with Mandarin Chinese or Japanese prior to their enrollment at the College may complete the East Asian Studies minor without taking additional language courses; such students would complete the minor with six non-language courses. Students who major in International Studies may not minor in East Asian Studies if their area studies component within the IST major is East Asia.

Economics

Associate Professors: Gidas, Gottschall (coordinator), L. Dunn, R. Dunn, Liberatore, Wang

Assistant Professors: Bhatta

Economics is the study of how society manages its scarce resources, with a focus on how people interact with each other and make decisions, and how forces and trends affect the economy as a whole. The goal of the economics major is to provide students with a strong foundation in economic theory and the analytical tools that will allow them to think critically about complex economic and social issues on both a domestic and global scale. The major challenges students' intellectual curiosity by providing them with opportunities to learn and communicate complex economic ideas through critical thinking, speaking, writing, and independent research projects. Students receive the education necessary to begin careers in the public or private sector, or begin graduate, law, or professional school.

In addition to a major and minor in Economics, the department also offers emphases in Economic Development and Financial Economics. These are intended for those students who would like to concentrate their electives within the major on one of these specific areas of study.

MAJOR REQUIREMENTS: ECN 101, 102, 201, 202, 440, 498, MTH 125, MTH 131 or 151, and four ECN electives from the 300 and 400-level courses, at least one of which must be at the 400-level.

The Department of Economics & Business requires that the following courses be completed at Washington & Jefferson College by all students majoring in economics: ECN 101, 102, 201, and 202. A transfer student may have this requirement waived, based on department approval.

CAPSTONE EXPERIENCE: All students completing a major in economics must take ECN 498 (Senior Thesis) during their senior year. The primary goal of this capstone is to develop research skills using the concepts and tools of economic analysis to produce a creative and independent research project. The thesis requires students to review and synthesize related literature from economics journals and to gather and analyze data using statistical and econometric techniques in support of a particular hypothesis chosen by the student. Thus, the senior thesis in economics differs from a typical term paper because it seeks to make a real contribution by generating new evidence and/or analysis on a particular economic topic.

MINOR REQUIREMENTS: ECN 101 and 102 ; 201 or 202 ; MTH 131 or 151; and three ECN electives at the 300 or 400-level.

The Department of Economics & Business requires that the following courses be completed at Washington & Jefferson College by all students majoring in economics: ECN 101, 102, 201, 202, MTH 125, and MTH 131 or 151. A transfer student may have this requirement waived, based on department approval.

EMPHASIS IN ECONOMIC DEVELOPMENT: The economic development emphasis is for students who are economics majors

and want some depth of study in economic development. Courses within the emphasis provide exposure to issues of economic development in both the developing world and in higher income economies like the United States. In addition to the requirements of the economics major, the emphasis requires the following courses: [ECN 325](#) and [ECN 326](#), and one additional course from [ECN 309](#) and [ECN 421](#). These courses may be used to satisfy the economics (ECN) elective courses required by the major.

EMPHASIS IN FINANCIAL ECONOMICS: The financial economics emphasis is for students who are economics majors and would like some depth of study in financial economics. Courses within the emphasis focus on three major areas of financial economics, including financial markets, investments, and managerial finance. In addition to the requirements of the economics major, the emphasis requires the following courses: [ACC 211](#), [ECN 341](#), and two additional courses from [ECN 343](#), [FIN 342](#), and [FIN 344](#). Note that [ECN 341](#) and [ECN 343](#) may be used to satisfy the economics (ECN) elective courses required by the major.

NOTES:

AP Policy: Students scoring a 5 on ECON- Microeconomics AP test will receive credit for ECN 101. Students scoring a 4 on ECON-Microeconomics AP test will receive credit for ECN 101 upon successful completion of ECN-201. The Prerequisite for ECN-201 is waived. Students scoring a 5 on ECON-Macroeconomics AP test will receive credit for ECN 102. Students scoring a 4 on ECON-Macroeconomics AP test will receive credit for ECN 102 upon successful completion of ECN-202. The Prerequisite for ECN-202 is waived.

Students majoring in economics may not also major in accounting, business administration, or international business, but may minor in accounting or business administration. Students majoring in economics may not double major or minor in financial economics. Students majoring in economics may complete a minor or a concentration in entrepreneurship.

Students considering doing graduate work in economics are encouraged to pursue additional math courses, such as [MTH 152](#), [208](#), [217](#), [308](#), [415](#), and [ECN 401](#), while at Washington & Jefferson College. Students should consult with their advisor regarding mathematics preparation for graduate school.

ECN101 - Principles of Microeconomics

Primary concern is with the study of individual decision units, such as the consumer, households, and firms. Analysis will focus on the way in which the decisions of these units interrelate to determine relative prices of goods and factors of production and quantities that are bought and sold. The ultimate aim is to understand the mechanism by which the total amount of resources is allocated among alternative uses. Economic tools will be used to analyze both economic and political processes.

ECN102 - Principles of Macroeconomics

Primary concern is with the study of relationships between broad economic aggregates, the most important of which are aggregate output and income, aggregate saving and consumers' expenditure, investment, aggregate employment, the quantity of money, the average price level, and the balance of payments. Models are developed to explain determinants of the magnitudes of these aggregates and of their rates of change through time.

ECN197 - Introductory Topics in Economics

Topics courses are occasionally offered to broaden or enhance the economics curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. By studying an economic topic at an introductory level, students taking this course will be exposed to the basic functioning of markets and learn about the economic rationale of decisions made by households, firms, and/or governments.

Prerequisites: None

ECN201 - Intermediate Microeconomics

This course is a study of consumer and business behavior with emphasis on corporate pricing and output decisions under varying degrees of competition.

Offered: Spring term only

Prerequisites: ECN 101 and either MTH 131 or 151, all with a grade of C or better

ECN202 - Intermediate Macroeconomics

This course is a study of the measurement, growth, and instability of key economic aggregates, and the extent to which "targets" or "goals" may be attained via monetary and fiscal policy.

Offered: Fall term only

Prerequisites: ECN 102 and either MTH 131 or 151, all with a grade of C or better

ECN297 - Topics in Economics

Topics courses are occasionally offered to broaden or enhance the economics curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students taking this course will examine market functions at the microeconomic and/or macroeconomic level, dependent on topic. They will consider the motivations and impacts of decisions made by economic agents and implement basic models of economic behavior.

Prerequisites: ECN 101 and/or 102

ECN306 - U.S. Economic History

This course is a study of the sources and consequences of economic and social change from colonial to recent times. This course is the same as HIS 210; however, students who enroll for credit in economics shall complete an additional research assignment in economic history.

Prerequisites: ECN 101 and 102

ECN309 - Urban and Regional Economics

This course is an investigation into the economic issues facing metropolitan areas and regions with emphasis on patterns of business and residential location, development, revenue generation, transportation networks, taxation, and pollution.

Prerequisites: ECN 101 and 102

ECN319 - Economic Analysis of Law

This course is an economic analysis of various fields of law, including the primary areas of common law (property law, tort law, contract law, and criminal law). Although the course necessarily will entail a survey of legal principles involved, the emphasis of the course will be on the economic analysis of those principles. Prior knowledge of law will be helpful but not necessary.

Prerequisite: ECN 101

ECN322 - Economics of the Public Sector

This course is a study of public revenues and expenditures at the local, state, and federal levels. Consideration is given to types of taxes, their equity and administration, budgetary control, and the public debt.

Prerequisites: ECN 101 and 102

ECN325 - Economic Development

This course is a study of the economic growth problems of the third world. A major part of the course will be an analysis of various development strategies and how they affect population growth, resource allocation, external dependence, employment, and social relations.

Prerequisites: ECN 201 and 202

ECN326 - Economics of Poverty and Discrimination

This course examines the issues of poverty and discrimination in the United States. Analysis will focus on defining poverty, how it is measured, and what causes it; identifying who is poor, the policies used to fight poverty, and their effectiveness; and what more needs to be done to combat the problem. Economic theories of discrimination also are also examined from different perspectives with a particular focus on issues of gender and race.

Prerequisite: ECN 101

ECN330 - Industrial Organization and Management

This course is a study of market structure and conduct and performance with emphasis on corporate profitability, growth, pricing, advertising outlay, research and development, scale of operation, and government regulation.

Prerequisite: ECN 101

ECN341 - Principles of Finance

This course is an introduction to the three primary areas of finance - financial markets and institutions, investments, and managerial (corporate) finance. Basic principles of finance are introduced and applied to the study of financial market operations, the valuation and pricing of securities and other financial assets, and corporate decision making including capital budgeting

analysis. This course is the same as BUS 341 and FIN 341.

Prerequisites: ACC 211, ECN 101, MTH 125

ECN343 - Money, Banking, and Financial Markets

This course is a study of financial markets and institutions, the role of the central bank in an economy, the international financial system, and monetary theory. Topics covered in this course include: the nature and origins of money; the financial system which consists of the financial industries and the central banking system; the supply of money and its control; monetary policy; and the international financial system. This is the same course as FIN 343.

Offered: every other spring of even years

Prerequisites: ECN 102

ECN391 - Environmental and Natural Resource Economics

This course will examine both natural resource and environmental issues from the uniquely economic perspective. Students will become familiar with how economic tools and concepts such as property rights, externalities, market failure, cost-benefit analysis, discounting, optimality, and sustainability can be used to analyze issues surrounding depletable and renewable resources. The economic perspective on environmental pollution and pollution control also will be analyzed using these tools and concepts.

Prerequisite: ECN 101

ECN397 - Special Topics in Economics

Topics courses are occasionally offered to broaden or enhance the economics curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

Prerequisites: Will vary according to topic.

ECN398 - The Economics of Gender

In the United States and the rest of the world, one can observe different economic outcomes for men and women that are both significant and persistent. This course uses economic theory and analysis in an attempt to explain why gender differences lead to different outcomes in education, career choices, family roles, and earnings. To analyze these differences, this course looks at economic models that explicitly include men and women, at statistics measuring the differences between men and women, and at government and corporate policies that affect men and women differently. This course also includes comparisons of gender-related outcomes across countries, over time in the United States, and across ethnic groups.

Prerequisites: ECN 101

ECN401 - Mathematical Economics

The purpose of this course is the study of mathematical techniques used in economic analysis. The primary emphasis will be on the use of calculus as a tool of economic analysis. Single-independent-variable calculus will be reviewed and utilized in economic analysis. Then multivariate calculus will be covered and applied in the realm of optimization as well as comparative statistics. Matrix algebra will also be covered and used as an important helper in many of the frameworks utilized in the course.

Prerequisites: ECN 201, 202, and MTH 131 or 151

ECN420 - History of Economic Thought

This course is a survey of the principal writers in economics and the development of their thought from the introduction of political economy to the present time.

Prerequisites: ECN 201 and 202

ECN421 - International Economics

This course provides an in-depth analysis of the determinants of bilateral trade flows and the international financial system. Students will explore international trade theories that focus on various causes of trade flows and the impacts of tariffs and quotas under perfect and imperfect competition. Additional topics will include determinants of the exchange rate, foreign exchange derivatives, balance of payments accounts, the impact of macroeconomic policies in an open economy, and the key factors in exchange rate regime choice.

Prerequisite: ECN 201 and 202

ECN423 - Labor Economics

This course is a study of the history of the U.S. labor movement, labor legislation, labor market determinations, wage-setting,

unemployment, strikes, poverty, current labor problems, and collective bargaining.

Prerequisite: ECN 101

ECN440 - Econometrics

An investigation of the application of econometric techniques to the study of economic decisions, this course emphasizes business and economic problems. Topics include least squares, simple regression, multiple regression, identification, modeling, and computer applications.

Prerequisites: ECN 101 and 102, either ECN 201 or 202, and either MTH 125 (with a grade of C or better) or MTH 305

ECN497 - Advanced Topics in Economics

Topics courses are occasionally offered to broaden or enhance the economics curriculum beyond the regular catalog offerings to include items of specialized interest or current or emerging events. Students' transcripts will indicate the titles of specific course offerings.

Prerequisites: Will vary according to topic.

ECN498 - Senior Thesis

Students are expected to develop an acceptable topic, conduct a thorough literature search, and conduct necessary data gathering, where appropriate. Finally, students will prepare and defend a written report.

Prerequisites: ECN 201, 202, 440, and senior status

ECN500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Education (Teacher Certification)

Professors: Carpenter, Longo (chair)

Instructors: Bunting, P. Easton, Podgurski, Wagner

The preparation of teachers has been a proud and historic part of the heritage of Washington & Jefferson College since its founding in 1781. The education department's mission is to attract to the teaching profession intelligent caring men and women of competence, character, maturity, and creativity who are effective lifelong learners, responsible citizens, and personal and professional role models prepared to contribute positively to the world in which they live. To fulfill its educational mission, the education department offers a broad curriculum that actively involves students in student taught demonstration lessons and diverse field experiences connecting educational theory with best practice. Active learning and complete cognitive and social participation are required of all participants. The philosophy of the program is that the way to learn to teach is to teach incorporated in the motto "Docendo Discimus" -- "We learn by teaching."

The Education Department at Washington & Jefferson College offers two accredited programs that successfully lead candidates toward the goal of graduation with a Bachelor of Arts degree in four years: one program leads to graduation with teacher certification and the other program leads to graduation without certification. Based on specific criteria and completion of requirements, candidates are tracked into the program for which they qualify by the end of their sophomore year.

The W&J Education Department offers four options for students seeking teacher certification in the state of Pennsylvania:

- Early Childhood Certification in grades Prek-4.
- Elementary/Middle Level Certification in grades 4-8 for Language Arts or Mathematics or Science or Social Studies.
- Secondary Education Certification in grades 7-12 for Biology, Chemistry, English, Mathematics, Physics, or

Social Studies.

- Specialty Area Certification in grades K-12 for Art Education, French, German, or Spanish.

In addition, students can add special education PreK-8 or 7-12 as a dual certification matched to their primary certification area.

It is important for students to check with the Education Department as soon as possible (ideally during the freshman year) in order to follow the required procedures for successful completion of the certification process and to subsequently maintain regular contact with the Education Department.

Students who do not qualify for certification or who choose to graduate without certification can participate in a differentiated education program and graduate successfully with a Bachelor of Arts Degree (BA) from Washington and Jefferson College.

CERTIFICATION REQUIREMENTS

The Committee on the Teaching Profession (COTP) oversees the College's Teacher Certification Program. All students interested in being admitted to this program must apply to the COTP and be accepted. Students apply for admission in the spring of their sophomore year after having completed 48 regular semester credits of coursework. In order to be eligible for admission, students must meet the following general requirements.

ADMISSION REQUIREMENTS

- A minimum cumulative G.P.A. of 3.0 is required of all students seeking certification.
- Students seeking certification must take 2 terms of college level math and 2 terms of college level English (one composition and one literature).
- Students must maintain yearly "no record status" clearances (FBI, PA criminal record-Act 34, and a childcare/child abuse clearance-Act 151); negative TB test results; and membership in the Student Pennsylvania State Education Association or S-PSEA.
- Students must pass all qualifying exams prior to admission to the program.
- Admitted students must apply to the committee again for permission to student teach, typically in the spring of their junior year. In order to be eligible for student teaching, students must meet the following general requirements.

STUDENT TEACHING REQUIREMENTS

- Certification program admission
- Continue to maintain a minimum cumulative G.P.A. of 3.0 and current clearances (see above) and S-PSEA membership.
- Must complete an application and provide three letters of recommendation.
- Must pass qualifying exams in the content area of certification.
- Support of the academic department and approval from the COTP.

Once students seeking certification complete EDU 406 and 407, they are reviewed by the COTP. The COTP considers the student's academic record and the evaluation of his or her student teaching by cooperating teachers, the education department, and the departmental representative from the COTP. A student's maturity, professional conduct, and commitment to teaching is also evaluated during this review. The state mandates that "The candidate is known and regarded by the preparing institution as a person of good moral character and possesses the personal qualities and professional knowledge and skill which warrant issuance of the requested certificate." *Source: Teacher Information Management System (TIMS).* In order to be reviewed by the committee for certification the student must meet the following requirements.

COTP RECOMMENDATION FOR CERTIFICATION REQUIREMENTS

- Submit and present a professional portfolio graded as satisfactory or above.
- Successfully complete all of the program requirements for their certification area.
- Complete all of the requirements for a bachelor's degree with a minimum cumulative G.P.A. of 3.0.
- Earn a satisfactory or above rating on the Pennsylvania Statewide Evaluation for Student Professional Knowledge and Practice.
- Pass qualifying exams for certification.

Early Childhood Certification in grades Prek-4

Students seeking certification to teach at the early childhood level in grades PreK-4 must major in Child Development and Education. See the Child Development and Education section of the catalog.

Elementary/Middle Level Certification in grades 4-8

Students can be certified in Elementary/Middle Level Education in grades 4-8 in one of 4 specific specialized content areas:

- Language Arts
- Mathematics

- Science
- Social Studies

Students seeking certification to teach **Elementary/Middle Level Certification in grades 4-8** may achieve certification in one of two ways:

* *Students can major in Child Development and Education and complete a minor and/or selected courses in one of the five academic content areas (English, Mathematics, History and Biology or Environmental Studies for Science. See the sections of the catalog for Child Development and Education and the appropriate discipline for more information about this option.*

* *Students can major in one of the five content areas (Biology, Environmental Studies, English, History, Mathematics) with additional specific academic content courses related to grades 4-8, and complete the following additional courses in Psychology and Education: PSY 101-must be taken at W&J, PSY 102, PSY 265, PSY 275; EDU 201, EDU 207, EDU 301, EDU 302 (all areas except language arts), 303 (language arts only), EDU 350 & EDU 403, and EDU 406 & 407 (Student Teaching, with permission of the Committee on the Teaching Profession, credited as 3 courses). Completion of these education and psychology courses constitutes an education minor. See the appropriate departmental section of the catalog for major department requirements for certification. *Students who do not complete the certification program, may minor in Education by completing the following courses: EDU 201, EDU 207, EDU 301, EDU 403, & the Capstone Project: EDU 408 and EDU 409. Note: Psychology 101 is a prerequisite for all education and psychology courses and must be taken at W&J.**

Students who would like to add Special Education PreK-8 to their **Elementary/Middle Level Certification in grades 4-8** need to complete additional designated coursework in special education to qualify for dual certification in special education PreK-8

Secondary Education Certification in grades 7-12

Students seeking certification in Secondary Education in grades 7-12 must complete an academic major in the area they plan to teach with a minor in education. Secondary education is offered in the following areas: Biology, Chemistry, Social Studies (major in History), English, Mathematics, or Physics. See the appropriate departmental section of the catalog for major department requirements for certification. In addition to the requirements of the major department, students seeking secondary area certification must complete EDU 201, 207, 301, 350, 403, 406, and 407 (Student Teaching, with permission of the Committee on the Teaching Profession, credited as 3 courses). Completion of these education courses constitutes an education minor. *Students who do not complete the certification program, may minor in Education by completing the following courses: EDU 201, EDU 207, EDU 301, EDU 403, & the Capstone Project: EDU 408 and EDU 409. Note: Psychology 101 is a prerequisite for all education courses and must be taken at Washington and Jefferson College.*

Students who would like to add Special Education 7-12 to their Secondary Education Certification grades 7-12 need to complete additional designated coursework in special education to qualify for dual certification in special education 7-12.

Specialty Education Certification in grades K-12

Students seeking certification in Specialty Education Certification K-12 for art education, or modern languages (French, German, or Spanish) must major in that academic area and minor in education. See the appropriate departmental section of the catalog for the major department requirements for certification. In addition to the requirements of the major department, students seeking specialty area certification in grades K-12 must complete EDU 201, 207, 301, 350, 403, 406, and 407 (Student Teaching, with permission of the Committee on the Teaching Profession, credited as 3 courses). Completion of these education courses constitutes an education minor. *Students who do not complete the certification program, may minor in Education by completing the following courses: EDU 201, EDU 207, EDU 301, EDU 403, & the Capstone Project: EDU 408 and EDU 409.*

Students who would like to add dual certification in Special Education to their Specialty Education certification in grades K-12 select from either grade bands PreK-8 or grade bands 7-12 for their special education focus and should consult the education department.

Dual Certification: Special Education

Dual certification in special education is available in either PreK-8 or 7-12. **This is not a stand-alone certification and in some cases may take more than four years to complete.** It must be paired with an appropriate area of certification. Students interested in adding dual certification to their main certification area should consult the education department. Courses required for dual certification are EDU 221, 301, 303, 309, 321, 350, 403, and 250.

Any of these programs may lead to teacher certification if steps mandated by the College, the W&J Education Department, and the Pennsylvania Department of Education (PDE) are correctly followed. Specific details of each of these programs can be found in the W&J Education Department's *Handbook for Students Seeking Certification to Teach*. This handbook must be picked up in the office of the W&J Education Department.

INTERNSHIPS

The courses in education with an internship component for students seeking certification are designed to connect and synthesize

theory and practice. *School internships are a privilege provided by the department and the host school and may be terminated. Any problem, potential problem or embarrassing situation at the internship or outside of the internship can lead to its termination.*

Education courses with internships require a “no record status” on clearances for

- FBI
- Act 34-Pennsylvania Criminal Record
- Act 151-Child Abuse Clearance

Students participating in an internship also must have a

- Negative TB result
- Membership to the Student Pennsylvania State Education Association or S-PSEA.

EDU201 - Foundations of American Education

This course focuses on the historic, philosophical, sociological, and economic roots of American education. Connections are made between past and current events as they impact today’s students and schools. This course is recommended as the initial course for those considering teacher certification. *A weekly internship at a local school is required for students with all clearances seeking certification. Students not interested in certification please see course instructor.*

EDU205 - Geography for Teachers

This four-credit course is designed for future classroom teachers who will be teaching a course in geography or integrating geography in or throughout their curriculum. Students will research and study the cultural, environmental, ecological, physical, and political features of various geographical regions and determine the direct and indirect impact of geography on diverse societies and education.

EDU207 - Educational Psychology

This four-credit course focuses on theorists, theories, and practices of psychology within an educational context. Motivation and learning, growth and development, and gender equity in the classroom will receive primary consideration. *A weekly internship at a local school is required for students with all clearances seeking certification. Students not interested in certification please see course instructor.*

Prerequisites: PSY 101 taken at W&J, EDU 201, or permission of the education department chair.

EDU208 - Topics in Education

This course is designed to allow students to stay current in the ever-changing world of education with topics chosen for their timeliness and relevance (e.g. Title IX, teaching sexuality, race and immigration). Open to all students, the course is especially relevant for students interested in education, counseling, human resources, and the law as career options. Students may enroll in EDU 208 more than once, provided the topic of the course differs.

Prerequisites: None

EDU221 - School Law

This four-credit course will investigate and explore the legal framework and foundations of the American School system and their impact on schools, students, teachers, and parents in the twenty-first century. Topics of study may include the role of religion in public education, due process, the legal mandates of students with special needs, No Child Left Behind, etc. Students will explore and evaluate actual school law situations through case studies and other research. This course is specifically designed for the special education dual certification program.

EDU250 - Teaching Internship

This four-credit course focuses on in-service participation as a full-time teacher’s aide in a pre-school, elementary, junior, middle, high school, or special education classroom during the January Intersession. A seminar component focuses on successfully understanding and navigating the school culture and researching and analyzing the dynamics of successful school reform especially as it relates to inclusion and students with special needs.

A three-week full-time internship at a school is required.

Prerequisites: EDU 201, 207; 301, 350, 403, internship clearances and/or permission of the department chair.

EDU301 - The Exceptional Learner

This four-credit course focuses on the theory and practice in the effective instruction and assessment of the exceptional learner.

Social and cognitive development and school and classroom accommodations for both students who are gifted and students who have special needs will be researched and examined in classroom and school settings. National and state laws and school district guidelines pertaining to the treatment and teaching of the nontraditional learner and students with special needs in inclusive classrooms will be examined.

A weekly internship at a local school is required for students with all clearances seeking certification.

Prerequisites: EDU 201, 207, or permission of the education department chair.

EDU302 - Curriculum

This four-credit course provides an overview of the development of problem solving and scientific reasoning skills in early childhood and elementary students. It connects theory and practice of effective instruction and assessment strategies in teaching modules emphasizing mathematics, science, social studies, and the humanities. Emphasis will be placed on concrete manipulatives, integration of science and mathematics with other subjects, reading and writing across the curriculum, inclusion, and classroom management. Throughout this course students integrate the Pennsylvania Department of Education Standards Aligned System (PA-SAS), the PDE Chapter 354.33 Professional Instructional Standards, and the Professional Knowledge and Practice Standards into course activities and assignments. This course is recommended for seniors to take concurrently with EDU 303 to prepare them for student teaching.

A weekly internship at a local school is required for students with clearances seeking certification.

Prerequisites: EDU 201, 207, 301, or permission of the education department chair.

EDU303 - Literacy, Reading and Writing

This four-credit course introduces theory, principles, and practices of teaching reading and writing, the developmental nature of language and reading ability, and effective classroom strategies for inclusionary practices and writing across the curriculum for all students. Throughout this course students integrate the Pennsylvania Department of Education Standards Aligned System (PA-SAS), the PDE Chapter 354.33 Professional Instructional Standards, and the Professional Knowledge and Practice Standards into course activities and assignments. This course is recommended for seniors to take concurrently with EDU 302 to prepare them for student teaching.

A weekly internship at a local school is required for students with all clearances seeking certification.

Prerequisites: EDU 201, 207, 301, or permission of the education department chair.

EDU304 - Children's Literature

This four-credit survey course introduces students to several genres of literature for children, including fiction, biography, fantasy, folk tales, poetry, informational, and picture books. Emphasis will be given to the value of both Western and non-Western literature, gender fairness, and inclusive multicultural perspectives in the selection and teaching of classroom literature. Students will read and critique selections from each of the above categories focusing on content, literary analysis, inclusivity, and the instructional skills necessary to teach reading and writing through the use of children's literature.

A weekly internship at a local school is required for students with all clearances seeking certification.

Prerequisites: EDU 201, 207, 301, or permission of the education department chair

EDU309 - Individualized Instruction

This four-credit course focuses on the study of the diverse social, cultural, and academic backgrounds and special needs of all students represented in classrooms. Students will review and present research related to the issues of preparing teaching methods and materials for individualizing instruction to meet diverse needs. Class readings and discussions will focus on theories of individualizing instruction and the problems of applying individualized instruction in particular school settings.

A weekly internship at a local school working with students who may be severely and profoundly handicapped and/ or have low incidence disabilities is required for students with all clearances seeking certification.

Prerequisites: Clearances for internships, EDU 201, 207, 301, or permission of the education department chair.

EDU321 - Diagnostic Teaching

This four-credit course focuses on preparing teachers to develop diagnostically inclusive teaching skills through the use of educational technology and other methodologies to expand the curriculum to better meet the learner's competencies, needs, interests, and abilities. Emphasis is on researching, recognizing, and effectively responding to student's strengths and weaknesses through the use of research and educational technology.

A weekly internship at a local school working with students who may be mildly or moderately handicapped and/ or have moderate or high incidence disabilities is required for students with all clearances seeking certification.

Prerequisites: Clearances for internships, EDU 201, 207, 301, or permission of the education department chair.

EDU350 - Teaching the Diverse Learner

This four-credit course focuses on in-service participation as a full-time teacher's aide in an early childhood, elementary, secondary ESL (English as a Second Language / ELL English Language Learner) and/or special education classroom setting during the January Intersession. A seminar / research component focuses on successfully understanding, analyzing, evaluating, and teaching the ESL / ELL learner.

A three-week full-time internship at a school is required.

Prerequisites: Clearances for internships, EDU 201, 207, 301, or permission of the education department chair.

EDU403 - Differentiated Instruction and Assessment

This four-credit course focuses on preparing students planning to student teach during the spring term of the senior year in the theories and practice of effective differentiated instruction and equitable assessment. Education seniors are required to take this course during the fall term of the senior year. This course involves intensive planning and teaching of demonstration master lessons incorporating a variety of assessments, readings, and research in academic content areas. Construction of various lessons, test forms, and basic quantitative concepts are included.

An extensive internship at a local school is required for students with all clearances seeking certification.

Prerequisites: EDU 201, 207, 301, or permission of the education department chair.

EDU406 - Principles of Curriculum Design (Certification Track)

This four-credit course allows students to analyze, synthesize, and evaluate information learned during their certification program course work, internships, and student teaching. Students will design inclusive curricular materials related to a particular subject area or age group. Topics include curricular research, instructional activities, and methodologies to evaluate all aspects of the classroom experience integrating the Pennsylvania Department of Education Standards Aligned System (PA-SAS), PDE Chapter 354.33 Professional Instructional Standards, and The Professional Knowledge and Practice Standards.

Prerequisites: EDU 201, 207, 301, 350, 403; qualifying exams and "no record status" clearances (FBI, Criminal Record, Child Abuse); negative TB test result; S-PSEA membership; approval of the COTP, or permission of the education department chair.

EDU407 - Student Teaching (Certification Track)

This 12-week twelve-credit course is the capstone experience for students seeking certification to teach. Students are assigned to a school to connect theory, professional knowledge, and best inclusionary practices under the guidance and supervision of the education department faculty, school personnel, and members of the COTP.

This course is taken concurrently with EDU 406.

Prerequisites: EDU 201, 207, 301, 350, 403; qualifying exams and "no record status" clearances (FBI, Criminal Record, Child Abuse); negative TB test result; S-PSEA membership; approval of the COTP, or permission of the education department chair.

EDU408 - Capstone Seminar (for majors not seeking certification)

The focus of this four-credit course is to actively investigate personal and academic strengths and competencies, seek alternative educational experiences, and explore personal goals and professional options. Students will explore their own set of vocational strengths, as well as careers including but not limited to graduate school programs, teaching without certification, alternative certification programs, teaching in other states, and employment in other educational fields. This seminar allows students to analyze, synthesize, and evaluate content learned during their college career.

This is part of the Child Development and Education Capstone Seminar experience and is taken simultaneously with EDU 409.

EDU409 - Capstone Internship (for majors not seeking certification)

Students taking this four-credit course will explore and research alternatives to teacher certification in a field-based educational or nonprofit capstone experience. They will design an empirical study or create an educational model that applies the psychological and educational principles studied in education classes and internships to create an alternative career path outside of traditional teacher certification. Professional internships are required.

This course is part of the capstone experience for the child development and education major and is taken simultaneously with EDU 408.

EDU500 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only

with the approval of the independent study director. During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies. Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs. The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Engineering

Professor: Sheers (engineering liaison)

The dual-degree engineering program combines the strengths of a liberal arts education and specialization in a field of engineering. Students receive a broad education that includes stronger training in the basic sciences and communication skills in addition to specialized training in a particular field of engineering.

Students typically spend three years at W&J and two years at an engineering school. Upon successful completion of the program, the student receives a bachelor of arts degree from W&J and a bachelor of science degree in an engineering field from the partner school. Cooperative programs in engineering have been established with Columbia University in New York City, Case Western Reserve University in Cleveland, Ohio, and Washington University in St. Louis, Missouri. However, students may choose to complete their engineering studies at other schools with engineering programs.

Students must complete W&J's degree requirements. Normally, some of the requirements are fulfilled by transferring courses back from the engineering school. However, consistent with W&J's degree requirements, no more than three courses may be earned off campus in the major.

To be guaranteed acceptance at affiliated schools, students must

- Have a cumulative grade point average of 3.00 or better for Case Western, 3.25 for Washington University in St. Louis, and 3.30 for Columbia University;
- Have a grade point average in approved courses in chemistry, mathematics, physics, and computer programming of 3.00 or better for Case Western, 3.25 for Washington University in St. Louis, and 3.30 for Columbia University; and
- Complete any courses required by the individual schools.
- There are slight variations in requirements between schools and between different fields in engineering. Courses required for all engineering fields are CHM 160 , CIS 220 , MTH 151 , 152 , 208 , 308 , and PHY 107 , and 108. In most cases, PHY 234 may be substituted for MTH 308. Students who wish to do this should consult with the engineering liaison.

Students should work closely with the engineering liaison in order to ensure a smooth transition to the affiliated schools and to assure completion of W&J graduation requirements.

English

Professors: Drew-Bear, Easton, Kyler, Troost

Associate Professors: T. Fee, Harding, Mayer, McEvoy, Mulvania, Shiller (chair), Verdun

Assistant Professors: Clark, Lewis

The English program aims to develop students who read with comprehension, insight, and appreciation; write with competence, grace, and authority; speak with clarity and confidence; and know about literature and literary history. It prepares them for careers that require cultural breadth, strong writing and research skills, and an ability to read, synthesize, and analyze written material.

MAJOR REQUIREMENTS: Ten courses, including [ENG 263](#) , [290](#) , and [400](#) ; a survey course chosen from [ENG 264](#) , [265](#) , or [266](#) ; four English courses at the 300-level; and two English courses, one of which must be numbered 200 or higher. No more than two Intersession courses may count for the major. The intensive freshman writing courses (currently [ENG 111](#) , [ENG 112](#)) required of all students do not count toward the major.

MINOR REQUIREMENTS: Six courses, including a survey course chosen from [ENG 263](#) , [264](#) , [265](#) , or [266](#) ; two other English courses at the 200-level; two English courses at the 300-level; one additional English course. No more than one Intersession course may count for the minor. Professional writing courses ([ENG 200](#) , [201](#) , [202](#) , [203](#) , [301](#) , and others as designated) do not count for the minor. The intensive freshman writing courses (currently [ENG 111](#) , [ENG 112](#)) do not count toward the minor.

Prerequisites for all courses may be waived with the written permission of the instructor.

In general, 100- and 200-level literature courses focus on developing skills in close reading and analytic writing while 300- and 400-level courses build on this foundation by asking students to engage responsibly with secondary sources or to employ sophisticated theoretical approaches. Professional and creative writing courses at the 200-level teach the fundamentals of writing in several genres while 300-level courses focus on developing a student's writing within a specific genre.

English majors contemplating graduate study in literature or writing should make their intentions known to their advisors, ideally in

the sophomore or junior year. It would be wise to study one or two foreign languages through at least the second year and give thought to undertaking an independent study project or pursuing honors.

AP POLICY: Students who earn a score of 4 or 5 on the College Board's test in English language and composition receive credit for ENG 111; students who earn a score of 4 or 5 on the test in English literature receive credit for ENG 190 (but not HUM designation).

TEACHER CERTIFICATION: Students may seek Secondary Education (grades 7-12) Certification in English by completing the English major, the required English content area courses (ENG 200, ENG 302, COM 220, and a designated COM course), and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification.

Students may seek Upper Elementary Education Certification (4-8) in Language Arts in one of two ways: Option 1: Complete the Child Development and Education major and the English minor (or major); Option 2: Complete the English major, the required English content area courses (ENG 200, ENG 302, COM 220, and a designated COM course), and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification in Language Arts.

Before being formally admitted to either program, students must satisfy -- by the end of the sophomore year -- the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

ENG111 - Composition

An intensive writing course that develops skills in critical thinking, academic writing, analytic reading of both literary and non-literary texts, methods of research, and the proper acknowledgement and documentation of secondary sources. Students learn to shape workable topics, revise in response to comments, and produce thesis-driven essays that are organized, coherent, and grammatical and that support points with examples. A passing grade satisfies the all-college skills requirement for a first-year intensive writing course; students who fail the course must repeat it. This course does not toward the English major or minor.

ENG112 - Honors Composition

An intensive writing course that develops skills in critical thinking, academic writing, analytic reading of both literary and non-literary texts, methods of research, and the proper acknowledgement and documentation of secondary sources. Students learn to shape workable topics, revise in response to comments, and produce thesis-driven essays that are organized, coherent, and grammatical and that support points with examples. A passing grade satisfies the all-college skills requirement for a first-year intensive writing course; students who fail the course must repeat it. This course does not toward the English major or minor.

ENG190 - Introduction to Literature

A discussion course that introduces students to the practices of reading, discussing, and writing about literary works with emphasis on reading actively and acquiring the vocabulary and skills needed to interpret literature. The texts in each section of the course vary but represent several genres, including poetry, fiction, and drama.

Not open to seniors

ENG200 - Advanced Composition

Theoretical and practical aspects of academic writing, emphasizing both personal expressiveness and analytic skills. Students write in a variety of genres to gain experience in hypothesis development, critical thinking, research, and documentation. Readings focus on current and classical theories of idea generation, audience analysis, persuasive method, and revision strategy. This course is required for Secondary Education (grades 7-12) Certification in English and for Upper Elementary Education Certification (4-8) in Language Arts-Option 2. It is a Group 2 course for the Professional Writing concentration; it does not count toward the English minor.

Prerequisite: ENG 111 or 112

ENG201 - Professional Writing

Theoretical and practical aspects of writing for the workplace, emphasizing invention, problem-solving, audience adaptation, revision, document design, usability, and ethics. Students create documents such as procedure manuals, brochures, proposals, and magazine articles, and they conduct research using print and electronic sources. This is a required course for the Professional Writing concentration; it does not count toward the English minor.

Prerequisite: ENG 111 or 112

ENG202 - Topics in Professional Writing

A focused study of one genre within professional writing, such as science writing or mass media writing, paying particular attention to issues unique to the genre as well as issues of invention, audience, ethics, and aesthetics. In addition to analyzing published examples, students compose and revise several works in the genre. This is a Group 1 course for the Professional Writing concentration; it does not count toward the English minor.

Prerequisite: ENG 111 or ENG 112

ENG203 - Editing and Print Design

Theoretical and practical aspects of preparing documents for publication. Students study strategies for developmental editing, the principles of good prose and page design, and the history of book production. They learn to copyedit a text using standard proofreading marks, apply style sheets and templates, and use page-layout software (Adobe InDesign). This is a Group 1 course for the Professional Writing concentration; it does not count toward the English minor.

Prerequisite: ENG 111 or 112

ENG205 - Creative Writing

An intensive introductory course focusing on the craft of writing both poetry and fiction. Student writing in a variety of forms will be submitted for criticism alongside works by established writers with the overall goal of achieving a better understanding of the fundamentals of producing polished poems and short stories.

Prerequisite: ENG 190, 263, 264, 265, or 266

ENG215 - Shakespeare for Everyone

An introduction to reading, understanding, and enjoying selected plays by William Shakespeare within the context of stage, film, and classroom performance. In addition, it teaches the art of close reading and analytical writing.

ENG222 - Topics in Literature and the Environment

An introductory topics course on literature and the environment. Students might expect to be introduced to environmental writing from its inception to the present, in texts and genres as diverse as the Bible, Romantic poetry and contemporary adventure writing. Themes and subtopics might include the idea of wilderness, the literature of place, or travel writing. Topics are announced each term. This course serves as an elective for the EVS Program.

ENG224 - Gender and Sexuality in Literature

A study of a selected topic in literature related to gender or sexuality. Specific courses may examine the effect of gender on authors' lives and work; the depiction of gender or sexuality in literature; the effect of gender in different literary periods; images of women; masculinity; gay and lesbian literature; or feminist approaches to literature. Topics are announced each term. This course serves as an elective for the GWS Program.

ENG226 - Faith in Poetry

A study of representative poetry of several faith traditions, such as the Jewish, Christian, and Islamic faiths. Students explore the poetry of sacred texts and more recent verse of personal spiritual struggle with attention to the way poetry expresses yet also examines the nature of belief. The course includes discussion of various doctrinal and historical conflicts and the ways that poetry, as well as the shared artistic principles among writers in these distinct traditions, can offer a means of interfaith understanding. In addition, it teaches the art of close reading and analytical writing.

Prerequisites: NONE

ENG250 - Introduction to Genres

A discussion course that explores works in a single literary genre -- such as comedy, satire, or fiction -- emphasizing both formal and historical issues. In addition, it teaches the art of close reading and analytical writing. Genres are announced each term.

ENG255 - Special Topics in Literature

A discussion course that explores texts arranged by theme, drawn from several countries, or presented in translation. In addition, it teaches the art of close reading and analytical writing. Recently this course has explored Asian-American literature, the poetry of faith, the gothic, and the literature of Ireland. Topics are announced each term.

ENG260 - World Literature

A lecture-discussion course that explores literature produced largely by authors writing outside the Western literary tradition. Texts represent a variety of genres and historical periods and often emphasize themes of colonialism, revolution, and national identity.

ENG261 - Children's Literature

A discussion course that provides historical context and introduces several genres of literature for young people, including fiction, biography, fantasy, poetry, picture books, and informational texts. This course is not open to students majoring in Child Development and Education since it is cross-listed with EDU 304. In addition, it teaches the art of close reading and analytical writing.

ENG263 - British Literature 1

A lecture-discussion course that surveys texts from the Old English, Middle English, and Early Modern periods in the context of literary and cultural traditions and that provides students with a foundational knowledge of British literary history before 1670. Readings include *Beowulf* and *Sir Gawain and the Green Knight* (in translation), selections from Chaucer's *Canterbury Tales* (in Middle English), a book of Spenser's *Faerie Queene*, a play by Shakespeare, and Milton's *Paradise Lost*. In addition, it teaches the art of close reading and analytical writing. This course is required for English majors.

ENG264 - British Literature 2

A lecture-discussion course that surveys major literary works and writers from the Restoration, eighteenth century, and nineteenth century in relation to their cultural development and historical backgrounds. Readings include works by Dryden, Swift, Wordsworth, Austen, Dickens, Browning, and Wilde and include poems, plays, novels, essays, and letters. In addition, it teaches the art of close reading and analytical writing.

ENG265 - American Literature 1

A lecture-discussion course that surveys significant texts and influential ideas of American literature from its beginnings through the mid-nineteenth century with emphasis on intellectual, cultural, and historical contexts, including the formation of American identity and the emergence of the literary canon. In addition, it teaches the art of close reading and analytical writing.

ENG266 - American Literature 2

A discussion-lecture course that surveys the significant texts and influential ideas of American literature from the mid-nineteenth century through the present with emphasis on intellectual, cultural, and historical contexts, including issues of class, ethnicity, and gender. In addition, it teaches the art of close reading and analytical writing.

ENG270 - African-American Literature

A study of selected works by African Americans, with attention to issues of identity, race, history, survival, and the relationship of literature to the other arts. Topics vary; specific courses might be organized by genre, author, theme, or other emphasis. Recent topics have included poetry, autobiography, and fiction. Topics are announced each term.

ENG290 - Literary Investigations

An introduction to the tools of literary criticism. By studying a small number of substantial literary texts, each possessing a significant history of scholarly commentary, students learn how to use a variety of contemporary interpretive strategies to open up a text. In addition, students learn how to read criticism and perform discipline-specific research, thereby equipping themselves for study at the 300-level. This course is required for English majors.

Prerequisite: one 200-level fall- or spring- term literature course (two strongly recommended).

Not open to freshmen or seniors.

ENG301 - Advanced Professional Writing

A study of advanced topics and techniques in professional writing, with a strong emphasis on the role of technology in writing, collaborating, and reaching audiences. In addition to analyzing published examples, students compose and revise several works. This is a Group 1 course for the Professional Writing concentration; it does not count toward the English minor.

Prerequisite: ENG 200, 201, or 203

ENG302 - History of the English Language

A lecture-discussion course tracing the English language's development from its Germanic roots to its contemporary status as a world language, exploring the historical and cultural influences that shaped each stage of the language's development. In the process, students analyze the chronological changes in grammar and syntax from Anglo-Saxon to current varieties of English, study their lexicons, and perform detailed work in etymology. This course is required for Secondary Education (grades 7-12) Certification in English and for Upper Elementary Education Certification (4-8) in Language Arts-Option 2.

Offered only in alternate years (fall 2014 and fall 2016)

Prerequisite: ENG 263

ENG305 - Studies in Early English Literature

Old and Middle English works studied within their cultural and critical contexts and read, when possible, in the original. The emphasis in a given semester might be chronological, generic, or thematic. Recent topics have included dream visions, Arthurian literature, and the works of Chaucer. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG310 - Studies in Renaissance Literature

Authors and texts from Skelton to Milton studied within their cultural and critical contexts. The emphasis in a given semester might be chronological, generic, or thematic. Recent topics have included the poetry of Milton, early modern drama, and sixteenth-century poetry. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG315 - Studies in Shakespeare

Selected works of William Shakespeare studied within their historical and critical contexts. The emphasis in a given semester might be chronological, generic, or thematic. This course is also designed to strengthen students' understanding of Shakespeare's language and his dramatic art, partly by considering his plays as scripts for performance.

Prerequisites: Two 200-level literature courses

ENG320 - Studies in the Long Eighteenth Century

Authors and texts from Dryden to Wollstonecraft studied within their cultural and critical contexts. The emphasis in a given semester might be chronological, generic, or thematic. Recent topics have included the literature of sense and sensibility, neoclassical drama, and rise of the novel. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG325 - Studies in Early American Literature

Literature of the colonial and early national periods studied within its cultural and critical contexts. The emphasis in a given semester might be chronological, generic, or thematic. Recent topics have included captivity narratives, the early novel, and literature of national crisis. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG330 - Studies in Nineteenth-Century British Literature

Authors and texts from Blake to Hardy studied within their cultural and critical contexts. Specific courses might be defined by author, period, movement, genre, or theme. Recent topics have included poetry of the Romantics and the Victorian novel. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG335 - Studies in Nineteenth-Century American Literature

Literature of the nineteenth century studied within its cultural and critical contexts. Specific courses might be defined by author, period, movement, genre, or theme. Recent courses have included the novels of Hawthorne and Melville, women writers, and the American Renaissance. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG340 - Studies in British Literature since 1900

Authors and texts from Yeats to Pinter studied within their cultural and critical contexts. Specific courses might be defined by author, period, movement, genre, or theme. Recent topics have included modern drama, poetry and the past, and modernism. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG341 - Studies in American Literature since 1900

Literature of the twentieth century studied within its cultural and critical contexts. Specific courses might be defined by author, period, movement, genre, or theme. Recent topics have included Hemingway and Fitzgerald, Southern women writers, and the literature of war. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG343 - Studies in African-American Literature

An advanced study of selected works by African-American authors, with attention to cultural and critical contexts. Specific courses might be defined by period, movement author, genre, or theme. Recent topics have included the Harlem Renaissance and short fiction. The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG345 - Criticism and Theory

What makes literature good? What is literature good for? How does literature produce meaning? An exploration of arguments, both historic and contemporary, about the purpose of art, standards of judgment, the nature of the creative process, the production of meaning, and the changing relationship of author, text, context, and reader.

Prerequisites: Two 200-level literature courses

ENG350 - Studies in Form and Genre

A study of texts in a single literary genre (e.g., novel, drama, poetry) or in a subcategory of a genre (e.g., autobiography, graphic novel, epic), emphasizing formal, cultural, and critical contexts. The genre will be announced each term.

Prerequisites: Two 200-level literature courses

ENG355 - Studies in Literary Perspectives

A study of texts arranged in ways other than by period, geography, or genre; works by authors outside of Britain and the United States; and literature approached theoretically (e.g., feminist, psychological, queer, postcolonial). The topic will be announced each term.

Prerequisites: Two 200-level literature courses

ENG360 - Advanced Poetry Writing

A studio course in poetry writing with a scholarly component. Class time will be divided between critical consideration of work by established writers and workshop of student writings. Students will continue to develop the formal training initiated in ENG 205 with writing projects of greater complexity.

Prerequisite: ENG 205

ENG361 - Advanced Fiction Writing

A studio course in fiction writing with a scholarly component. Class time will be divided between critical consideration of work by established writers and workshop of student writings. Students will continue to develop the formal training initiated in ENG 205 with writing projects of greater complexity.

Prerequisite: ENG 205

ENG400 - Seminar

A capstone course on a topic that varies from semester to semester and that assigns the student primary responsibility, through independent reading and research, for promoting the intellectual aims of the seminar. As part of the capstone experience, each student researches, writes, and revises a substantial, sophisticated essay and gives a public presentation based on it. Topics for 2014-15: Keats and the Pre-Raphaelites (fall); Spring term: alternative seminar format. This course is required for English majors. By permission only.

Prerequisite: One 300-level literature course (two strongly recommended)

ENG - 500, 501 Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Entrepreneurship

Associate Professor: Gidas

Assistant Professor: Tarutis

The Department of Economics and Business offers several courses of study aimed at developing the perspectives, skills, insights, and experiences that will enable students to recognize and develop entrepreneurial opportunities in a variety of fields based on their education in the liberal arts. A minor in entrepreneurship is offered for students completing any major other than business administration or international business and a concentration in entrepreneurship is offered for students completing any major other than business administration. Students majoring in business administration may complete an optional emphasis in entrepreneurship. Students majoring in international business may complete the concentration.

MINOR REQUIREMENTS: [ECN 101](#); [ACC 211](#); [BUS 201](#), [307](#), [381](#), [382](#), and an additional designated 300-level Business topics course, per approval of the Department Chair.

EMPHASIS REQUIREMENTS: Students majoring in business administration may complete an optional emphasis in entrepreneurship. In addition to the requirements of the business major, the emphasis requires the following courses: [BUS 381](#), [382](#) and an additional designated 300-level Business topics course, per approval of the Department Chair. These courses may also be used to satisfy the elective business (BUS) courses required by the major.

CONCENTRATION REQUIREMENTS: [ECN 101](#); [ACC 211](#); [BUS 201](#), [381](#), [382](#).

Environmental Studies

Associate Professor: East (director)

Program Faculty Members: Caffrey, Contreras, Fifer, Kilgore, Logan Bayline, March, Mayer, Miller, Osborne, Schmidt, Shiller, Swift, Wang

The Environmental Studies Program's mission is to graduate men and women who are environmentally literate, socially responsible, and effective problem solvers and agents of change for the benefit of society, nature, and themselves. This will be achieved by equipping students with the tools, ideas, and opportunities to engage constructively with environmental and social issues spawned from the dynamics of globalization, human population, economic activity, and societal values. The program seeks to instill in each student a personal sense of environmental stewardship that includes an appreciation and understanding of sustainability from ecological and socioeconomic perspectives. Courses in the program empower students with the ability to apply appropriate technological and critical thinking skills. The program provides the opportunity to complete a major or minor, including opportunities to conduct independent research and complete an internship.

MAJOR REQUIREMENTS: A total of 10 courses, including the following five core courses that must be successfully completed: [EVS 101 Introduction to Environmental Studies](#) ([EVS 100 Topics in Environmental Studies](#) may be taken in lieu of [EVS 101](#) for students declared as EVS majors) ; [EVS 201 Global Environmental Issues](#); one of [PHL 231 Environmental Ethics](#), [HIS 274 World Environmental History](#), [POL 313 Environmental Policy](#) , or [EVS 315 International Environmental Policy](#) ; [BIO 320 Ecology](#) or [BIO 288 Conservation Biology](#); and [EVS 430 Capstone Experience in Environmental Studies](#).

In addition, students must successfully complete five elective courses as follows:

- One course from the Natural Sciences: [EVS 150](#) (taught from physics), [EVS 330](#), [EVS 350](#), [BIO 217](#), [BIO 200](#), [BIO 245](#), [BIO 288](#), [BIO 320](#), [BIO 416](#), [CHM 101](#), or [CHM 340](#).
- One course from the Social Sciences: [EVS 260](#), [EVS 300](#), [EVS 315](#), [SOC 262](#), [SOC 347](#), [SOC 361](#), [POL 250](#), [POL 313](#), [POL 350](#) or [ECN 391](#).
- Three additional elective courses selected from the lists of electives above, or from the following Humanities/Arts courses: [ENG 222](#) (Topics in Literature and the Environment), [HIS 274](#) (World Environmental History), [PHL 231](#), [MTH 125 OR BIO/MTH 245](#), or [MUS 245](#).

Students may include one approved Intersession course to count towards the major or minor as an elective.

MINOR REQUIREMENTS: A total of six courses, including the following three core courses that must be successfully completed: [EVS 101 Introduction to Environmental Studies](#) , [EVS 201 Global Environmental Issues](#) , and [EVS 315 International Environmental Policy](#).

In addition, students must successfully complete three electives as follows:

- One course from the Natural Sciences: [EVS 150](#) (taught from Physics), [EVS 330](#), [EVS 350](#), [BIO 217](#), [BIO 200](#), [BIO 245](#), [BIO 288](#), [BIO 320](#), [BIO 416](#), or [CHM 101](#).
- One course from the Social Sciences: [EVS 260](#), [EVS 300](#), [EVS 315](#), [SOC 262](#), [SOC 347](#), [SOC 361](#), [POL 250](#), [POL 313](#), [POL 350](#) or [ECN 391](#).
- One additional elective course selected from the following Humanities/Arts: [ENG 222](#) (Topics in Literature and the Environment), [HIS 274](#) (World Environmental History), [PHL 231](#), [MTH 125 OR BIO/MTH 245](#), or [MUS 245](#).

Students may include one approved Intersession course to count towards the major or minor as an elective.

AP Policy: Students scoring a 5 on the Environmental Science AP test receive credit for EVS 101. Students earning a 4 receive credit for EVS 100

TEACHER CERTIFICATION: Students may seek Upper Elementary Education Certification (4--8) in Science in one of two ways.

Option 1: Complete the Child Development and Education major and the special Environmental Studies minor: [EVS 101](#), [201](#), and [330](#); 1 of [ENG 222](#) (Literature and the Environment), [HIS 274](#) (World Environmental History), or [MUS 245](#), or [PHL 231](#); 1 of [EVS 130](#), [260](#), [280](#), [315](#), [SOC 262](#), [361](#), [POL 250](#), [313](#), [350](#) or [ECN 391](#); 1 of [EVS 150](#), [350](#), [BIO 200](#), [245](#), [263](#), [288](#), [320](#), [416](#), or [CHM 101](#).

Option 2: Complete the Environmental Studies major, the required Environmental Studies content area courses (described below), and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification. The required Environmental Studies content area courses are: 1 of [EVS 150](#), [330](#), [350](#), [BIO 200](#), [245](#), [265](#), [288](#), [416](#), or [CHM 101](#) ; 1 of [EVS 130](#) (Intersession), [250](#) (Intersession), [260](#), [280](#) (Intersession), [315](#), [POL 250](#), [313](#), [350](#), [SOC 262](#), [361](#) or [ECN 391](#).

Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

EVS100 - Introductory Topics in Environmental Studies

This course is an interdisciplinary overview of major topics in environmental studies. In addition to covering basic core concepts in ecology, natural resource economics, environmental ethics and environmental policy, each semester a different topic, or set of topics, will be emphasized. Such topics may include global warming, renewable energy, sustainability, human population and consumption, globalization, and biodiversity.

EVS101 - Introduction to Environmental Studies

This course introduces students to the science behind historical and contemporary topics associated with the environment. Pervasive environmental questions are addressed within the context of the natural sciences, social sciences, humanities, and arts. Through lectures, discussions, and complementary field experiences, students become familiar with major theories and practices in environmental studies. The goal/process of sustainable development is emphasized, stressing individual and community actions. Guest speakers from inside and outside the College community introduce diverse perspectives and provide insight into career opportunities. Weekly labs include field trips that provide practical experience in collecting and analyzing quantitative and qualitative data from aquatic and terrestrial ecosystems.

EVS130 - Women, Gender, and Environment in the Developing World

This course introduces students to some of the key theoretical debates and discourses surrounding gender issues in the developing world, with emphasis on natural resource utilization and conservation. Through focused readings, guided discussions and film, students critically review social, economic, political, and environmental policies and practices in Latin America, Africa, and Asia. Case studies are used to highlight and analyze factors such as sex ratios, biological and social reproduction, division of labor, land ownership, and participation in governance

EVS150 - Our Physical Environment

This course applies basic concepts from the physical sciences to the understanding of environmental systems. The social, political, and economic context also is considered. Laboratory experiences are used to illustrate concepts from lecture and tie material from course readings to the environment. Field work provides opportunities for measurement, sampling and analysis of the physical environment.

EVS201 - Global Environmental Issues

This course emphasizes in-depth, critical analyses of pervasive environmental issues that influence and are influenced by processes and policies attendant to globalization and development. Through critically analyzing readings and presentations, students learn to recognize various strategies and techniques employed in the written and oral media to influence perceptions about environmental issues.

Prerequisite: EVS 101 or permission of the program director

EVS260 - Diffusion of Environmental Innovations

This course introduces students to the role of being a professional "change agent" when introducing environmental innovations. The focus is on applications of visual, oral, and written techniques to disseminate environmental ideas, messages, and technologies within countries/cultures foreign to the student. Methods in Participatory Rural Appraisal and Logical Framework Analyses are emphasized.

EVS280 - Environment and Development in East Africa

This three-week excursion to East Africa provides students with an opportunity to assess environmental projects being implemented by governmental and nongovernmental aid organizations. Emphasis is on interaction with project staff as they interface with farmers and pastoralists in the course of their daily activities. Students become familiar with rapid rural appraisal methodologies in assessing ecological and socioeconomic conditions. At least two full days are spent viewing wildlife in national parks. Offered Intersession of odd-numbered years

EVS300 - Topics in Regional Development and Environment

This course explores environmental issues within selected regions of the world. Social, political, economic and ecological dimensions of environmental issues/conflicts will be explored vis-à-vis the goals and processes of globalization and international development. Key issues which have affected each region in the past, and are likely to be significant in the future, are analyzed through case studies, film, discussion, and lecture.

Prerequisites: ECN 102 or POL 120 or EVS 201

EVS315 - International Environmental Policy

This course examines environmental institutions, law, and policy from a global perspective. The impacts of environmental policy on the goals and processes of sustainable development are analyzed. Relationships between historical/contemporary political structures and countries' participation in international conventions/treaties are examined.

Prerequisites: EVS 201, POL 313 or permission of the instructor

EVS330 - Watershed Management

This course introduces students to the physical, biological, and ecological processes that influence hydrology on urban, forest, and rangeland watersheds. Students gain an understanding and appreciation of the complexity of the hydrologic cycle and how it affects regional and global water supplies. Attention is given to legal and economic aspects of managing fresh water as a renewable, but limited, resource. Weekly labs consist of classroom exercises to develop relevant cartographic and computational skills as well as field experiences to physically measure and assess the condition of local watersheds.

Prerequisite: BIO 320 or EVS 201, or permission of the program director

EVS350 - Environmental Reclamation

The course explores the challenges and opportunities attendant to efforts in environmental mitigation and remediation. Lectures/discussions highlight multi-stakeholder partnerships and autogenic repair of hydrology, nutrient cycling, and energy capture. Students learn skills in risk analysis/management and benefit-cost analysis. Case study analyses of natural and human-induced environmental disasters integrate social, economic, ethical, political, and ecological issues. Special attention is given to pervasive issues in the northeastern United States, including brownfields, wetlands, abandoned mine drainage, and degraded agricultural land. Local field trips connect students with practitioners in the professional arena.

Prerequisites: EVS 101 and 201, or permission of the program director

EVS430 - Capstone Experience

This course of guided research is the culminating experience for students in the Environmental Studies Program or for students in other programs wishing to merge their major fields of study with environmental topics. The course is begun during the fall term of the senior year by preparing and presenting a research proposal and initiating the research work. During the spring term of the senior year, research work continues, culminating in a thesis presented in written and oral form. The student is co-advised by the Director of Environmental Studies, another chosen faculty member, and/or a professional in the student's area of research approved by the Director of Environmental Studies.

Prerequisites: EVS 101 (or EVS 100), AND EVS 201, AND any 300-level EVS (or higher) OR any 200-level BIO course (or higher)

Film Studies

The emphasis in film studies is available to [communication arts](#) majors. It aims to prepare students to ask and answer questions about film as artistic expression. How do technical, social, and historical constraints shape cinematic storytelling practices? How does a specific film invite a particular interpretation for a certain audience in a given time and culture? How do the interactions of a filmmaking collaborative (writers, directors, technicians, performers, editors, and others) create meanings for audiences?

FILM STUDIES EMPHASIS REQUIREMENTS: COM 101; COM 102; COM 112; 200-level elective (may include COM 198)

(Internship), COM 251 recommended); COM 211; COM 261; COM 301; COM 331; COM 351; COM 401 (the Senior Project completed in COM 401 must be relevant to film studies). A communication arts major with an emphasis in film studies requires 10 courses total.

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. 1-credit practicums in theatre (COM 252) and radio (COM 242) are available each semester, and each course may be taken up to four times. The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company. Participation in the WNJR radio station is also available to all W&J students. After a meeting with the student Station Manager or the Faculty Advisor, followed by completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit wnjr.org.

Financial Economics

Professor: Kuhn

Associate Professor: L. Dunn, Wang (coordinator)

Assistant Professor: Park

The financial economics major provides foundational knowledge for students interested in careers in financial services or, when combined with additional preparation in mathematics, for students interested in graduate study in finance. The curriculum includes courses in economic theory, mathematics, accounting and each of the three broad areas of finance – financial markets, investments and managerial (corporate) finance.

MAJOR REQUIREMENTS: ECN 101 , 102 , 201 and 202; ACC 211 , MTH 125 and MTH 131 or MTH 151; FIN 341, 342, 440, 445, 498; and one additional 300-level or 400-level financial economics (FIN) course.

The department requires that the following courses be completed at Washington & Jefferson College: ACC 211, ECN 101, ECN 102, ECN 202, MTH 125, MTH 131 or 151, FIN 341, FIN 342, FIN 445, and FIN 498. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at Washington & Jefferson. Also, students may petition the department chair to waive this requirement to complete specific courses at Washington & Jefferson so as to facilitate a term of study abroad.

CAPSTONE REQUIREMENT: All students completing a major in financial economics must take FIN 498 (Senior Project) in the spring term of their senior year. The objectives of this course are to synthesize the knowledge gained through each of the required courses in the major and to develop the student's research, analytical and communication skills. Students must complete a portfolio analysis, company analysis or market analysis project, including a comprehensive report. Also, to satisfactorily complete this course, students are required to pass a comprehensive financial economics exam during the term of the senior project.

MINOR REQUIREMENTS: The requirements of the minor vary depending upon the student's major. For all majors other than accounting and business, the requirements of the minor are as follows: ECN 102, 202; ACC 211; MTH 125 and MTH 131 or 151; FIN 341 and 342 and one additional 300-level or 400-level financial economics (FIN) course. The requirements of the minor for accounting and business majors are as follows: two of the following courses: ECN 102, ACC 211, MTH 125, MTH 131 or 151, FIN 341 (a maximum of two may count for the minor); ECN 202, FIN 342, and two additional 300-level or 400-level financial economics (FIN) courses. No more than two courses that count for the accounting and business major requirements may also fulfill the financial economics minor requirements.

The department requires that the following courses be completed at Washington & Jefferson College: ECN 102, ECN 202, ACC 211, MTH 125, MTH 131 or 151, FIN 341, and FIN 342. A student admitted to the College after having completed these courses at another college or university must petition the chair of the department for special consideration in order to waive this requirement and transfer any of the required courses to his or her major at Washington & Jefferson. Also, students may petition the department chair to waive this requirement to complete specific courses at Washington & Jefferson so as to facilitate a term of study abroad.

NOTES:

Students majoring in financial economics may not also major in accounting, business administration, or international business, but may minor in accounting or business administration. Students majoring in financial economics may not double major or minor in economics. Students majoring in financial economics may complete a minor or a concentration in entrepreneurship.

A grade of C or better is required to satisfy the prerequisite requirement for any financial economics (FIN) course serving as a prerequisite for other financial economics (FIN) courses.

Students considering doing graduate work in finance are encouraged to pursue additional math courses, such as [MTH 152](#), [208](#), [217](#), [308](#), [415](#), and [ECN 401](#), while at Washington & Jefferson College. Students should consult with their advisor regarding mathematics preparation for graduate school.

CFA LEVEL I EXAM PREPARATION:

Washington & Jefferson College is part of the University Recognition Program of the CFA Institute and thereby the financial economics curriculum covers a significant amount of the required material of the CFA Level I Exam.

FIN341 - Principles of Finance

This course is an introduction to the three primary areas of finance - financial markets and institutions, investments, and managerial (corporate) finance. Basic principles of finance are introduced and applied to the study of financial market operations, the valuation and pricing of securities and other financial assets, and corporate decision making including capital budgeting analysis. This course is the same as BUS 341 and ECN 341.

Prerequisites: ECN 102, ACC 211, and MTH 125

FIN342 - Investments and Portfolio Theory

This course introduces the theory and related applications of the field of investments, including portfolio theory and management. Investment opportunities and strategies related to equity, fixed income, and derivative securities are discussed in depth. Additionally, the process of creating, maintaining, and evaluating the performance of professional investment portfolios is investigated. This is the same course as BUS 342.

Prerequisites: FIN/BUS/ECN 341

FIN343 - Money, Banking, and Financial Markets

This course is a study of financial markets and institutions, the role of the central bank in an economy, the international financial system, and monetary theory. Topics covered in this course include: the nature and origins of money; the financial system which consists of the financial industries and the central banking system; the supply of money and its control; monetary policy; and the international financial system. This is the same course as ECN 343.

Prerequisites: ECN 102

FIN344 - Managerial Finance and Accounting

An introduction to the financial management of corporate business organizations including investing, financing, and operating decisions within the context of financial planning and management control activities. Includes theory of corporate finance as well as analytical tools associated with the discipline of managerial accounting. This course is the same as ACC 344 and BUS 344.

Prerequisites: FIN/BUS/ECN 341

FIN440 - Financial Econometrics

This course introduces the theory and application of econometric techniques in financial economics. It provides modeling tools to analyze financial data and test financial economics theory. Topics include characteristics of financial data, multiple regression, time series modeling, and financial forecasting.

Prerequisites: ECN101, FIN341, MTH 125 (with grade of C or better) or MTH 305

FIN445 - Financial Analysis and Security Valuation

An introduction to both the framework and analytical tools used in the joint process of analyzing a company's financial statements and valuing the company's securities.

Prerequisites: FIN 342

FIN498 - Senior Project

This course serves as the capstone for the financial economics major. Students must complete a portfolio analysis, company analysis or market analysis project, including a comprehensive report. Also, to satisfactorily complete this course, students are required to pass a comprehensive financial economics exam during the term of the senior project.

Prerequisites: FIN 445 or permission of the instructor

First Year Seminar

Director: Malinak

First Year Seminar (FYS), required of all first year students during the Fall Term, is both an intensive study of a focused topic and an introduction to the intellectual life of the College. We offer dozens of exciting topics taught in a discussion-based environment to promote student engagement and intellectual curiosity. The course helps students make the transition to college-level work by emphasizing academic skills such as critical reading, thinking, and analysis. FYS instructors also serve as their students' academic advisors for the duration of the first year.

- Classes are kept small and are structured to encourage discussion
- Thought-provoking topics reflect the instructors' passions
- Living/learning communities: students in some seminars will be housed together in the residence halls, extending the academic conversation beyond the classroom

First Year Seminar faculty are selected from professors across all the departments of the College to teach [FYS 199](#) .

FYS199-First Year Seminar

All new full-time, first-year students must complete a First Year Seminar as an introduction to the liberal arts, the College, and college-level expectations. The First Year Seminar is a graded course which gives students the opportunity to study a well-defined subject in a small group. Seminars aim to develop a range of learning skills, such as reading, writing, speaking and quantitative analysis, depending on the content of the individual seminar. Special emphasis will be placed on critical analysis of the subject in question, both in writing and class discussion. Seminars also provide opportunities to participate in a range of cultural and intellectual events. First Year Seminar instructors serve as academic advisors to students in the Freshman class.

Offered: Fall term only

Forensic Science

Steering Committee

Professors: Bennett, DeBerry (coordinator)

Associate Professor: J. Bayline

Affiliated Faculty

Professor: Miller

Assistant Professor: Petchel

Science has had an enormous impact on the definition and enforcement of the laws enacted to regulate society. Forensic science

is the application of scientific principles to criminal and civil laws within a criminal justice system with the goal of establishing guilt or innocence. The interdisciplinary minor in forensic science is designed to introduce students to some of the specialized fields of forensic science and the fundamental principles of science and technology upon which they are based. Course work will provide students with: an introduction to the forensic processes of evidence collection and scientific analysis, the scientific study of human behavior, and the mathematics of collecting and interpreting data; an introduction to human behavioral and societal structures, and the criminal justice system; and an advanced study option of either advanced forensic laboratory procedures and techniques or advanced aspects of forensic psychology.

MINOR REQUIREMENTS: FOR 100; PSY 101; MTH 125 or MTH/BIO 245; PSY 102 or SOC 101; one of the following: PSY 245, PSY 326, PSY 347, PSY 380, SOC 223, or SOC 323; one of the following: BIO 412, CHM 270 and 385, PSY 326, or PSY 347.

Psychology majors can count no more than 3 courses from the forensic science minor toward their psychology major. Psychology minors can count no more than 2 courses from the forensic science minor toward their psychology minor.

FOR100 - Introduction to Forensic Science

A laboratory-based course in which students are introduced to concepts and techniques used for collection, scientific analysis, and presentation of crime scene evidence. Registration preference given to students enrolled in the forensic science minor. Maximum 16 students.

(Note: Formerly offered as SCI 100: Forensic Science and BIO 100: Forensic Science)

Prerequisites: NONE

FOR500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

French

Associate Professors: Pflanze (program coordinator), Taylor

Assistant Professor: Crampton-Frenchik

The Department of Modern Languages offers a major and a minor in French language and francophone literatures and cultures. Students learn the skills, knowledge, and qualities necessary to interact in culturally appropriate ways with francophone speakers. This is accomplished through immersing students in culturally authentic contexts both in and out of the classroom.

PLACEMENT PROCEDURES: All entering freshmen with prior experience in French will receive language placement by French program faculty. This placement will determine their first course in the sequence. Because of the varying requirements for completing a French major or minor, it is to the student's advantage to begin at the highest level possible. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

MAJOR REQUIREMENTS: Since the Department of Modern Languages offers advanced placement, requirements for the French major vary according to entry level. All entering freshmen with prior experience in French will receive language placement by French program faculty. Because of the varying requirements for completing a major or a minor in French, it is to the student's advantage to begin at the highest level possible, usually FRN 207 or FRN 208. However, students with very limited or no background in French will begin their studies with FRN 105 or FRN 106.

Students who begin in 207 will take eight courses, including 207, 208, 309, 310, and three 400-level courses. With prior approval, one departmental course taught in English translation or one extra-departmental course of appropriate content may count toward the major. Students who begin in 208 can complete a major with seven courses, excluding 207.

Students who begin in 309 will take six courses, including 309, 310, three 400-level courses, and at least one additional course

above 200. No course taught in English may count toward the major.

Students majoring in French are required to complete a capstone experience, which may be satisfied in one of the following ways:

1. An oral presentation via PowerPoint in French. Following return from study abroad, the student will present an overview and intercultural analysis of his/her experience to an audience of French faculty and students.
2. A course-related research paper of approximately 15 pages on a substantive topic decided in conjunction with the instructor. This would normally be completed in the term preceding graduation as part of a seminar course curriculum, such as FRN 420, Topics in Francophone Cultures or FRN 457, Topics in Francophone Literature. The instructor of the course sets specific guidelines for the paper, according to the course topic.
3. A portfolio in French, either paper or electronic, attesting to the student's achievement in all of the five national standards: Communication, Culture, Connections, Comparisons, and Communities (see Departmental Mission Statement). In addition to the portfolio project, the student will complete a Simulated Oral Proficiency Interview in French (SOPI).

In each case, capstones must be completed by the time the student petitions for graduation, except if completing a research paper in the term before they graduate. In this case, satisfactory progress toward completion of the project must be demonstrated by the time graduation petitions are presented to the program coordinator.

French majors are permitted to double major in either German or Spanish.

STUDY ABROAD: All modern language majors (currently French, German, and Spanish) must spend a minimum of one semester, or the academic equivalent, on a study abroad program (course of study or internship) that is pre-approved by the language program director. The approved program must follow general College study-abroad guidelines. Intersession trips abroad do not count toward the study abroad requirement.

MINOR REQUIREMENTS: Like the major, French minor requirements vary according to entry level. All entering freshmen with prior experience in French will receive language placement by French program faculty. Because of the varying requirements for completing a major or a minor in French, it is to the student's advantage to begin at the highest level possible, usually FRN 207 or FRN 208. However, students with very limited or no background in French will begin their studies with FRN 105 or FRN 106.

Students who begin in 207 will take five courses, including 207 , 208 , 309 , 310 , and one 400-level courses. Students who begin in 208 must still take five courses to complete a minor.

Students who begin in 309 are not eligible for a minor.

NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

AP Policy: Students scoring a 4 or 5 on the French language AP exam receive credit for FRN 207AP in that language.

PLACEMENT PROCEDURES: All entering freshmen must receive language placement for languages with which they have prior experience. This placement will determine their beginning level of that respective language. Placement is done in consultation with the faculty member from the relevant program. Because of the varying requirements for completing a major or minor in language, it is to the student's advantage to begin at the highest level possible.

TEACHER CERTIFICATION: Students may seek Specialty Education (grades K-12) Certification in French by completing the French major including FRN 260, and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

FRN105, 106 - Elementary French I, II

This course is an introduction for students with little or no knowledge of French. Emphasis is on basic structures and vocabulary required to communicate in a variety of routine contexts. Students learn strategies to assist in reading authentic contemporary texts for informational purposes. Cultural study focuses on the diversity of the francophone world and on fundamental aspects of daily life in France.

Taught largely in French.

Prerequisite: FRN 105, or permission of the instructor, is a prerequisite for FRN 106

FRN207, 208 - Intermediate French I, II

This course features review and extension of communication skills for students having a basic knowledge of French; mastery of basic listening, speaking, reading, and writing skills to negotiate daily living situations and to express ideas and opinions, and frequent short writing assignments. Students learn skills to read and interpret authentic texts representing a diversity of individual francophone perspectives.

Taught in French.

Prerequisites: FRN 106, or permission of the instructor, is a prerequisite for FRN 207; FRN 207, or permission of the instructor, is required for FRN 208

FRN257 - French Literature in Translation

This course concentrates on a topic that varies from year to year. Likely topics include a survey of French literature, avant-garde theatre, Molière, and utopian fictions. The topic to be dealt with will be published in the preregistration bulletin.

Taught in English.

FRN260 - Theory and Techniques of Teaching Modern Foreign Languages

This course is an introduction to the theoretical and practical aspects of teaching modern foreign languages. Students will study the history of language teaching as well as the various approaches and strategies to language instruction and their relationship to second-language acquisition theory. This course must be completed prior to student teaching. Taught in English. This course satisfies the Pennsylvania Department of Education requirement that candidates for certification in foreign languages receive instruction in methods of teaching foreign languages, a subject which in the last 50 years has developed an extensive literature and repertoire of theoretical approaches.

Offered fall term, every other year

Prerequisites: Sophomore status and permission of the instructor

FRN309, 310 - Advanced French I, II

This course focuses on the development and application of advanced functional French language skills, with special emphasis on speaking and writing. Reinforcement and extension of sophisticated grammar concepts sufficient to allow students to speak and write at length on topics increasingly unrelated to personal experience. Reading and intercultural skills are developed through a content-based approach focusing on contemporary issues.

Taught in French.

Prerequisites: FRN 208, or permission of the instructor, is a prerequisite for FRN 309; FRN 309, or permission of the instructor, is required for FRN 310

FRN357 - Introduction to Literary and Cultural Studies

An introduction to the study of French and francophone cultures through literature, students are introduced to the diversity of francophone cultural perspectives through a comparative approach to literary texts and themes in popular culture. They learn to analyze and explicate texts from multicultural perspectives, while mastering fundamental notions of style and narrative point of view.

Prerequisite: FRN 310 or permission of the instructor

FRN371 - Business Communication and Culture

An intensive, advanced level French course designed to develop the linguistic skills and cultural competency necessary for working in a business environment in the French-speaking world. This course provides an overview of the socio-historical contexts and contemporary business practices in metropolitan France. In addition, the course will prepare students for more in-depth study abroad.

Taught in French

This course counts only towards the International Business major.

Prerequisite: FRN 310 or permission of the instructor

FRN411 - Cultural History of France

Designed to give a broad overview of French history, this course introduces students to some of the major political, historical, and intellectual forces that have shaped French society from Gallic times through the Fifth Republic. Readings, discussions, and student presentations center on prominent personalities and cultural achievements. Each period is illustrated by representative works of literature and the visual arts.

Prerequisite: FRN 310 or permission of the instructor

FRN420 - Topics in French and Francophone Cultures

A study of the culture of various French-speaking societies, this course offers an in-depth look at contemporary or historical phenomena that shape specific francophone perspectives. Possible topics include *Les Français à travers leurs films*, *le Québec contemporain*, and *Voix francophones*. Emphasis is given to advanced language study, composition, and oral proficiency. The topic to be dealt with will be published in the preregistration bulletin.

Prerequisite: FRN 310 or permission of the instructor

FRN457 - Topics in French and Francophone Literature

A course in reading and interpreting French literature in esthetic and cultural contexts, students read and gain an appreciation of texts from a variety of genres and historical periods. The topic, such as *écriture féminine*, *contes fantastiques*, *le Siècle des lumières*, *la Vie artistique et intellectuelle française de 1750-1900*, *fictiones et films fantastiques et utopiques*, varies from year to year and will be published in the preregistration bulletin.

Prerequisite: FRN 310 or permission of the instructor

FRN500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Gender and Women's Studies

Steering Committee

Professors: Benze, Kyler (director), Wilson

Associate Professors: Holland-Minkley, McEvoy, Shiller, Taylor

Affiliated Faculty

Professors: Bennett, Carpenter, DeBerry, Hannon, Lambertson, List, Longo, Medley, Troost

Associate Professors: East, T. Fee, Fleury, Gottschall, Harding, Kline, Malinak, Maresh, McDonald, Mayer, Pflanze, C. Shaughnessy, M. Shaughnessy, Swift, Wolf

The gender and women's studies minor is an interdisciplinary course of study in the liberal arts that centers on issues of gender, sexuality, and the ways gender and sexuality shape human experience through history and across cultures.

MINOR REQUIREMENTS: Six courses are required for the completion of the minor. They are [GWS 100: Introduction to Gender and Women's Studies](#) ; [GWS 300: Theories of Gender](#) ; and four additional courses approved by the Gender and Women's Studies Steering Committee. These four elective courses must represent at least two academic divisions (arts, humanities, social sciences, natural sciences). With approval, a student may complete an internship or independent study as one of these courses--in fact, this option is encouraged. Also with approval, a student may take, as a gender and women's studies elective, a course not normally approved in which the student arranges to focus his or her own work on gender and women's studies issues.

GWS100 - Introduction to Gender and Women's Studies

This is an interdisciplinary course that will introduce students to the field of gender and women's studies. Students will consider both female and male experience and will study the concept of gender as a critical category informed by race, class, ethnicity, sexuality, and culture. Students will gain a clearer understanding of how individuals in various cultures learn, negotiate, and accept or resist their gender roles, as well as the significance of gender historically and in contemporary life.

GWS210 - Topics in Gender and Women's Studies

A study of a selected topic in gender, sexuality, women's studies, or men's studies. Topics vary from year to year. The course may be repeated for credit if the topic differs.

Prerequisites: Determined by instructor

GWS300 - Theories of Gender

An introduction to major theoretical positions in gender studies and feminism. Students will become familiar with the historical background that has shaped contemporary discourse about gender and sexual identity. Readings will ask students to consider the impact of feminist theory; gay, lesbian, and transgender studies; and multiculturalism on our understanding of gender.

Prerequisite: GWS 100

GWS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

German

Associate Professor: M. Shaughnessy

Assistant Professor: Atzler (program coordinator), Halder

Instructor: Altmeyer

The German major and minor programs are offered through the Department of Modern Languages.

The German program at W&J is a culturally centered program designed to teach students about the language, the people, and history of German-speaking countries. Students will learn to effectively use the German language and knowledge of the culture in contemporary society. Students of German are encouraged to use the liberal arts tradition to go beyond their German classes and demonstrate interdisciplinary skills as a core part of the course of study.

The German program is a proficiency-based language program. This means that at various levels (100, 200, 300, and 400) students must demonstrate standards-based abilities in German. Classes at the 100 level are elementary in nature and focus on everyday interactions, basic exchanges of information, and a functional notion of the culture. Classes at the 200 level are intermediate in nature and require students to be able to understand a wider variety of spoken German. Students are introduced to literature and are asked to make connections between disciplines. Classes at the 300 and 400 levels are designated as "advanced level." These classes require students to express themselves verbally and in written form on a wide variety of cultural and practical topics. Additionally, these classes are taught exclusively in German.

MAJOR REQUIREMENTS: Students must take six advanced level classes, three of which must be at the 400 level.

For the major, students must complete an approved capstone project in conjunction with an electronic portfolio. Possible capstone experiences include a study abroad experience of at least one term; a special project associated with a 400-level course or independent study; or a language intensive internship.

German majors are permitted to double major in French or Spanish.

STUDY ABROAD: All modern language majors (currently French, German, and Spanish) must spend a minimum of one semester, or the academic equivalent, on a study abroad program (course of study or internship) that is pre-approved by the language program director. The approved program must follow general College study-abroad guidelines. Intersession trips abroad do not count toward the study abroad requirement.

MINOR REQUIREMENTS: Students must take three advanced level classes, one of which must be at the 400 level.

NOTE: Students who begin in 309 are not eligible for a minor. Course requirements for the major and minor beyond 208 must be taken at W&J, with the exception of preapproved study abroad programs.

Students who have completed coursework at one level may not take courses at a lower level without departmental approval

AP Policy: Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.

PLACEMENT PROCEDURES: All entering freshmen with prior experience in German will receive language placement by German program faculty. This placement will determine their first course in the sequence. Because of the varying requirements for completing a German major or minor, it is to the student's advantage to begin at the highest level possible. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

TEACHER CERTIFICATION: Students may seek Specialty Education (grades K-12) Certification in German by completing the German major including GER 260, and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

STUDY ABROAD: The German program offers four programs for students to study abroad at various levels. Courses are offered as a part of the standard program through W&J. Courses have to be approved by the respective departments at W&J to transfer credits.

- *PCIC in Cologne.* This Fall term program offers students in any major who have completed at least one year of German the opportunity to experience Germany to the fullest--its people, culture, and above all, the native language. Courses are offered in English and German and are tailored to American students. Cologne is Germany's fourth largest city and located on the Rhine River with easy rail connections to every major city in Germany and Europe. Interested students should contact the German program coordinator.
- *Lewis & Clark Year of Study in Munich.* This 12-month program through the University of Munich and Lewis & Clark College is intended for juniors who have completed at least four terms of German at W&J. This program is the ideal way to solidify a student's knowledge of German and take part in a life changing experience fully immersed in the German culture. Considered to be one of the best study abroad programs in the United States, this program offers small, liberal arts-style classes in Munich, Germany. This program is intended for German majors and science majors with appropriate language ability. Interested students should contact the German program coordinator.
- *W&J-UniKöln Exchange Program.* The University of Cologne, Germany, and W&J have an established upper-level, two-way exchange program. Advanced-level students in German can directly enroll at this exciting, metropolitan University in the heart of Germany. Students typically live in a German dormitory with other German students and take regular courses at the University in German literature, English literature, or education. This program is ideal as a capstone experience for juniors or seniors seeking additional academic opportunities and independent studies. Interested students should contact the German program coordinator.
- *W&J-UniWien Exchange Program.* The University of Vienna, Austria, and W&J have an established upper-level, two-way exchange program. Advanced-level students in German can directly enroll at this exciting, metropolitan University in the capital city of Austria. Students live in a dormitory with other students and take regular courses at the University in German literature, English literature, or other courses (preapproval of W&J departments necessary). This program is ideal as a capstone experience for juniors or seniors seeking additional academic opportunities and independent studies. Interested students should contact the German program coordinator.

GER105, 106 - Elementary German I, II

An introduction for students with little or no knowledge of German, this course emphasizes fundamentals of grammar, acquisition of vocabulary, listening comprehension, basic oral expression, elementary writing, and short readings on topics pertaining to Germanic culture.

Taught largely in German.

Prerequisite: GER 105, or permission of the instructor, is a prerequisite for 106

GER207, 208 - Intermediate German I, II

An intensive review with frequent practice in oral expression and listening comprehension, this course places special emphasis on developing reading and writing skills via encounters with authentic texts and videos.

Taught primarily in German.

Prerequisites: GER 106, or permission of the instructor, is a prerequisite for 207; GER 207, or permission of the instructor, is a prerequisite for 208

GER235 - Introduction to the German-Speaking World

Prior to 1945, Germany was one of the US and the Soviet Union's main enemies in two world wars, but this changed at the end of the 1940s when Germany was split into two and became the front-line of the Cold War, separating the capitalist West from the communist East of Europe. West Germany became one of the most reliable allies of the US, while its eastern part looked at Moscow for answers.

In this course, students will turn back time and start in 1945 and investigate how this change from a conflict-ridden nation to important ally for the US (West Germany) and for the Soviet Union (East Germany) was possible and how it played out over time. Students will compare the two German nations that grew out of the ruins of World War II and study their different ideologies, their social and political cultures, and the roles that the US and the Soviet Union played in the two German states. They will also analyze how it finally was possible to tear down the Wall (peacefully) by tracing changes that occurred in the Soviet Union in the 1980s. Finally, they will examine what conflicts and issues resulted from the German Reunification that are still present today more than 25 years after the fall of the Berlin Wall and how Germany is an important player in world politics (e.g. Russia-Ukraine Conflict).

No previous knowledge of German language required. Taught in English.

GER257 - German Literature in Translation

This course is a study of a special topic, such as nineteenth-century German literature, the modern German novel, or the work of a particular author. The topic to be studied will be announced during preregistration.

This course is taught in English and does not fulfill the language requirement.

Prerequisite: ENG 111, 112, or permission of the instructor

GER260 - Theory and Techniques of Teaching Modern Foreign Languages

This course is an introduction to the theoretical and practical aspects of teaching modern foreign languages. Students will study the history of language teaching as well as the various approaches and strategies to language instruction and their relationship to second-language acquisition theory. This course is taught in English and must be completed prior to student teaching. This course satisfies the Pennsylvania Department of Education requirement that candidates for certification in foreign languages receive instruction in methods of teaching foreign languages, a subject which in the last 50 years has developed an extensive literature and repertoire of theoretical approaches.

Offered fall term, every other year

Prerequisites: Sophomore status and permission of the instructor

GER289 - German Film

This course will introduce students to trends and examples from the German cinematic tradition. Students will view and analyze various film genres starting with Weimar cinema and continuing through present day German language films. This course will present films within their historical and cultural context. Representative films will be chosen for each period including Weimar Republic, National Socialism, zero hour, economic miracle, sixties, seventies, eighties, nineties, and post unification.

This course is taught in English and does not fulfill the language requirement.

GER309, 310 - Advanced German I, II

A course on the development and application of advanced German language skills, with special emphasis on speaking and writing. A variety of texts, videos, Web sites, etc., serve as thematic points of departure for daily discussions, frequent writing assignments, and oral presentations. The course also includes systematic review of sophisticated grammar topics.

GER 309 is generally offered in the fall term; GER 310 in the spring term.

Taught in German.

Prerequisites: GER 208, or permission of the instructor, is a prerequisite for 309; GER 309 is a prerequisite for 310.

GER371-Business Communication and Culture

An intensive, advanced level German course designed to develop the linguistic skills and cultural competency necessary for working in a business environment in the German-speaking world. This course provides an overview of the socio-historical contexts and contemporary business practices in a variety of German-speaking regions. In addition, the course will prepare students for more in-depth study abroad.

Prerequisite: GER 310 or permission of the instructor

GER455 - Survey of German Literature

A course designed to give students a broad understanding of German literary history. The works examined will span multiple literary movements to reveal the evolution of literary trends and to demonstrate how writers of a period engage in dialog with their artistic forebears. The period to be studied in a given session will be announced during preregistration.

Taught in German.

Prerequisite: GER 310 or permission of the instructor

GER456 - Topics in German Literature

Focused study of a special topic in literature varying from year to year. Likely concentrations include genre studies, in-depth analysis of a seminal work, or the work of a particular author. The topic to be studied in a given session will be announced in the preregistration schedule.

Taught in German.

Prerequisite: GER 310 or permission of the instructor

GER485 - Cultural History of Germany

A survey of German cultural and intellectual history from the Middle Ages to the twentieth century, with an emphasis on art, literature, philosophy, politics, religion, and science, this course features discussions, oral presentations, and compositions as well as review of advanced grammar as necessary.

Taught in German.

Prerequisite: GER 310 or permission of the instructor

GER486 - Topics in German Culture

This course focuses on German cultural topics, which vary from year to year, with emphasis on nonliterary aspects of culture. Possible topics include German-Americana, film history, art movements, or how a variety of cultural media reveal the spirit of a particular period of German history. The topic or topics to be studied in a given session will be announced during preregistration.

Taught in German

Prerequisite: GER 310 or permission of the instructor

GER500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Graphic Design

Professor: S. Fee (CIS coordinator)

Associate Professor: Schmidt (Art coordinator)

Graphic design is the study and implementation of the theory and production techniques pertaining to graphic images of any form. Theories of graphic design encompass the realms of art, design, and visual culture. Production techniques involve such activities as drawing, illustration, and the production of digital imagery. Students who complete the graphic design concentration

will learn to develop sophisticated imagery that is reflective of their personal style. These students can then participate in the fields of art, graphic design, illustration, multimedia production, and Web development, among others.

To complete this concentration, a student must complete the following courses: ART 108 , ART 112 , CIS 271 , CIS 361 , and ART 425 .

This course of study is available to all students regardless of major.

History

Professors: List, Mainwaring (chair)

Associate Professor: Caffrey

Assistant Professor: Sweatman-Duncan

The Department of History is a supportive and intellectually invigorating academic home for students who want to develop the knowledge and skills needed to appreciate the past and thrive in the future. The department offers more than 40 courses, with particular strengths in American, European, and East Asian history. Majors and minors complete requirements that are distributed in a way that ensures both depth and breadth.

MAJOR REQUIREMENTS: 10 courses, including at least two from European history; two from American history; one from a non-U.S. or European course, and at least four from courses numbered above 300. All majors are strongly urged to complete the second-year course in a foreign language. All seniors must complete a capstone project prior to the end of their final term. Students should consult the history department chair for more information on the capstone requirement.

MINOR REQUIREMENTS: Six courses, as follows: two courses in American history; two courses in European history; one course from a non-U.S. or European course; and two courses above 300. No more than two courses at the 100 level may be counted toward the minor.

AP Policy: Students scoring a 5 on the American History AP test will receive credit for one of the following: HIS 201, HIS 204, HIS 206. (Students can choose which course they want credit for.) Students scoring a 4 on the American History AP test will receive credit for one of the courses listed above upon successful completion of a 200-level history course at W&J with a grade of "B" or better. Students scoring a 5 on the European History AP test receive credit for HIS-102 and are advised to take a 200-level course as their first history course at W&J. Students scoring a 4 on the European History AP test receive credit for HIS-102 upon successful completion of a 200-level history course at W&J with a grade of "B" or better. Students scoring a 5 on the World History AP test will receive credit for HIS 100. Students scoring a 4 on the World History AP test will receive credit for HIS 100 if they complete a 200-level history course at W&J with the grade of "B" or better.

TEACHER CERTIFICATION: Students may seek Secondary Education (grades 7-12) Certification in Social Studies by completing the History major, the required Social Studies content area courses (HIS 201, HIS 204, HIS 206, HIS 228, HIS 231, ECN 102, POL 111, PSY 101, SOC 101, SOC 261, and ANT 175), and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification. Some of the Social Studies content area courses may be completed as part of the History major.

Students may seek Upper Elementary Education Certification (4--8) in Social Studies in one of two ways: Option 1: Complete the Child Development and Education major and the History minor (or major); Option 2: Complete the History major, and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification.

Before being formally admitted to either program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

The department recommends that students seeking Upper Elementary Education Certification (4--8) in Social Studies consider taking some of the following courses as part of their major or minor: HIS 101*, HIS 102*, HIS 155*, HIS 201, HIS 204, HIS 206, HIS 220, HIS 222, HIS 230, HIS 254, HIS 331, HIS 332, HIS 334, HIS 340, HIS 355. Occasionally, special topics courses (HIS 270 or HIS 412) may be offered in topics particularly useful for students interested in teaching.

*Students minoring in History with permission of the History Department Chair, may be allowed to take HIS 101, HIS 102, and HIS 155 as part of their minor (exceeding the maximum of two 100 level courses).

HIS101 - European Civilization I

This course is a survey of the development of European civilization from the fourth century A.D. to the Reformation.

HIS 101, 102, and 151 are for freshmen and sophomores only.

HIS102 - European Civilization II

This course is a survey of the development of European civilization from the sixteenth century to the present.

HIS 101, 102, and 151 are for freshmen and sophomores only.

HIS151 - Asian Heritages

An introduction to the histories and cultures of China, Japan, Korea, Vietnam, India, and Tibet through the exploration of such themes as colonization and imperialism, modernization efforts undertaken to meet the challenges posed by the West, family relations, farming, food, literature, painting, Buddhism, Asian immigration to the U.S., and contemporary popular culture. Emphasis will be on the middle of the nineteenth century to the present. No prior knowledge of Asia is expected.

HIS 101, 102, and 151 are for freshmen and sophomores only.

HIS201 - Colonial America and the American Revolution

This course is a study of America in the seventeenth and eighteenth centuries.

HIS204 - Nineteenth-Century America

This course is a study of American development from the early republic to World War I.

HIS206 - Twentieth-Century America

This course is an extensive study of the events and historiography of modern American history from the Spanish-American War to the present.

HIS210 - U.S. Economic History

A study of the sources and consequences of economic and social change from colonial to recent times, this course is the same as ECN 306. However, students who enroll for credit in economics shall complete an additional research assignment in economic history.

HIS215 - United States Diplomatic History from 1898 to the Present

This course is an intensive study of the events and historiography of American foreign relations from the Spanish-American War to the present.

HIS220 - Ancient Civilization

A study of ancient Greek and Roman society and culture, course topics include the rise of Greek city-states, the development of a distinctive Greek intellectual and political culture, the destruction of Greek political and economic dominance, the rise and expansion of Roman political and military power, its influence on surrounding peoples, the rise of Christianity, and the military and social collapse of the Roman Empire.

HIS222 - Medieval Civilization

The development of Europe from the Age of Charlemagne (ca. 800 A.D.) to the fourteenth-century crisis emphasizing the emergence of a distinctly Western culture and society, the evolution from feudal to central monarchies, and the conflict between papacy and monarchy.

HIS224 - Europe from Absolutism to Revolution

The study of European history from 1648 to 1815 with special emphasis on the development of the bureaucratic state, the development of inter-state relations, the intellectual transformation of the eighteenth century, and the crisis of the old regime culminating in the era of the French Revolution.

HIS228 - Nineteenth-Century Europe

The chronological span is from the Congress of Vienna to the outbreak of World War I. The analytical focus of the course is the development of the concepts of political and social liberalism with an emphasis on the role of nationalism.

HIS230 - Twentieth-Century Europe 1919-1945

From the end of World War I and the Paris Peace Conference to the end of World War II, specific themes and topics that will be considered during this course are the collapse of the Romanov, Hohenzollern, Habsburg, and Ottoman Empires; the ideal and reality of national self-determination; the emergence of the Soviet state; the tragedy of the Weimar Republic; the rise of the dictators; aggression and appeasement; and World War II.

HIS231 - Post-World War II and Contemporary European History-From the End of World War II to the Present

The course will examine the two major themes in post-World War II Europe -- the Cold War and European integration, which began with the European Coal and Steel Community (ECSC) in 1950 and has transformed itself into the European Union (EU) today. The Cold War began and ended within the period, but the integrative process is ongoing.

HIS235 - History of England I

This course is an introduction to English history from the first settlements in Britain to 1714.

HIS236 - History of England II

This course is an introduction to English history from 1714 to the present.

HIS237 - Modern German History 1700-1890

From the establishment of the Kingdom of Prussia to the dismissal of Otto von Bismarck as Chancellor of the Second Reich, this course places special emphasis on the struggle for the domination of Germany between the Austrian Habsburgs and the Prussian Hohenzollerns up to the Austro-Prussian War in 1866, the Bismarckian policy of "blood and iron," and the Prussianization of Germany in the Second Reich.

HIS238 - Germany's Unity and Fragmentation 1890 to the Present

From the dismissal of Bismarck as chancellor to the reunification of Germany in 1990 and contemporary Germany's role in the European Union, this course's focus includes the Second Reich's responsibility for World War I, the inherent weaknesses of the Weimar Republic, the Third Reich as an attempt to de-Prussianize Germany, and the division of the German nation into the German Federal Republic and the German Democratic Republic.

HIS239 - Kiev, Muscovy, and Russia

A survey of Russian history from the so-called "coming of the Varangians" in the ninth century and the subsequent Kievan period, the Mongol domination and the rise of Muscovy, Petrine Russia, to 1894. Special attention is given to an analysis of "official nationality," the "Great Reforms," and the early revolutionary movements in the nineteenth century.

HIS240 - Russia, the Soviet Union, and the CIS

The chronological parameters of this course are from the reign of Tsar Nicholas II to the formation of the Commonwealth of

Independent States (CIS). Special attention is given to the 1905---1917 period, including the February and October Revolutions, Stalin's Russia, the attempted reforms of Khrushchev and Gorbachev, the August 1991 Putsch, and the era of Boris Yeltsin, including the "October Days" of 1993, the Duma elections, and constitutional referendum in December 1993.

HIS250 - Japan Since 1600

This course examines Japanese culture and history from the unification of Japan and the Tokugawa Shogunate to the present. The course will examine the political, social, and cultural development of modern Japan and Japan's role in world affairs.

HIS254 - China to 1600

This course is an examination of social and political developments in China from the prehistoric origins of Chinese civilization through the eve of China's conquest in the mid-seventeenth century by a coalition led by Manchus.

HIS255 - China Since 1600

Social and political developments in China from mid-seventeenth century to the present are studied. Emphasis is on the interactions between culture and modernization efforts.

HIS260 - Latin American History to Independence

This course is a survey history of the pre-colonial and colonial period of the area known as Latin America through the Wars of Independence.

HIS261 - Latin American History from Independence to the Present

A survey history of Latin America from Independence in the early nineteenth century to the present, this course has special emphasis on the national histories of Argentina, Chile, and Mexico.

HIS270 - Topics in Historical Studies

This course will examine selected topics in history. Topics will vary according to available faculty and student interest. This course may be repeated for credit if the topic of the course differs.

HIS274 - World Environmental History

This course is a thematically and geographically comprehensive survey of world environmental history from the dawn of agriculture to the present. The course will investigate how humans have affected natural environments at the local, regional, and global levels, why those effects occurred, and how such changes have affected humans and other life forms. No prior study of environmental science or world history is necessary.

HIS302 - Europe Transformed-Renaissance and Reformation, 1450-1650

This course is a study of the cultural and religious transformation of Europe focusing on the emergence of humanism, the rise of Protestantism, and the resurgence of Catholicism.

HIS304 - History of Modern Eastern Europe

This course will focus on the history of Eastern Europe from 1648 to the present with special attention to the themes of big power domination and the rise of nationalism.

HIS308 - Tudor-Stuart England

Aspects of English governance and society between 1485 and 1689 will be studied, including the English Reformation and the establishment of the Anglican Church, the emergence of the modern English state, the revolutions of the seventeenth century,

and the English scientific revolution.

HIS310 - Legal History of England and America

This course is a seminar approach to the study of the legal heritage of England and the United States, from the medieval period to the present.

HIS315 - The Intellectual History of Modern Europe

This course is a survey of European thought from the Enlightenment to the present.

Prerequisite: One year of European history or permission of the instructor

HIS320 - Modern European Diplomatic History

A survey of European international relations from the Congress of Vienna (1815) to the Helsinki Final Act (1975), this course gives special attention to whether a "balance of power" or "consensus of power" existed from 1815 to the Crimean War; the evolution of contentious alliance systems (1870s to 1918); the failure of collective security in the interwar period; and the Cold War.

HIS321 - Historical and Contemporary Moscow

A two-week course in late May/early June at the International University of Moscow, an education institution with which Washington & Jefferson College has a formal agreement. The course will consist of 24 contact hours in Russian language taught by IUM Russian language instructors and six hours of formal lectures in English presented by specialists in economics, culture, politics, and history. Sightseeing will include the Kremlin; Park Pobeda (Victory Park), commemorating the Soviet victory over Nazi Germany in World War II; the tomb of the Unknown Soldier in the Alexander Gardens, adjacent to the Kremlin; Novodevichy Cemetery and Convent; Tret'yakov Gallery of Russian Art; the State Duma; the Bolshoi Theater; and an overnight to the ancient cities of Vladimir and Suzdal.

This is the same course as RUS 212. Students who register for HIS 321 must select a historical and/or cultural topic and have it approved by the instructor before the course begins. The student will do some reading and research on this topic before departure. Following completion of the Moscow portion of the course, the student will research and write a paper of 15 to 20 pages on that topic. The paper will be submitted six weeks after returning from Russia.

Note: HIS 321/RUS 212 is treated as if it was a January intersession course, except that it occurs at the end of the academic year. It is recommended that the student actually register for the course during the fall preregistration for Intersession and spring of the academic year.

HIS331 - Old South

A study of the American south from colonial times to the Civil War, course topics include the origins of the plantation economy, of racism, and of slavery; the nature of class and caste relations; political conflict within the south; sectional conflict within the nation; and the outbreak of the Civil War.

Prerequisite: HIS 201 or 202, or permission of the instructor

HIS332 - The Civil War and its Aftermath, 1861-1900

This course is a study of the political, social, and economic dimensions of the sectional crisis and its consequences.

Prerequisite: HIS 202 or permission of the instructor

HIS333 - Constitutional History of the United States

This course is a survey of the constitutional problems arising from the development of the United States, including constitutional origins during the colonial period.

HIS334 - Jacksonian America

This course is a study of social and political change from the Federalist Era to 1848.

Prerequisite: HIS 202 or permission of the instructor

HIS335 - The Gilded Age, 1870-1918

A study of American responses to the wealth, poverty, and new social problems created as part of industrial growth, course topics include labor, immigration, urbanization, bureaucratization, art, political culture, progressivism, and the anomalous position of the American.

Prerequisite: HIS 202 or 204, or permission of the instructor

HIS336 - Recent American History, 1919-Present

A seminar approach to an intensive study of American history from World War I to the present with emphasis on domestic and foreign affairs and their relationship to and effect on each other. This course may be repeated for credit if the topic of the course differs.

Prerequisite: HIS 204 or permission of the instructor

HIS340 - The Middle East

The chronological parameters of this course are from the end of the Ottoman Empire to the present. Special attention is given to the Kemalist national revolution in Turkey, the building of the Zionist state in Palestine, the creation of the state of Israel, the Egyptian revolution under Nasser, the Iranian Fundamentalist Revolution, and the Iran-Iraq and Persian Gulf wars.

HIS350 - Contemporary East Asia

This course will examine topics in the history of China, Korea, Japan, or Vietnam during the past century. This course may be repeated for credit if the topic of the course differs.

HIS352 - China Through Literature

This course will deepen understanding of Chinese society past and present through the examination of novels, short stories, and other forms of literature either written in or translated into English. For instance, students may explore the pleasures and tensions of eighteenth-century elite culture through Cao Zueqin's *Dream of the Red Chamber*, the perilous excitement of 1930s Shanghai through Mao Dun's *Midnight*, and the rhythms of contemporary urban society through Qui Xialolong's *Death of a Red Heroine*. Emphasis is on the eighteenth century through the present.

Prerequisite: HIS 151, 255, or 350, or permission of instructor

HIS355 - Global Buddhism

This course is an examination of the philosophical and religious transformations of Buddhism as it was spread from India to other parts of the world. Particular emphasis is placed on early Buddhist beliefs and practices in India, and on later expressions in Tibet, China, Japan, and the contemporary United States.

HIS410 - Special Topics in Historical Studies

Intensive study and research of selected topics in history -- topics are varied according to availability to faculty and student interest. This course may be repeated for credit if the topic of the course differs.

Prerequisite: Two previous history courses or permission of instructor

HIS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Human Resource Management

Associate Professor: Litchfield (business coordinator)

Assistant Professor: Seltzer (psychology coordinator)

The Human Resource Management Emphasis is open to majors in business administration or psychology who wish to prepare themselves for the study of human resource management in graduate school and/or pursue a career in human resource management.

To complete this program, a student must complete the following courses: PSY 101 , 102 , 225 ; one from 295 , 303 , or 392 ; and one from 235 , 245 , 324 , or 330 ; ECN 101 ; ACC 211 ; and BUS 301 , 319 , and 350 . It is also strongly recommended that the student complete an internship in an industrial/organizational setting.

Students interested in this program are advised to contact the chair of either the Economics and Business department or the Psychology department.

Interdisciplinary Courses

W&J faculty occasionally collaborate across disciplinary lines to offer interdisciplinary courses. Recent examples include [SCI 100: Introduction to Science](#) and [SCI 150: Topics in Science](#).

SCI100 - Introduction to Science

This team-taught, topic-based course introduces students to the study of science in a relevant area such as nutrition, forensics, oceanography, environmental science, disease, or artistic perception. The course will provide an interdisciplinary approach for students majoring in fields other than the sciences. The laboratory component is designed to introduce students to the scientific method as applied to the topic of interest.

SCI150 - Topics in Science

The topics for this course will vary for each offering. Courses that fit this designation will have either a general science focus that does not fit into a particular discipline or will have an interdisciplinary focus that crosses disciplinary boundaries.

International Business

Associate Professors: Litchfield (Business Administration coordinator), HJ Manzari (languages coordinator)

The international business major is intended to prepare students for an active role in today's world of international commerce. It combines the strengths of the Department of Economics and Business with those of the Department of Modern Languages to prepare students who will be capable of making significant contributions in the area of international business.

Coursework is combined with study abroad and/or an international internship to ensure that students will be able to participate to the fullest in the global economy of the future.

MAJOR REQUIREMENTS: ECN 101, 102; MTH 125; ACC 211; BUS 201, 301, 307, 341, 361, 406, and either BUS 451 or 457; courses in German, French, or Spanish through 310; FRN (GER, SPN) 371; a term of study abroad or an international internship in an area where the target foreign language is the primary language spoken.

Note: Students majoring in international business may not also major or minor in accounting or business administration. Students majoring in international business may obtain a minor in economics or financial economics, but may not double major in economics or financial economics. Students majoring in international business may not complete a minor in entrepreneurship but

may complete a concentration in entrepreneurship.

International Studies

Professors: Gai (director), Misawa

Associate Professors: Caffrey, L. Dunn, Ternes

Affiliated Faculty:

Professors: DiSarro, Krol, Lambertson, Maloney

Associate Professors: Alpañés, East, H.J. Manzari, Pflanze, C. Shaughnessy, M. Shaughnessy, Swift, Taylor, Wang

Assistant Professors: Atzler, Halder, Vdovichenko

Adjunct Professors: Stinson

The International Studies Program offers an interdisciplinary major aimed at providing a global context for a liberal arts education. It is intended to expose students to a broad range of international issues through multidisciplinary course offerings from the arts, humanities, and social sciences. It also offers students the opportunity to study in relative depth one geographical area of the world through an area study, language study, and study abroad. The goal of the International Studies Program is to help students become informed and productive citizens in an increasingly interconnected world. Students who successfully complete the International Studies Major will have an understanding of world events from multiple perspectives and the ability to analyze critically a narrowly defined topic of international interest from theoretical as well as experiential points of view. They will have an appreciation for the values and perspectives expressed by at least one culture different from their own. They will be able to communicate in culturally appropriate ways and in a language other than English with members of at least one society in their area of concentration.

MAJOR REQUIREMENTS: The International Studies Major requires a minimum of eleven courses representing at least four different departments. At least four of the eleven courses must be at the 300 level or above. All majors are required to complete a minimum of one semester of study abroad as well as the capstone experience. Other courses not listed below may also satisfy a major requirement when approved by the program. The professor who teaches such a course should petition the IST program for approval prior to the course being taught

- Three required courses:

ECN 102	Principles of Macroeconomics
POL 120	World Politics
SOC 261	World Societies

- Three elective courses:

Take two from the following list:

ECN 305	International Economics
EVS 315	International Environmental Policy
HIS 215	United States Diplomatic History from 1898 to the Present
POL 220	U.S. Foreign Policy
POL 320	International Politics
POL 321	International Law
POL 322	International Political Economy
POL 331	Politics of Developing Countries
REL 204	World Religions (Non-Christian)

Take one from the following list:

ARH 102	World Art II
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ENG 260	World Literature
HIS 274	World Environmental History
HIS 355	Global Buddhism
MUS 141	Music of the World

• Three courses in one of the following four areas:

(One of the three must be a regionally focused course as indicated by the R designation. R courses are either a comparative study of two or more countries of the area or a study of the area as a whole.)

Africa and the Middle East

ARA 257	Arabic Literature in Translation
FRN 420	Topics in Francophone Cultures
HIS 340	The Middle East (R)
MUS 341	Music of the African Diaspora and Modern Africa
POL 232	Politics of the Middle East (R)
POL 230	Politics of Africa (R)
REL 105	Introduction to Islam
EVS 300	Int Dev & Env Sub-Saharan Africa (R)

East Asia

HIS 151	Asian Heritage (R)
HIS 252	History of Modern Japan
HIS 255	History of Modern China
HIS 350	Contemporary East Asia(R)
HIS 352	China through Literature
POL 231	Politics of China
POL 250	Special Topic: Political Economy of East Asia(R)
POL 350	Special Topic: East Asia in World Politics(R)
REL 206	Eastern Religious Traditions(R)
SOC 247	Special Topic: Japanese Society

Europe

ARH 352	19th Century Art
ARH 355	20th Century Art
FRN 411	Cultural History of France
FRN 420	Topics in French and Francophone Cultures
FRN 457	Topics in French and Francophone Literature
FRN/GER/SPN 371	Business Communication and Culture
GER 235	Introduction to the German-Speaking World
GER 289	German Culture Through Film
GER 456	Topics in German Literature

GER 485	Cultural History of Germany
GER 486	Topics in German Culture
HIS 228	19th-Century Europe(R)
HIS 230	20th-Century Europe, 1919-1945(R)
HIS 231	Post-World War II and Contemporary European History(R)
HIS 240	Russia, the Soviet Union, and the CIS
HIS 304	History of Modern Eastern Europe(R)
HIS 320	Modern European Diplomatic history(R)
POL 330	Comparative Politics(R)
SPN 420	Topics in Hispanic Culture
SPN 422	Spanish Peninsular Film

Latin America

HIS 260	Latin American History to Independence (R)
HIS 261	Latin American History from Independence to the Present (R)
POL 250	Mexico and the Caribbean
SPN 420	Topics in Hispanic Culture
SPN 421	Latin American Film

- Two foreign language courses at the intermediate level or above. Majors are urged to take at least one course in the language of their host country while they are abroad.

- All majors must spend a minimum of one semester, or the academic equivalent, on a study abroad program approved by the IST Director in line with the College study abroad guidelines. During study abroad students will take a full load of courses, as defined by the program director and the study abroad institution. A maximum of five full-course equivalents of the required major courses may be taken during a semester of study abroad and a maximum of 6 full-course equivalents of the required major courses may be taken during a full academic year of study abroad.

- Capstone Experience: The Capstone Experience can be an independent study, internship, or practicum. For the independent study option, the student should register for IST 500 or 501 and the study must involve original research of an interdisciplinary nature. For the internship option, the student may or may not register it as an internship course depending on the nature of the internship. For the practicum option, the student will participate in international studies related activities, such as Model EU and Model UN, without registering it as a course. All options for the Capstone Experience require an oral presentation for successful completion and the oral presentation should be completed during the same academic year as the Capstone Experience. Students should discuss their capstone options with their IST major advisors during their junior year. All capstone options need to be approved by the program director and the IST Steering Committee.

IST247 - Topics in International Studies

This course is a study of selected topics in international studies. Actual topic and prerequisites will be provided at the time of registration.

Prerequisite: Varies according to the topic

IST347 - Advanced Topics in International Studies

This course is a study of selected advanced topics in international studies. Actual topic and prerequisites will be provided at the time of registration.

Prerequisite: Varies according to the topic

IST500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Prerequisites: Senior status and approval by the IST director

Mathematics

Professors: Kline, Woltermann, Wong, Zimmerman

Associate Professors: Doherty, Higginbottom (chair)

Instructors: Harding, Jones

For students who select mathematics as a major or minor, the mission of the Department of Mathematics is to provide a program of study that is sufficiently strong and deep to enable them to pursue either graduate study in mathematics and/or professional careers in education, business, actuarial science, and other related fields.

The Department of Mathematics is also committed to providing a variety of service-oriented courses that support programs in the physical, biological, social, and informational sciences that broadly introduce students to fundamental concepts in computation, statistics, and applied calculus so as to foster creative problem solving and quantitative literacy.

For the liberal arts student, the mathematics program is designed to offer a course selection that introduces topics that are relevant in the contemporary world. Finally, for students pursuing a career in education, the mathematics curriculum supports the NCTM (National Council of Teachers of Mathematics) standards and meets the Commonwealth of Pennsylvania's requirements for teaching certification.

MAJOR REQUIREMENTS: MTH 151 , 152 , 208 , 211 , 217 , 320 (1/2 course), 420 (1/2 course), MTH 412 or MTH 415, and at least three additional courses numbered above 300. Substitutions at the upper level may be made only with department approval. Depending on the student's vocational interests, CIS 220 and PHY 107 and 108 are recommended, but not required, courses.

MINOR REQUIREMENTS: At least six mathematics courses that count toward the major. MTH 125 may be counted as one of these six courses.

CAPSTONE EXPERIENCE: The half-courses MTH 320: Junior MathTalk and MTH 420: Senior MathTalk together with the Mathematics Field Test constitute the capstone experience for mathematics majors. In each of the courses, students are required to investigate a problem or topic in mathematics, read and understand mathematical exposition, write a report about their investigation, and give an oral presentation of their results to a professional audience that is composed of faculty and student peers. Although a faculty member supervises the MathTalks program, students are expected to demonstrate an appropriate level of initiative, independence, and mathematical maturity.

PLACEMENT PROCEDURES: The department uses a placement exam to determine the appropriate course point of entry for mathematics. The process is designed to evaluate student readiness for various levels of mathematics. Based on the placement score, students may begin a track at the appropriate entry point. AP calculus credits and other external course work are evaluated and may be transferred. Advising is available to ensure a smooth transition to W&J mathematics.

PREREQUISITE POLICY: When courses are required as prerequisites for other departmental courses, a grade of C- or better is required to satisfy the prerequisite. Students should recognize that 300- and 400-level mathematics courses assume a certain level of mathematical maturity and general background regardless of the stated prerequisites. The course instructor may be consulted regarding the expectations for specific courses.

AP POLICY: Calculus AB exam: Students with AP Calculus score 5 will receive credit for MTH 151. Students with a score of 4 may receive credit for MTH 151, or they may elect to enroll in MTH 151 instead. In such cases, students do not receive course credit for their AP score. Students who elect to receive AP credit for MTH 151 will receive Q (Quantitative Reasoning) credit but not NSM breadth of study credit. Students who receive AP credit for MTH 151 may not take MTH 131.

Calculus BC exam: Students with AP Calculus score 5 may elect to receive credit for MTH 152 OR to enroll in MTH 152 instead. If enrolling in MTH 152, students do not receive course credit for their AP scores. Students who elect to receive AP credit for

MTH 152 will receive Q (Quantitative Reasoning) credit but not NSM breadth of study credit; such students should enroll in MTH 208. If the AP score on the BC exam is less than 5, the AB subscore will be evaluated according to the Calculus AB exam policy above to determine eligibility for credit for MTH 151.

Statistics exam: Students with an AP Statistics score of 4 or 5 will receive credit for MTH 125 and Q (Quantitative Reasoning) credit but not NSM breadth of study credit.

3-2 ENGINEERING PROGRAM: Students in the 3-2 engineering program may major in mathematics by completing seven Washington & Jefferson College mathematics courses that are required for the major and transferring back appropriately selected courses to satisfy the remaining math major requirements. See the engineering section of the catalog for more information on the program.

PREPARATION FOR ACTUARIAL EXAMS: Students preparing for the actuarial exams should complete MTH 125, 151, 152, 208, 217, 305, and BUS 315.

MATHEMATICS HONORARY: The national mathematics honorary Pi Mu Epsilon established a chapter at W&J in 2011. The purpose of Pi Mu Epsilon is to promote scholarly activity in mathematics among the students in academic institutions.

TEACHER CERTIFICATION: Students may seek Secondary Education (grades 7-12) Certification in Mathematics by completing the Mathematics major including MTH 301, 412, and one course from MTH 125 or 305, and the Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification.

Students may seek Upper Elementary Education Certification (4--8) in Mathematics in one of two ways:

Option 1: Complete the Child Development and Education major and the following Mathematics courses: MTH 151, MTH 125 and one of two tracks: Track A: MTH 115, MTH 123, MTH 124, and one of MTH 211 or MTH 217; Track B: MTH 152, MTH 208, MTH 211, and MTH 217.

Option 2: Complete the Mathematics major, and the Education minor consisting of those courses required for Upper Elementary Education (grades 4-8) Certification.

Before being formally admitted to either program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

MTH101 - Introduction to Functions

This course is designed to refresh students on many of the basic mathematical skills required in precalculus, calculus for the business sciences, and other quantitative skill courses. Topics include functions, linear equations, systems, polynomials, rational expressions, and quadratic, exponential, and logarithmic functions. This course is restricted to students whose placement score is under 12.

Prerequisite: Freshman or sophomore status; not available to seniors. Placement score 0-11. Course not available to students with MTH 111 credit.

MTH111 - Precalculus Mathematics

For students who intend to take MTH 151 and need additional preparation. Aspects of algebra, trigonometry, and analytic geometry needed in the study of calculus are studied.

Prerequisite: Placement exam score 12-18.

MTH115 - Mathematics in Our World

This course introduces the liberal arts student to mathematics as a useful and inherently interesting subject. The topics will vary from instructor to instructor, but significant mathematics will be presented for an entry-level audience in the spirit of the liberal arts tradition. Topics might include consumer mathematics, recreational mathematics, number theory, geometry, modeling with spreadsheets, and other assorted mathematical excursions.

Enrollment is limited to freshmen and sophomores.

MTH123 - Nature of Mathematics-Number Systems

This course will introduce students to mathematical reasoning and strategies for problem solving. These will be applied to the study of sets and logic and understanding the basic operations of number systems. The course will also introduce students to the concepts of functions, patterns, and basic number theory.

This course is not available for freshmen or seniors.

Offered fall term only

Required for child development and education majors.

MTH124 - Nature of Mathematics-Statistics and Geometry

This course will introduce students to mathematical reasoning and strategies for problem solving. These will be applied to the basic concepts of counting, probability, statistical data analysis, geometrical shapes, and congruence and similarity.

This course is not available for freshmen or seniors

Offered spring term only

Required for child development and education majors

MTH125 - Probability and Statistics

An introduction to probability and statistics for students in the physical, biological, and social sciences. Topics include discrete and continuous probability distributions, sampling theory, tests of hypotheses, point and interval estimation, correlation, and linear regression. Business majors must take this course at W&J. Students with credit for MTH 245 may not subsequently enroll in MTH 125 without forfeiting MTH 245 credit.

Prerequisite: Placement exam score for freshmen in the fall 19-30 and in the spring 15-30; no prerequisite for sophomores, juniors and seniors. Course is not available to students with credit for MTH 245.

Technology: A Texas Instruments Model 83 or 84 graphing calculator is required.

MTH131 - Calculus for the Business Sciences

This course covers functions, limits, continuity, and the processes of differentiation and integration with an emphasis on practical applications. Additional topics include the calculus of logarithmic and exponential functions and an introduction to multivariable calculus. Students who have successfully completed MTH 151 or its equivalent will not be given credit for this course. This course is not available to freshmen with AP calculus credit. This course does not count towards a major or minor in mathematics. This is the same course as BUS 131. Students with credit for MTH 131 may not subsequently enroll in MTH 151 without forfeiting MTH 131 credit.

Business majors must take this course at W&J.

Prerequisite: Freshmen must have a placement score of at least 15; no prerequisite for non-freshmen; course not available to students with MTH 151 or 152 credit.

MTH151 - Calculus I

An introduction to the basic concepts of calculus including limits, differentiation, and integration. In particular, the course covers the basic theorems of calculus, the mean value theorem, and the fundamental theorem of calculus. Application topics contain related rates, optimization, area between curves, and volumes of solids of revolution. Students with credit for MTH 151 may not subsequently enroll in MTH 131 without forfeiting MTH 151 credit.

Prerequisite: Placement exam score 19-30 or successful completion of MTH 111

Course not available to students with MTH 131 credit or AP credit for part AB with a score of 4 or 5.

MTH152 - Calculus II

A continuation of Calculus I that features exponential, logarithmic, and inverse trigonometric functions; additional methods of integration; and the calculus of parametric and polar forms. The course also provides an introduction to sequences, series, Taylor series, power series representation of functions, tests for convergence, and various applications. The department recommends a grade of C- or better in MTH 151 before entering MTH 152. Credit for MTH 152 may be given with a score of 5 on the BC subgrade of the AP test.

Prerequisite: MTH 151 or AP score of 4 or 5 on AB subgrade or permission of the Mathematics Department.

MTH190 - Topics in Introductory Mathematics

A narrowly defined, introductory study of an area of mathematics not covered through regular departmental course offerings. Sample topics are introduction to game theory, finite mathematics, laboratory calculus, introduction to mathematical reasoning,

and matrix algebra.

Prerequisites: Dependent upon topic.

MTH208 - Multivariable Calculus

This course explores the calculus of multivariable functions. The course begins with topics such as vectors, quadric surfaces, cylindrical and spherical coordinate systems, vector functions, space curves, and arc length and curvature. Topics in partial derivatives include limits, continuity, tangent planes, chain rule, gradient, extreme values of functions, and Lagrange multipliers. Topics in multiple integrals include iterated integrals, double/triple integrals, change of variables, and applications. The course concludes with an introduction to vector fields, line integrals, and Green's theorem.

Prerequisite: MTH 152

MTH211 - Foundations of Higher Mathematics

An introduction to the foundational concepts of higher mathematics including a historical perspective of their development. Topics will include basic logic, the algebra of sets, mathematical induction, relations, orderings, functions, the real and complex number systems, and an introduction to a particular algebraic or topological structure.

Prerequisite: MTH 152

MTH217- Linear Algebra

Fundamental properties and applications of matrices and linear transformations, including systems of equations, vector spaces, determinants, and characteristic values.

Prerequisite: MTH 152

MTH245 - Applied Statistics for the Life Sciences

An introduction to statistics and experimental design as used in the life sciences. Emphasis will be placed on the practical use of statistical tests. The course covers testing of hypotheses and parametric and non-parametric methods as well as two sample tests and complex ANOVA designs. Course focuses on when, why, where, and how to use statistics. Data will be analyzed using software and results will be interpreted and formally presented. This is the same course as BIO 245. Students with credit for MTH 125 may not subsequently enroll in MTH 245 without forfeiting MTH 125 credit.

Offered: Spring Term

Three Hours Lecture

Course is not available to first-year students or students who have taken MTH 125.

Prerequisite: BIO 101, or permission of instructor.

MTH301 - Geometry and History of Mathematics

This course examines the foundations of geometry, starting with neutral geometry and proceeding to the classical results in Euclidean geometry about triangles and circles. These include the theorems of Menelaus and Ceva, constructions, and the classification of plane isometries. Axioms for other geometries, such as hyperbolic or spherical are introduced, and these geometries are compared and contrasted with Euclidean geometry. This course also examines historical aspects of mathematics through readings and presentations on various topics.

Offered fall term of even-numbered years

Prerequisite: MTH 152 required and MTH 211 recommended

MTH305 - Mathematical Statistics

An introduction to classical probability theory that includes the axioms of a probability measure, conditional probability, and Bayes' Theorem; random variables and their probability distributions; moments and moment generating functions; distributions of special random variables such as binomial, Poisson, Chi square, and normal; sampling distributions such as the t and F distributions. Interval estimation and hypothesis testing also are discussed.

Offered fall term.

Prerequisites: MTH 208 (required) and MTH 125 (recommended)

MTH308 - Differential Equations

Emphasis is on techniques for solving ordinary differential equations and on applications to the physical sciences. Possible additional topics are systems of equations, Laplace transforms, and an introduction to partial differential equations.

Offered spring term.

Prerequisite: MTH 152

MTH311 - Introduction to Number Theory

An introduction to classical number theory including topics such as prime numbers, unique factorization, congruences, Fermat's, Wilson's and Euler's theorems, perfect numbers, primitive roots, quadratic congruences, the law of quadratic reciprocity, Fermat's conjecture, and the Fermat-Pell equation. The course involves problem solving, writing proofs and student-projects on various topics in number theory.

Offered spring term of odd-numbered years

Prerequisite: MTH 152 and MTH 211

MTH317 - Complex Variables

An introduction to the theory and applications of complex variables. Topics include analytic functions, complex integration, and Cauchy's Theorem, Taylor and Laurent series, residues, conformal mapping, harmonic functions, and Laplace transforms. Applications will be made to problems in science and engineering such as fluid and heat flow, dynamical systems, and electrostatics.

Offered spring term of even-numbered years

Prerequisite: MTH 208

MTH320 - Junior MathTalk

(1/2 Course, Unbilled)

In this course each student will investigate a mathematical problem or topic (appropriate for junior-level students of mathematics) under the supervision of a member of the mathematics faculty. The student will present the results of this investigation in a written report (using appropriate mathematics software) and an oral presentation to students and faculty. The report and oral presentation will be evaluated by all full-time mathematics faculty members to determine the student's grade in the course. Students will receive instruction in report writing and oral presentation.

Prerequisite: MTH 211 and MTH 217

MTH330 - Intro to Graph Theory

An introduction to the mathematical theory of graphs; a few applications and algorithms will be discussed, and proof writing is expected. Topics include trees, spanning trees, connectivity, Eulerian and Hamiltonian graphs, vertex colorings, independent sets and cliques, and directed graphs.

Prerequisites: MTH 211

MTH361 - Discrete Mathematical Structures

An introduction to combinatorics. Topics include binomial coefficients, generating functions, partitions, multinomial coefficients, Stirling numbers, Catalan numbers, the pigeonhole principle, the inclusion/exclusion principle, permutations, and Polya's counting theorem.

Prerequisite: MTH 152 and MTH 211

MTH390 - Topics in Mathematics

Contents may vary depending on the needs and interests of students and faculty. Possible topics may include applied statistics, actuarial mathematics, bio-mathematics, dynamical systems, metric spaces, cryptography, and history.

Prerequisite: MTH 152 plus permission of the Department of Mathematics

MTH404 - Topology

This course involves the study of certain geometric shapes (called *topological spaces*) and functions between them. The notions of a continuous function and equivalent spaces are studied in depth as well as topological properties such as connectedness, compactness, and the Hausdorff condition. The following topics may also be covered: product and quotient spaces, the separation axioms, and metric spaces. This course will use an axiomatic approach and requires a degree of comfort with abstraction and proofs. The student should be prepared for substantial writing outside of class.

Prerequisites: MTH 208, MTH 211, MTH 217

MTH412 - Algebraic Structures

An introduction to the study of abstract algebraic structures including groups, rings, and fields. In particular, topics will include subgroups, cyclic groups, groups of permutations, the fundamental theorem of Abelian groups, homomorphisms, factor groups, rings, fields, integral domains, Fermat's and Euler's theorems, rings of polynomials, ideals, and ring homomorphisms, and the basic concepts of graph theory. The course also emphasizes the writing of proofs and logically explained problem solutions.

Offered fall term of odd-numbered years

Prerequisites: MTH 208, 211 and 217

MTH415 - Real Analysis

This course provides a rigorous treatment of the calculus concepts of limits, continuity, sequences, differentiation, and integration (including double integrals). It includes the axioms for the real number system, basic topological properties of \mathbb{R}^n , basic concepts of metric spaces, and proofs of the classical theorems of calculus.

Offered fall term of even-numbered years

Prerequisites: MTH 208, 211 and 217

MTH420 - Senior MathTalk

(1/2 Course, Unbilled)

In this course each student will investigate a mathematical problem or topic (appropriate for senior-level students of mathematics) under the supervision of a member of the mathematics faculty. The student will present the results of this investigation in a written report (using appropriate mathematics software) and an oral presentation to students and faculty. The report and oral presentation will be evaluated by all full-time mathematics faculty members to determine the student's grade in the course. Students will receive instruction in report writing and oral presentation.

Prerequisite: Permission of the Mathematics Department

MTH490 - Topics in Mathematics

The topics and content of this course vary according to the needs and interests of students and faculty. Course content and materials are selected to meet 400 senior-class level expectations. Possible topics include Modern Algebra II, Real Analysis II, Topology II, Advanced Graph Theory, and other pre-graduate level preparatory courses.

Prerequisite: Permission of the Mathematics Department

MTH500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Modern Languages

The mission of the Department of Modern Languages is to impart to students the skills, knowledge, and qualities necessary to communicate and interact in culturally appropriate ways with speakers of languages other than their own. We accomplish this through immersion of our students in the languages, cultures, and products of different peoples.

Faculty and students in the Department of Modern Languages strive for a deeper understanding of the values implied in the products, practices, and perspectives of diverse cultures. At all levels of instruction we seek to integrate linguistic and socio-linguistic skills with critical reading and interpretation of texts. A fundamentally interdisciplinary department by virtue of its diverse language programs and areas of study, the department seeks to integrate its insights and experiences into the broader fabric of the College community. In fulfilling its mission within the context of the College community, the Department has established educational outcomes and pedagogical goals consistent with the National Standards of Foreign Language Learning:

1. **COMMUNICATION:** Students completing a course of study will have sufficient competency to communicate in culturally appropriate ways.
2. **CULTURE:** Students will demonstrate knowledge and understanding of the ways of life and world views of foreign cultures.
3. **CONNECTIONS:** Students who have developed competence in a foreign language will be able to make connections with other disciplines and recognize distinctive viewpoints available only through the target language and its various cultures.
4. **COMPARISONS:** Students will develop insights into the nature of language and culture and will demonstrate their understanding of the target language and its cultures by comparison with their own.
5. **COMMUNITIES:** Students will seek opportunities to participate in multilingual communities at home and around the world and will show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

The Department of Modern Languages believes that students who have completed a course of study consistent with the goals stated above, and articulated within the general mission of the department, will be better able to participate actively and meaningfully in an increasingly interdependent world.

The department offers majors and minors in [French](#), [German](#), and [Spanish](#), and courses at the 100- and 200-level in [Arabic](#), [Chinese](#), [Japanese](#), and [Russian](#). It also offers a [200-level linguistics course](#).

LAN200 - Linguistics

Designed to introduce students to the formal and functional study of language, this course will provide a background in several core areas of linguistics: phonetics and phonology (sound structure and patterns), morphology (word structure), syntax (sentence structure), and semantics (word meaning). In addition, students will examine language variation and change, language contact, language and culture, and topics in sociolinguistics (language and gender, language varieties associated with specific ethnic and socio-economic identities). This course is taught in English, but students will use and analyze datasets from many different languages in order to compare linguistic features.

Prerequisites: None

Music

Professors: Medley

Associate Professors: Swift (chair)

Assistant Professors: Mukherjee, Simpson

Music courses are open to all students, most without prerequisites. The department offers a variety of enrichment courses valuable to a general education as well as a strong program in theory, history, world music, and performance leading to a music major or minor.

MAJOR REQUIREMENTS: A minimum of 12 courses in music, including [MUS 103](#) (with a minimum grade of B) or [MUS 201](#); [MUS 202](#); [MUS 205 and 206](#); and [MUS 306](#); at least one other course at the 200 level; one course from those numbered 300 to 310; [341](#) or [361](#); [MUS 401](#) with successful presentation of the senior music project; four semesters of the same W&J ensemble; and four semesters of applied study in a single area (voice or instrumental).

MINOR REQUIREMENTS: [MUS 201](#) or [202](#); [MUS 205](#); four semesters of the same W&J ensemble or four semesters of applied study in a single area (voice or instrumental); three courses from the department's offerings numbered 221 and above; and successful completion of the senior music project, which must be proposed and accepted in the student's penultimate semester. Projects may include senior recitals, papers, and other forms of presentation approved by the music faculty. Students considering a Minor must communicate at least once each term with the Department Chair. Minors are also strongly advised to designate a Music Department faculty member as a secondary advisor of record with the Registrar.

NOTE: MUS 141 and 204 do not count toward the minor or major in music.

AP Policy: Students scoring 4 or 5 on the Music Theory AP exam receive credit for MUS-204. A Music Aural or Non-Aural Subscore as low as 3 is acceptable for MUS-204 as long as the overall Music Theory exam score is a 4 or 5.

PERFORMANCE (APPLIED) STUDIES: The music department offers a number of courses in music performance areas known as applied studies. These courses are denoted by the prefix MUA and, as partial courses, yield partial credit. Applied studies in music may be taken more than once, with ongoing participation in the College ensembles strongly encouraged. For private instruction in instrumental or vocal music, students should register for the appropriate applied studies course and see the instructor to schedule a one-hour weekly lesson. For private instruction, there is a per-term applied lesson fee.

MUA101- Choir

(1/4 Course)

Participation in W&J Choir offers training in vocal and ensemble techniques, sight-reading, and a wide-ranging repertory. Along with regularly-scheduled concert performances, the W&J Choir also sings at important College functions and at various community events. All students are welcome to participate with consent of the director, who will determine voice placement.

MUA111 - Wind Ensemble

(1/4 Course)

The W&J Wind Ensemble performs the standard band literature as well as the more specialized repertoire utilizing the concept of one player per part. Performing each semester at the Olin Fine Arts Center, the ensemble also plays for community events and tours on occasion. Students registering in the Wind Ensemble must have prior experience playing a reed, brass, or percussion instrument, and read music fluently. The director determines seating placement according to instrumental ability.

MUA121 - Applied Piano

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA122 - Applied Organ

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA131 - Applied Voice

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA141 - Applied Saxophone

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA142 - Applied Flute

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are

encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA143 - Applied Clarinet

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA144 - Applied Oboe

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA145 - Applied Bassoon

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA151 - Applied Trumpet

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA152 - Applied Trombone

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA153 - Applied Euphonium/Tuba

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA154 - Applied French Horn

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique,

musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA161 - Applied Violin

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA162 - Applied Viola

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA163 - Applied Cello

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA164 - Applied String Bass

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA165 - Applied Guitar

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA166 - Applied Electric Bass

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA171 - Applied Concert Percussion

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are

encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA172 - Applied Drum Set

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA173 - Applied Comprehensive Percussion

(1/2 Course)

Private Instruction Courses

Weekly private lessons (12 per term) for partial credit are available. Each studio focuses on building skills in technique, musicianship, and repertory, enabling students to gain proficiency in performance. For specific studio guidelines, students are encouraged to contact the instructor prior to registering. End-of-term juries and Student Recognition Recitals offer evaluation and performance opportunities to those taking private music instruction.

MUA201 - Camerata Singers

(1/4 Course)

A small, select vocal ensemble, the Camerata Singers perform a wide variety of music ranging from madrigals to jazz and popular styles. Seeking mastery of a fine body of repertory in a stylistic manner, W&J's Camerata performs frequently, both on and off campus. The director determines eligibility and placement.

MUA211 - Jazz Ensemble

(1/4 Course)

An ensemble of 18 members that performs standard works from the jazz repertoire in addition to new works written by today's most innovative composers, the W&J Jazz Ensemble rehearses twice weekly with occasional supplementary sectional rehearsals. The instrumentation includes five saxophones, four trombones, five trumpets, bass, drums, guitar, and piano. The group makes at least one concert appearance each semester, performs in the community and also hosts master classes by leading visiting jazz performers. The director determines seating.

MUA307 - Composition

This course provides students with practical and technical training in composition, starting at a beginner's level. The course may be repeated for more advanced training. Students will work independently, but meet as a group weekly for instruction and feedback on applying the tools learned in the Music Theory course sequence to the craft of composition. Along with close analysis of scores, students will especially learn about the idiomatic use of timbre, texture, notation, instrument techniques and ranges, composing in pre-established forms such as song forms, theme and variation, and programmatic through-composition. When appropriate for the student's level, the course will include arranging for established settings, such as string quartet, piano trio, wind ensemble, four-part choir, etc. Each semester culminates with a final composition project approximately 5 minutes in length. Students are recommended to have a basic knowledge of Sibelius music notation software, as this will be the program in which all work will be turned in.

Prerequisites: Must have taken Music Theory 205 and 206. May be taken concurrently with MUS 306.

MUA 221 - Chamber Music Ensemble

(1/4 Course)

Available by consent of the music faculty to all instrumentalists (including piano and strings) interested in forming duos, trios, and other chamber ensembles to learn the traditional and contemporary literature, as well as to singers interested in the art song repertory. Special attention is given to ensemble techniques and stylistic concerns of the selected repertory. A presentation of the music studied is required to receive credit.

Chamber ensembles seeking coaching by outside specialists may incur private coaching fees. Contact music faculty for details.

MUS103 - Introduction to Music Listening

Open to all students without prerequisite. A course designed to acquaint students with basic listening skills as well as relationships among the major stylistic periods in Western and non-Western music. The goal of this course is to expand the student's musical perception through a variety of listening approaches, assigned readings, lectures, live performance attendance,

and discussions. Emphasis is on the distinguishing characteristics of music from various eras and composers.

MUS 103 may count towards the music major with a minimum grade of B as a substitute for MUS 201

MUS141 - Music of the World

Open to all students without prerequisite. This course focuses on a collection of diverse music-cultures from around the globe, addressing art, folk, and popular music styles. Using directed listening and guided, hands-on experiences, students will develop the intellectual tools needed for grasping what it means to make music in a different culture. Because music in non-Western contexts is not an isolated discipline, related cultural ideas such as belief systems, modes of communication and transmission, and musical instrument design are also important to the study.

MUS201, 202 - History of Western Music

MUS 201 Antiquity through the Baroque

MUS 202 Age of Enlightenment into Twenty-First Century

Open to all students without prerequisite. This course is a survey of the musical heritage of Western civilization. Selected major musical works will be examined from a variety of historically oriented standpoints, including their cultural milieu, their main stylistic aspects, and performance practice.

MUS204 - Music Theory Fundamentals

Open to all students without prerequisite. This course is an introduction to the basic materials of music -- the development of skills in rhythmic and melodic notation, scales, and elementary harmony. Presented in both traditional and computer-assisted styles, the course seeks to develop critical listening and music reading/writing skills.

Does not count toward music major

MUS205, 206 - Music Theory I, II

Music Theory I focuses on the musical style of the common-practice period. Students will analyze scores from this repertoire with respect to harmony, melody, rhythm, growth, and other musical characteristics. Students will compose examples illustrating stylistic characteristics, including harmony, voice leading, and counterpoint. Through sight singing and dictation, students will also develop aural skills. Music Theory II continues to build skills of analysis and composition. Scores from a wider scope of music history will be analyzed, exposing students to a variety of harmonic and formal techniques. Composition assignments will allow students to apply new techniques observed in analysis. Students also will continue to develop aural skills through more advanced sight singing and dictation. Both MUS 205 and 206 are presented in traditional and computer-assisted styles.

Three hours lecture, one hour lab

Prerequisites: MUS 204 or placement exam; 205 is prerequisite to 206

MUS231 - Beethoven

Open to all students without prerequisite. An exploration of the composer's life, work, and in-depth study of representative music from each of his creative periods, current theories and analyses of Beethoven's compositional technique are considered alongside the traditional investigations, enabling students to compare various interpretations by scholars and performing musicians. Exposure to a wide range of critical inquiry, live performances, and guest lectures enrich this course.

MUS241 - Global Music Regional Survey

Open to all students without prerequisite. This course mirrors MUS 141, but with a closer focus on a particular region of the globe (Asia; Europe and the Middle East; Africa and South America; or Pacific Rim and North America). It addresses "classical," folk, and popular music styles, as appropriate to the culture. Using directed listening and guided, hands-on experiences, students will develop the intellectual tools needed for grasping what it means to make music in a different culture. Because music in non-Western contexts is not an isolated discipline, related cultural ideas such as belief systems, modes of communication and transmission, and musical instrument design are also important to the study.

MUS245 - Music and the Natural Environment

This course examines musical models of the environment by focusing on programmatic music, i.e. music that has specific

associations beyond its inherent musical design. In order to understand how different cultures musically interpret their environments, we must consider both Western and non-Western perspectives. Characteristic of such a study is an examination of how humans relate to the environment emotionally and spiritually, not just physically and quantitatively. Student work will focus on learning how to hear environmental messages in music and practicing the communication of these skills orally.

MUS251 - Jazz History

Open to all students without prerequisite. Through readings and extensive listening, this course will focus on the leading personalities of jazz from the early twentieth century to the present. The evolution of major stylistic trends will be examined, as well as social, political, and economic influences

MUS255, 256 - Topics in Music

Open to all students without prerequisite. This course is an in-depth study of a subject chosen from topics varying from year to year. Among those topics courses offered recently are vocal masterpieces; Romeo and Juliet in Words and Music, The Art of Conducting, The Art of Accompanying, Asian music, Venice, Vivaldi and The Four Seasons, A Pilgrimage to Beethoven's Ninth Symphony, Film Music and Women in Music. Current topics in music will be published in the preregistration bulletin.

MUS261 - American Music

Open to all students without prerequisite. This course is an historical and stylistic examination of a variety of vernacular and art music reflecting American culture. Such forms as folk and popular songs and dances, jazz and concert music, America's diverse sacred styles, opera, and musicals will be considered.

MUS270 - The Art of Conducting

This course introduces the basics of conducting, a skill with many practical applications. Through hands-on participation, students will learn baton technique, beat patterns, expressive gestures, and the ways in which interpretive elements may be communicated to an ensemble. Each class will become a supportive lab/rehearsal where students learn to conduct effective rehearsals by employing meaningful gestures, score study and rehearsal preparation skills. Using both recorded and live-performance media, students will be exposed to the conducting challenges of standard instrumental and vocal repertoire. Student presentations, individual and group coaching, and offsite rehearsal observation figure prominently in class activities. Students must be able to read music to take this course.

Prerequisite: Student must be able to read music

MUS300 - Music Since 1900

This course traces the creative development of musical ideas during the twentieth century. Derivations from the visual arts, theatre, dance, and multicultural sources are examined, as is the eclecticism of influences in the modern world. Beginning with the impressionists in France, the course surveys primary personalities and stylistic paths in Europe, Russia, England, Latin America, and the United States.

Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS306 - Music Theory III

Music Theory III continues to build skills of analysis, composition, and ear training. Scores from the eighteenth and nineteenth centuries will be analyzed and used as models for original composition, exposing students to a wider spectrum of harmonies and formal structures. Students will continue to develop aural skills through sight singing, chord identification, and multi-voice dictation exercises.

Prerequisite: MUS 205 and 206

MUS309 - Nineteenth-Century Romantic Music

A study of that music of the nineteenth century giving voice to the Romantic Movement, this course examines music in its respective circles of men and women who compose, perform, write about and influence its creation. Selected genres are studied, focusing on short lyric forms, programmatic and absolute music, including symphonies, piano sonatas, chamber music, art songs and opera. The relationship of the musicians to their culture and connections with other arts of the period will be considered. Live performances will enrich lectures, class discussions and writing projects.

Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS310 - Writing About Music

A discussion-based course that explores the relationship between words and music, and examines the challenges to insightful, effective writing in the arts. Class sessions are devoted to reading selections and identifying observational perspective, vocabulary development, music research methods and peer-reviewing. Writing forms emphasized include press releases, critical reviews, program notes, essays, research papers and annotated bibliographies. Drafting, editing, and revising are guided by the instructor, along with preparing work for publication and presentations for an audience beyond the classroom. Typically, a guest music critic visits campus and speaks with students. MUS 310 is part of W&J's Professional Writing Program.

Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS341 - Music of the African Diaspora and Modern Africa

People of African descent have enriched nearly every kind of music one encounters in the Western hemisphere. This course will look at modern manifestations of African music (juju, highlife, afrobeat) and African-derived music in the Caribbean and Americas (vodou, samba, reggae, calypso). The course also will acquaint students with the methods of inquiry of ethnomusicology, integrating the study of history, culture, and society with the study of music.

Typically offered in Fall Term.

Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS361 - Micromusics of America-Urban and Regional Styles

Confounding any efforts to describe a distinctly "American" style of music is the incredible diversity of urban, ethnic, and regional styles found in this country. This course will look at America not as a "melting pot" but as a "stew," in which indigenous music from around the globe are preserved, but with localized variants and innovations. Students will learn to identify and accurately describe these styles of music and performance practice. A significant part of the class will be devoted to using technological tools and statistical instruments of the social sciences to examine the importance of this music to our society.

Typically offered in Fall Term.

Prerequisite: One of MUS 103, 201, 202, 205, 206, 241, 261, or permission of the instructor

MUS401 - Music Seminar

Music seminar provides a forum in which students who have completed upper-level courses in music, along with those seriously interested in the subject matter, can engage in meaningful discourse about a variety of relevant topics and issues. Readings and musical examples are assigned for each seminar meeting, participants being given principal responsibility for leading discussions. The range of topics includes, though is not limited to, the evaluation of new music, the historical performance movement, ethnomusicology and cultural musicology, and performance and repertory subjects related to scheduled performances at the College and in Pittsburgh. Participants in music seminar will be expected to make formal presentations during the semester, submitting written work for each. Music majors and minors will present their senior music projects during the seminar, as a capstone experience in music.

Typically offered in Spring Term.

MUS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Neuroscience

Professor: Sheers, Wilson

Associate Professors: Bayline, Leonard, Matsuno

Assistant Professor: Weixel (director)

The neuroscience major is a rigorous interdisciplinary major, administered jointly by an advisory committee with representation from the biology, chemistry, physics, and psychology departments. It is designed to provide not only a foundation in neuroscience, but to offer students the opportunity to focus their research interests in a variety of levels of nervous system functioning from the activity of single neurons to the complexity of behavioral systems. Majors distribute their course work across the fields of biology, chemistry, philosophy, physics, and psychology as these disciplines all contribute to the interdisciplinary nature of the brain sciences.

MAJOR REQUIREMENTS: Fourteen courses, as follows: NSC 210, NSC 300, and NSC 400; PSY 101; BIO 121 and BIO 131; P HY 101 (or 107) and PHY 102 (or 108); CHM 160; MTH 151 (or MTH 125 or BIO 245). In addition, take three of the following, selected from two different departments: BIO 202, BIO 306, BIO 235, BCH 333, PSY 265, PSY 275, PSY 370, PSY 380, PHL 242. Students must also complete a Capstone Experience, which can be fulfilled by BIO 412, PSY 485, an independent study project (NSC 500/501) or internship. All projects must be approved by the Neuroscience Steering Committee as a capstone requirement.

MINOR REQUIREMENTS: Students in all majors other than biology or psychology must complete the equivalent of six courses for the minor. These courses include two introductory science courses from two different disciplines (BIO 121 or 131, CHM 160, P HY 101 or 107, or PSY 101), the three core neuroscience courses (NSC 210, 300, and 400), and a neuroscience-related research project that may be fulfilled by either an on-campus tutorial or independent study project, or a summer or Intersession internship.

NSC210 - Introduction to Neuroscience

This course is intended to expose students to the world of the neuroscientist. Students will learn the subject matter of neuroscience and gain insight into the interdisciplinary nature of the field, bridging psychology and biology, as well as topics in physics and chemistry. To this end, we will examine various topics from the perspectives of these different disciplines. Examples of topics may include: cognition, motor systems, emotion, sensory systems, development, consciousness, evolution, and pharmacology. Each module will include lecture and background information, a discussion on a specific research question within the topic, and some type of demonstration or applied experience.

Offered fall term only

Prerequisite: One of the following courses: BIO 121 or 131, PSY 101, CHM 160, or PHY 101 or 107

NSC300 - Experimental Neuroscience

This course will combine lectures, laboratory exercises, discussions, and independent projects to allow students to explore topics across the breadth of the field of neuroscience. These topics will include neuroanatomy, neurophysiology, synaptic transmission, anatomy and physiology of sensory and motor systems, behavioral and cognitive neuroscience, and neural development. In the laboratory, students will learn a wide variety of experimental techniques focused on anatomical techniques, physiological techniques, behavioral techniques, and computational techniques. Through these exercises, the students will learn to design, implement, and analyze experiments. Scientific writing will be emphasized. Finally, students will learn to critically read and evaluate research as presented in the primary literature through class presentations and discussions.

Offered spring term

Prerequisite: BIO 131 or NSC 210

NSC400 - Advanced Topics in Neuroscience

This course is designed for students acquiring an emphasis in neuroscience. In the course, we will explore different topics in the neurosciences surrounding a central theme by reading and presenting papers from the primary research literature. Potential topics include: neural development, neurobiology of disease, pharmacology and drug effects, computational modeling of neural

networks, and neurobiology of sexual behavior. All classes will have a discussion format. Students will be required to give at least two oral presentations of the research presented in a paper. In addition, the major project in this course will be the preparation of a grant proposal by each student based on a review of the primary research literature in the field.

Offered spring term

Prerequisites: NSC 210 and 300

NSC500, 501 - Independent Studies in Neuroscience

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Prerequisite: NSC 300

Philosophy

Professor: Rembert

Associate Professors: Kim, Osborne (chair), Wolf

Assistant Professor: Robinson

The mission of the Department of Philosophy is carried out through its courses, through interdisciplinary studies to which it contributes, through its promotion of the W&J Philosophy Club, and through its efforts to involve students with the philosophical community both regionally and nationally. The philosophy department aims to help students improve their skills in careful reading, critical thinking, and clear writing. It also seeks to provide opportunities for students to explore the foundational questions underlying both their lives and their careers. Finally, it seeks to provide a major course of study that will enable students to be successful in arenas from graduate programs in philosophy to professional schools in law or medicine to a wide range of careers in which reading, thinking, and writing skills are vital.

MAJOR REQUIREMENTS: The philosophy major consists of nine courses, including [PHL 123](#) ; at least one course from [PHL 201](#) , [204](#) , or [205](#) ; at least one course at the 300-level; and [PHL 450](#) Research Seminar in Philosophy, the philosophy capstone. The remaining elective courses can include any PHL course, [POL 341](#) , or [POL 342](#) . (Students may take both POL 341 and POL 342 for the major or minor). A maximum of four 100-level courses may count toward the major. Students contemplating graduate study in philosophy are encouraged to take both PHL 201 and PHL 204.

MINOR REQUIREMENTS: Six courses in philosophy including at least two courses at the 200-level or above. Up to two non-PHL courses that would count toward the philosophy major may count toward the philosophy minor.

NOTE: None of the 100-level courses have prerequisites. Any would be appropriate for a beginning philosophy student.

PHL101 - Beginning the Conversation-An Introduction to Philosophy

Various original sources are used in order to provide a first acquaintance with some of the language, techniques, and concerns commonly associated with philosophy and, most important, to provide an opportunity to join in the conversation of philosophy itself.

PHL123 - Introduction to Logic

This course provides an introduction to deductive reasoning in both its classical and modern forms.

PHL130 - Moral Philosophy

A survey of the major current approaches to moral theory, combined with an examination of their application to important contemporary moral problems.

PHL135 - Social and Political Philosophy

This course presents classical and contemporary conceptions of the nature and aim of social and political communities, with discussions of current social issues.

PHL137 - Philosophy and Race

This course is an introductory exploration of central philosophical issues that arise from the embodied character of human life and are raised by philosophers of color. How does our perceived race affect the content of our social experience? How can society work toward a genuinely common political community that is composed of people of significantly differing social and cultural traditions? What are the requirements of racial fairness?

PHL138 - Philosophy and the Arts

This course is an introduction to aesthetics, focusing on the role of the arts in human life and society. Through engagement with classic and contemporary texts and a variety of artworks, this course addresses such questions as: What is art? Could anything be art and is art a special type of product or activity distinct from other domains? What makes one work of art better than another? What is the value of the arts in society or in the individual life?

PHL145 - Faith and Reason

This course is an introductory-level course exploring the relationship between reason and faith, particularly as they relate to the grounding of religious belief. The course will explore both classical and contemporary readings. This course is the same as REL 145.

PHL201 - Classical Philosophy

The earliest phases in the development of Western philosophy, from its origins into the Christian era, are explored. Special emphasis will be on Plato and Aristotle.

Prerequisite: One PHL course or permission of the instructor

PHL204 - Early Modern Philosophy

This course presents philosophy from the time of Galileo to the French Revolution, with emphasis on Descartes, Hume, and Kant.

Prerequisite: One PHL course or permission of the instructor.

PHL205 - Nineteenth-Century Philosophy

One of the most diverse periods of Western philosophy, encompassing German Idealism and its wake, is explored. Emphasis will be on Hegel, Kierkegaard, Marx, and Nietzsche.

Prerequisite: One PHL course or permission of the instructor.

PHL221 - Metaphysics and Epistemology

This course presents problems and debates about metaphysics (the philosophical nature of the world) and epistemology (theories of knowledge). An emphasis is placed on contemporary debates rather than historical traditions. Topics regularly include the nature of time, causation, free will, the persistence of objects over time, perception, justification and skepticism about knowledge.

Prerequisites: One PHL course or permission of instructor.

PHL222 - Philosophy of Language

This course will serve as an introduction to central themes and topics in the philosophy of language. Most of the topics covered in the course center around the notion of meaning. What are the ingredients of meaning? How does the meaning of an expression contribute to the meaning of a sentence containing it? What is involved in understanding the meaning of what is said? What should a theory of linguistic meaning look like? The first part of the course will focus heavily on the interplay between *meaning* and *reference*, and we will consider questions such as the following. What does it take to understand a linguistic expression? How can belief reports be accommodated within a theory of meaning? What special problems do context-sensitive expressions raise for a theory of linguistic meaning? The second part will focus more briefly on the interplay between *meaning* and *truth*. And in the third part, we will consider some aspects of the interplay between *meaning* and *use*, focusing on the theory of speech acts and figurative language.

Prerequisites: One PHL course or permission of instructor.

PHL223 - Symbolic Logic

This is an intermediate logic course providing an acquaintance with some of the techniques of twentieth-century symbolic logic.

Prerequisite: PHL 123 or permission of instructor

PHL225 - Philosophy of Science

This course is an exploration of the nature of scientific inquiry. It will examine such basic issues as the nature of scientific explanation, the confirmation of scientific hypotheses, and the character of scientific change. It will also examine the rules of data, theory, and the dynamic of scientific communities in the process of gaining scientific knowledge.

Prerequisite: One PHL course or permission of the instructor.

PHL230 - Moral Theory

This course explores the state of contemporary debates in moral theory. Some classical sources are included to orient students to the origins of various theories, and the course covers both normative theory (accounts of what ought to be done) and metaethics (accounts of the nature of moral theories and facts).

Prerequisites: One PHL course or permission of instructor.

PHL231 - Environmental Ethics

This course is an examination of the ethical issues and perspectives that arise in our human encounter with the natural environment. Is the moral community comprised solely of human beings or does it extend to animals and perhaps even trees? Is moral value best understood from the perspective of individual beings or is it better understood in terms of communities or ecosystems? The course also will explore a range of environmental issues, including population, world hunger, pollution, global warming, and sustainability.

Prerequisite: One PHL course or permission of the instructor.

PHL232 - Bioethics

This course addresses contemporary debates on numerous topics in medicine, biotechnology and public policies regulating them. Some review of major ethical theories included. Topics may include informed consent, euthanasia, genetic engineering, reproductive rights, among others. Highly recommended for students with interests in the health professions or applied ethics.

Prerequisites: One PHL course or permission of instructor.

PHL236 - Philosophy and Gender

This course explores the central themes that are currently being pursued by philosophers in debates on the nature of gender. Regular topics include the roles of biology and social practices in developing gender, whether there are viable gender-neutral accounts of science and objectivity, and the role of gender in ethics.

Prerequisites: One PHL course or permission of instructor.

PHL238 - Aesthetics

In this course, we will discuss selected topics in contemporary aesthetics and the philosophy of art. In the first part of the course we will examine general questions concerning the status and nature of art, the experience of art, and the interpretation of art. These questions will include: What is art? Is there such a thing as a distinctive aesthetic attitude or aesthetic experience? What is

the relation between aesthetic and non-aesthetic properties? Does authorial intention affect aesthetic interpretation? Do our cognitive beliefs affect our aesthetic experiences? Can there be great works of art that are morally bad? In the second part of the course we address more specific questions that arise in particular fields of art. These questions will include: How and what do pictures represent? How does music express emotions? What is dance?

Prerequisite: One PHL course or permission of the instructor.

PHL242 - Philosophy of Mind

This course investigates the nature of mentality, focusing on the relation between the mind and the body. Topics may include consciousness, the self and personhood, meaning, innateness, perception, knowledge of other minds, and the possibility of artificial intelligence. Relevant research in psychology, neuroscience, and linguistics may be considered.

Prerequisite: One PHL course or permission of the instructor.

PHL270-Topics in Philosophy

An introductory survey of a selected topic in philosophy: e.g., aesthetics, philosophy of history, philosophy of sport. Actual topic will be announced in the preregistration bulletin.

Prerequisite: One PHL course or permission of the instructor.

PHL341 - Kant

This course will explore the theoretical, moral and religious philosophy of Immanuel Kant, one of the greatest and most influential figures in the history of Western philosophy. The first half will focus on some crucial sections of his foundational work, the *Critique of Pure Reason*. These will be concerned mainly with his views on the conditions and scope of human knowledge and his radical distinction between things as they appear to us and things as they are in themselves. The second half will turn to the basic principles of his theory of morals, his groundbreaking views on religion, and his conception of a necessary connection between the concern to be moral and religious belief.

Prerequisites: Two PHL courses or permission of instructor.

PHL370 - Advanced Topics in Philosophy

This course is similar to PHL 270 with the exception that some prior acquaintance with philosophy will be expected. Actual topic and prerequisites will be announced in the preregistration bulletin.

Prerequisites: Two previous PHL courses, at least one of which must be at the 200 level, or the permission of the instructor.

PHL450 - Research Seminar in Philosophy

This course is the culmination of the undergraduate introduction to philosophy. The topics and readings to be covered here will be determined by the participants' required senior essay project, to be written in conjunction with this course. Details concerning this requirement are available from any member of the philosophy department.

Prerequisites: Four previous PHL courses, including the completion of one major (20-page) research essay in philosophy.

PHL500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Physical Education

Director: Glock

The mission of the Department of Physical Education/Wellness is to provide the knowledge for students to make healthy lifestyle choices throughout their lifetime. The programs are designed to provide proficiencies in lifelong recreational activities and wellness concepts to enable our graduates to make worthy use of leisure time. The attention of all students is directed to the physical education/wellness requirement contained in the [College-Wide Requirements](#) section in this catalog. Students should complete this requirement by the end of their sophomore year.

PED101 - Beginning Racquetball

(1/4 Course)

An introduction to the sport of racquetball, this course emphasizes skill development, knowledge of rules, and playing strategies.

PED103 - Sports Nutrition for Health and Fitness

(1/2 Course)

This course focuses on the understanding and application of nutrition principles for the student interested in good health and exercise. Some sections of this course may be limited to student-athletes.

PED104 - Fitness Through Activities

(1/2 Course)

This course is designed to help students formulate and maintain their own physical fitness program through participation in a variety of activities. Students will learn the concepts of improving and assessing cardiovascular endurance, building muscular strength, and increasing flexibility.

PED105 - Folk, Square, and Ballroom Dance

(1/4 Course)

This course is an introduction to folk dances typical of foreign countries. Ballroom dances (fox-trot, waltz, cha-cha, polka), square dances, line dances, and current popular dances also will be taught.

PED106 - Attaining the Mental Edge

(1/2 Course)

This course focuses on the understanding and application of mental training principles to be utilized in the area of psychology, sports, and job skills. Concepts such as mental imagery, goal-setting, motivation training, and relaxation are introduced. Students will learn about team building, leadership, communication, and motivating skills applicable to personal goals, sports performance, and job-related situations. Some sections of this course may be limited to student-athletes.

PED107 - Fly Fishing

(1/4 Course)

This course is an introduction to the fundamentals of fly-fishing. Students will learn basic skills in casting, tying knots and flies, and identifying fishes and insects. Field trips on Saturdays will be part of the course and a fee will be assessed.

PED108 - Beginning Tennis

(1/4 Course)

This course serves as an introduction to the sport of tennis. Students will learn the rules, basic mechanics, techniques, and strategies of tennis.

PED109 - Weight Training

(1/2 Course)

This course is designed to teach the proper mechanics and benefits of weight training.

PED110 - Ice Skating

(1/2 Course)

An introduction to the fundamentals of ice skating, this course emphasizes learning basic skills, balance, proper technique, and safety on the ice.

PED111 - Badminton

(1/4 Course)

This course is an introduction to the basic strokes and strategy of badminton.

PED112 - Beginning Swimming

(1/2 Course)

This course is an introduction to survival techniques and basic stroke mechanics to those individuals who cannot swim.

PED113 - Aquatics

(1/2 Course)

A course designed to give a general overview of different aspects of aquatics. Stroke mechanics, water safety techniques, conditioning, pool maintenance, competitive swimming, and swimming meet management will be taught. The course is geared for a wide range of swimmers.

PED114 - Lifesaving-Lifeguarding

(1/2 Course)

This course provides the basic skill of lifesaving and the specialty knowledge needed to work as a lifeguard. American Heart Association certification in both areas may be obtained.

PED115 - Beginning Kung Fu Dragon Style

(1/2 Course)

This course is an introduction to the basic movements, step forms, and self-defense applications of the dragon style which features a very upright stance, and uses circular motions to keep an attacker guessing about where the strike will be coming from. This motion, coupled with quick strikes at the vulnerable areas of the attacker, allows a person to disable their aggressor and escape the situation.

PED116 - Yoga

(1/2 Course)

This course is designed to teach the fundamental skills for astanga yoga practice, including yoga breathing, sun salutations A and B, and other yoga poses.

PED117 - Beginning Golf

(1/4 Course)

This course is an introduction to the fundamental techniques and skill of golf. The students will learn the rules, regulations and etiquette associated with the game. A greens fee will be assessed for this course.

PED118 - First Aid and CPR

(1/4 Course)

This course is designed to give elementary first aid training, basic life support capabilities, and AED training. Red Cross certification in these areas may be obtained.

PED119 - Bowling

(1/4 Course)

An introduction to bowling for fun and recreation, this course emphasizes skill development and knowledge of rules. This class will be held at the bowling alley and a fee will be assessed.

PED120 - Soccer

(1/4 Course)

This course is an introduction to the sport of soccer. Emphasis will be placed on skill development, rules, technique, formations, and game strategies.

PED121 - Lacrosse

(1/4 Course)

This course introduces the history, basic rules, strategies, skills, and general play of lacrosse.

PED122 - Water Aerobics

(1/4 Course)

A water exercise class focusing on cardiovascular conditioning and muscle toning.

PED123 - Self Defense for Women

(1/4 Course)

This course is an introduction to basic self defense techniques from a front, side, or rear attack.

PED124 - Handball

(1/4 Course)

This course is an introduction to the sport of handball. Emphasis will be placed on basic skill techniques, strategies, and rules of the game.

PED126 - Practical Self Defense for Men and Women

(1/2 Course)

This course is an introduction to basic practical and effective self-defense techniques.

PED127 - Kung Fu Beginner Level Longfist Style

This is a Chinese Martial Arts course made up of one 28-step beginner level Longfist style Kung Fu form. Representative defense applications will be taught. Students will learn multiple block, strike, and kick techniques. Strengthening will be done through isometrics. This is an activity-based course; as a result of taking this course students will develop their flexibility,

strength, fitness, Kung Fu form, and self-defense.

Prerequisites: NONE

PED200 - Health, Wellness, and Physical Education in the Elementary School

(1 Full Course)

This course will focus on health, wellness, and Physical Education instruction. It is specifically designed to instruct teacher education students in the principals of lifelong wellness beginning in the elementary school with emphasis on motor development and healthy living.

A school internship is required.

PED201 - Intermediate Racquetball

(1/4 Course)

This course is designed to teach advanced shots, movement patterns, doubles play, and strategies of racquetball.

PED208 - Intermediate Tennis

(1/4 Course)

A course designed for students who have already attained the basic skills to play tennis. Advance skills in ground strokes, serves, volleys, and overhead shots will be taught.

PED215 - Kung Fu-Level II

(1/2 Course)

This course is designed to teach an intermediate level Northern White Dragon set from Northern 5-Animal Shaolin and the representative defense applications.

PED216 - Intermediate Yoga

(1/4 Course)

This course is a continuation of PED 116 Yoga and is designed to teach advanced astanga yoga in a sequential (Vinyasa) movement pattern.

PED217 - Intermediate Golf

(1/4 Course)

This course is for the intermediate golfer. Emphasis will be placed on shot selection, trouble shots, bunker play, rules, and etiquette of the game. Green fees must be paid by the student.

Physics

Professor: Sheers (chair)

Associate Professor: McCracken

Assistant Professor: Martin

Instructor: Merten

Physics attempts to give a description of the natural world, from quarks to quasars, based upon observation and expressed mathematically. The physics department at W&J has an active, accessible faculty, and a tradition of students who succeed in graduate study, business, and industry. Students of the department benefit from one-on-one interaction, opportunities for research, and a sense of community. The department's offerings include a major and minor in physics, a major in biological physics, and courses in the areas of physics, earth and space science, information technology, and environmental studies.

MAJOR REQUIREMENTS: PHY 101 and 102 or 107 and 108 ; 209 , 234 , 313 , 319 , 341 , 342 , 390 , 441 , and 442 ; and two additional courses at the 300 and 400 levels. MTH 208 is required. PHY 441 and 442 serve as the capstone experience.

Students considering a major in physics are encouraged to start PHY 107 and MTH 151 in the fall of the freshman year. PHY 107 can be started in the sophomore year. Students considering changing to physics as a major should discuss the matter with the department chair.

MINOR REQUIREMENTS: PHY 101 and 102 or 107 and 108 ; 209 , 313 , 319 and one other physics course listed in this catalog at the 200 level or higher.

NOTE: Students may not receive credit for both PHY 101 and PHY 107; or PHY 102 and PHY 108.

AP Policy: Students scoring a 5 on PHYSICS 1 AP test receive credit for PHY 101. Students receiving a 5 on PHYSICS 2 AP test receive credit for PHY 100. Students scoring a 5 on PHYSICS C-MECH AP test receive credit for PHY 107. The Physics department recommends that students who are exempted from either PHY 101 or PHY 107 take another course in physics or another of the sciences during their first semester at W&J. Pre-health and pre-engineering students are advised not to take advanced placement credit in physics.

TEACHER CERTIFICATION: Students may seek Secondary Education (7-12) Certification in Physics by completing the Physics major and an Education minor consisting of those courses required for Secondary Education (grades 7-12) Certification. Before being formally admitted to the program, students must satisfy-by the end of the sophomore year-the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

PHY101, 102 - Introductory Physics

This course is an introduction to physics using algebra. Emphasis will be given to applications of physics to biological systems. Fall term consists of mechanics, thermodynamics, heat, and sound. Spring term consists of electricity and magnetism, optics, and modern physics. Either PHY 101 or 102 satisfies the laboratory science requirement. Students may not receive credit for both PHY 101 and PHY 107; or PHY 102 and PHY 108.

Prerequisite: PHY 101 is a prerequisite for 102

PHY107, 108 - General Physics

This course is an introduction to physics using calculus. It is recommended for students with calculus, students in physical sciences or engineering, and students who plan to attend graduate school in the sciences. Fall term consists of mechanics and conservation laws, simple harmonic motion, mechanical waves, heat, and thermodynamics. Spring term consists of electricity and magnetism, simple circuits, optics, special relativity, and modern physics. Analysis and problem-solving are emphasized. Either PHY 107 or 108 satisfies the laboratory science requirements. Students may not receive credit for both PHY 101 and PHY 107; or PHY 102 and PHY 108.

Prerequisites or corequisites: MTH 151 for PHY 107; MTH 152 and PHY 107 for PHY 108

PHY149 - Good Vibrations

This course is a hands-on, laboratory-based exploration of the physical principles underlying music and the psychophysical aspects of auditory perception. No previous background in science is necessary. Some use of basic algebra is required. This course satisfies the laboratory science requirement.

PHY150 - Seeing the Light

This is an introductory course for non-science majors that examines the complex process of how we perceive visual images both through the naked eye and through sophisticated optical instruments. The course will examine several elementary topics in the fields of optics, optical instruments, vision, and color. A three-hour laboratory meeting once per week accompanies the lecture part of the course. Specific topics covered include: elementary properties of light, image formation by simple lenses and mirrors, optical instruments (eyeglasses, the camera, telescopes and the compound microscope), the human eye, visual processing, binocular vision, color and color perception, wave optics, scattering and polarization, and holography.

Prerequisites: None

PHY209 - Modern Physics

An introduction to modern physics, including quantum physics and special relativity. The theory is developed from the observed experimental phenomena.

Four hours lecture, three hours lab

Prerequisites: MTH 152 and PHY 101 or 107, PHY 102 or 108

PHY233 - Introduction to Mathematica®

This course explores how the Mathematica® programming language can be used to solve applied mathematics problems using symbolic computation, numerical computation, and visualization (graphics). Examples will be drawn from the fields of mathematics, science (primarily physics and engineering), and finance (depending on student interest). The mathematical basis for calculations will be introduced with the topics. This course does not count as a lab science course.

Prerequisite: Mathematics 151 (Calculus I) or permission of instructor. An additional mathematics course is recommended.

PHY234 - Mathematical Methods in Physics

Mathematical techniques that stress physical relevance and application are studied. Coordinate systems, vector functions, power series, ordinary and partial differential equations, numerical integration and differentiation, complex numbers and functions, real and complex matrices, probability, nonlinear equations, and dynamics.

Three hours lecture, three hours lab

Prerequisites: MTH 152 and PHY 101 or 107, PHY 102 or 108 concurrent

PHY313 - Electricity and Magnetism

Electric and magnetic fields, including interaction with matter, Maxwell's equations, and an introduction to special relativity are presented.

Prerequisites or corequisites: MTH 208 and PHY 234

PHY317 - Thermal Physics

Temperature, entropy, heat and work, classical and quantum statistics, cryogenics, and kinetic theory are studied.

Prerequisites or corequisites: MTH 208 or PHY 234

PHY319 - Classical Mechanics

Newtonian mechanics, including motion of a particle and systems of particles in inertial and rotating coordinate systems, central forces and celestial mechanics, motion of rigid bodies, and chaos. An introduction to Lagrangian mechanics is presented.

Corequisite: MTH 208

PHY322 - Electronics

This course is a study of modern electronics and scientific instruments with an emphasis on microelectronics. Measurement and control applications include AC and DC circuits, power supplies, amplifiers, and logic devices. Instrumentation concepts include feedback controls, data acquisition, and microcomputer interfacing.

Three hours lab per week in addition to lecture

PHY327 - Biological Physics

This course introduces the student to the physics of living systems, with emphasis on the physics of biological molecules (including DNA, proteins, and lipids) and cellular and system function. A portion of the course will survey topics in current biological physics research.

Prerequisite: PHY 234

PHY331 - Quantum Mechanics

This course is an introduction to the elements of quantum physics with emphasis on the theoretical underpinnings. Basic "facts of

life" in the atomic world, wave-particle duality in physical systems, wave-mechanical descriptions, structure of the hydrogen atom, many-electron atoms, and discussion of radiation are studied. Examples from various areas of physics selected to illuminate how the theory works in practice.

Prerequisites: MTH 208 and PHY 209

PHY341, 342 - Experimental Physics I, II

(1/4 course)

This course is an introduction to modern experimental techniques with emphasis on laboratory arts, computerized data acquisition and analysis, and analysis of error. Laboratory exercises are supplemented by timely, topical lectures by staff members and by students enrolled in the course.

PHY381 - Special Topics in Physics

A course with content changing from year to year. During any particular year, the material offered is selected to meet the needs of eligible students for that year. The topic for any given year will be selected from the following: computational physics, electricity and magnetism II, electrical circuits, optics, and special and general relativity.

Prerequisites: PHY 313 and 319

PHY390 - Physics Seminar

(1/2 Course)

An introduction to current research, students will study published research articles of current interest in physics or related fields, and present them to the rest of the class. Emphasis is placed on critical reading, oral presentation, study of current experimental and theoretical methods, searching the literature, and reading about the exciting frontiers of physics research.

Prerequisite: Junior or senior standing

PHY441, 442 - Senior Research I, II

(1/4 Course, Unbilled)

Independent senior research, under departmental approval and supervision, including literature search, design and construction of experiment, theory, or calculation, and analysis, culminating in a bachelor's thesis. The project may be one suggested by the instructor or one proposed by the student and approved by the instructor. This is the capstone experience to the physics major.

PHY500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Political Science

Professors: Benze, DiSarro (chair), Gai, Misawa

Visiting Assistant Professor: Fifer

The political science department recognizes the importance of a discipline-based education within a strong liberal arts tradition. Specifically, the department seeks to impart to our students the essential skills and knowledge for a successful career in a political science-related field such as academia, government, law, or international affairs. Students also master a specific core of discipline-based knowledge and an understanding of their civic responsibilities in a global community. The department provides faculty mentoring, not only through academic advising but also through career counseling and exposing our students to practical political experience.

MAJOR REQUIREMENTS: Political science majors are required to successfully complete 10 courses. The distribution of the 10 courses is as follows: three introductory courses: POL 110 , 111 , and 120 ; three courses at the 300 level or above: one course each from American Government/Public Policy (POL 302 , 310 , 312 , 313 , 314 , 315 , 411 , and 412), international/comparative politics (POL 320 , 321 , 322 , 330 , and 331), and normative/empirical theories (POL 340 , 341 , and 342); three electives; and one capstone experience chosen from the following options: a directed independent study, POL 450 field experience, or a 400-level seminar. The department must approve all capstone experiences and students must submit a proposal for their capstone experience to the department chair by March 1 of their junior year.

NOTE: An appropriate philosophy course may satisfy the political science major requirement in normative/empirical theories with the approval of the department chair. MTH 225 is recommended for prospective graduate school students. Foreign language proficiency at the intermediate level or above is recommended for majors who intend to pursue international careers or graduate studies in international/comparative politics.

AP Policy: Students scoring a 4 or 5 on the Comparative Government and Politics AP test receive credit for a POL elective course (POL 100AP). Students scoring a 5 on the U.S. Government and Politics AP test receive credit for POL 111. Students scoring a 4 on the U.S. Government and Politics AP test receive credit for a POL elective course (POL 100AP).

POL100 - Principles of Government

This course is an introduction to political science. Main topics include political ideologies, political culture, democracy and authoritarianism, political participation, governmental institutions, and international politics.

Freshmen only

POL110 - Origins of American Government

This course focuses on the origins and evolution of governments; ideas and methods of analysis applicable to the development of American structure and systems relative to the great constitutional issues.

POL111 - Processes of American Government

An exhaustive study of principles and policies produced, implemented, and judged by the formal branches of American government, by their subdivisions, and by public opinion and pressure groups.

POL120 - World Politics

This course is an introduction to international relations and comparative politics. Topics include states and nations, political systems, political processes, developed countries, developing countries, and politics among states.

POL210 - Urban Politics

Traditional structures of government in the context of change and factual and normative aspects of the "New Federalism" are studied.

POL212 - Political Parties

A study of party organization, operation, and underlying assumptions in modern democratic societies, the emphasis is on the American party system.

POL213 - Public Policy

This course is a general introduction to public policy. Through the use of lectures, readings and assignments, students will be

introduced to policy concepts such as policy types, agenda building, policy creation and initiation, and policy evaluation. In the last third of the course, these concepts will then be applied to a specific policy area.

POL220 - U.S. Foreign Policy

This course is designed to introduce students to the basic historical background, concepts, and issues in the study of U.S. foreign policy. The course examines different theories, patterns, sources, and participants in the U.S. foreign policy-making process. The class will focus on American relations with Western Europe, Asia, Latin America, the Cold War/Soviet Union, post-Cold War, the Middle East, and Africa.

POL230 - Politics of Africa

This course is designed as a basic introduction to the study of African politics. It examines the major theories and issues that exist in African politics today, with a focus on the historical evolution of African political systems (traditional), colonial rule, one-party dictatorships, and military regimes, as well as the crisis of political legitimacy and Africa's search for democracy.

POL231 - Politics of China

This is an introduction to Chinese politics. After a brief look at the modern Chinese political history from 1840 to 1949, the course focuses on the Chinese political and economic system since 1949. The communist period under Mao between 1949 and 1976 will be compared to the post-Mao reform period since 1978.

POL232 - Politics of the Middle East

This course is designed to introduce students to the basic historical background of the Middle East, and the contemporary impact of the region on world politics, including terrorism. The Middle East region provides a variety of complex cultural, social-linguistic groups, religions, and political traditions. The dominant political cultures of the region offer a unique understanding of politics and society in all the different Middle Eastern countries represented.

POL240 - American Political Thought

This course is a study of the political ideas of selected American statesmen and philosophers from the colonial period to the present with attention on the connection between theory and practice in the American republic. Topics addressed include liberty, equality, constitutionalism, democracy, and individual rights.

POL250 - Special Topics

This course is a study of selected problems, issues, and cases in political science.

POL302 - Modern State: Health Care Politics

This course examines the policy process in the modern state with emphasis on agenda building, models of the policy process, case studies of specific policies, and the evaluation process.

POL310 - Public Administration

This course is a study of the general principles and processes of public administration as demonstrated by the policies of public administrative agencies.

Prerequisite: POL 111

POL312 - Women and Politics

This course provides an overview of women in politics, beginning with the colonial experience and the writing of the Constitution through women's suffrage to women as voters, members of interest groups, political candidates, and office holders. Policy issues related to gender, such as employment equity and reproductive rights, are also examined.

POL313 - Environmental Policy

This course is an introduction to environmental policy. Topics covered include a history of environmental policy, identification of major policy actors (both inside and outside of government), the conflict between environmental policy and natural resource policy, and alternatives to the regulatory approach.

Prerequisite: POL 213 is suggested but not required

POL314 - The American Presidency

An analysis of the constitutional and political posture of the chief executive within the American political system, this course gives special consideration to the nature and scope of executive power and to decision making in the White House. Discussions and lectures will focus on topics such as presidential selection, accountability, personality, and the comparative analysis of selected presidents.

Prerequisite: POL 100, 110, or 111, recommended but not required

POL315 - The Legislative Process

This course is an analysis of the legislative process in the United States government with a focus on Congress. Emphasis is placed upon constitutional powers and limitations, member goals, congressional elections, congressional structures, and the relationships between Congress and other parties (the executive branch, judicial branch, interest groups, political parties, etc.) in the effort to construct policy.

Prerequisite: POL 111 or permission of instructor

POL320 - International Politics

An in-depth study of international relations, main topics include theories of international relations, international organizations, trade and monetary issues, peace and security issues, politics of the global north and the global south, and global ecopolitics.

Prerequisite: POL 120 or permission of the instructor

POL321 - International Law

The aim of this course is to examine and to introduce to students the actual working of law within the present arrangement of states (state system), the inevitable limits of this type of legal order, and the possible role of international legal order that transcend these limits. The emphasis of the course will be on international organizations.

Prerequisite: POL 120 or permission of the instructor

POL322 - International Political Economy

This course deals with the dynamic relationships between politics and economics in the international arena. Major topics include theories of international political economy, international trade relations, the international monetary system, globalization, the global north and the global south, and the global environment.

Prerequisite: POL 120 or permission of the instructor

POL330 - Comparative Politics

This course is an introduction to the study of comparative politics. The course aims at introducing the student to the theory and basic concepts of comparative politics, such as political system, forms of governments, process, and policy. These concepts will be introduced through the comparative study of different European parliamentary political systems, including the European Union.

Prerequisite: POL 110 or 120

POL331 - Politics of Developing Countries

This course is an examination of politics in the developing countries and transitional democracies. The course focuses on political development, totalitarian dictatorships, military authoritarian regimes, and the transitional democracies in Russia and Eastern Europe, Asia, Africa, Latin America, and the Middle East.

Prerequisite: POL 110 or 120

POL340 - Research Methods

This course is an introduction to empirical research methods in political analysis. Main topics include concepts and hypotheses, operationalization and measurement, research design, survey research, data collection, data processing, and data analysis.

Prerequisites: Any two political science courses

POL341 - Political Thought-Pre-Modern

Analysis and discussion of selected thinkers and doctrines in Western political thought from the Greeks through the Reformation thinkers. An effort is made to enter as participants into this tradition of discourse. The emphasis is on primary sources.

Prerequisites: POL 110 and 111

POL342 - Political Thought-Modern

This course focuses on the writings and ideas of great political philosophers and the most significant political theorists from the sixteenth to the twentieth century (Machiavelli to Mao). The course will explore the concepts of the modern state, political structure and authority, Western political traditions, revolutions, and non-Western political ideas in this time period.

Prerequisites: POL 110 and 111

POL350 - Special Topics

This course is an advanced study of selected problems, issues, or cases in political science.

Prerequisite: Dependent on the topics covered

POL410 - Seminar-American Politics-Public Policy

A seminar for advanced political science majors, intended as one of the alternatives for the political science capstone experience. This particular seminar is designed primarily for students preparing for graduate study in American government, public policy, or the law.

Prerequisites: POL 111, 213, and junior status

POL411 - Constitutional Law, Politics, and the Federal System

This course is an analysis of significant judicial decisions and political forces that have shaped the American federal system and its institutions.

Prerequisite: POL 111

POL412 - The Supreme Court and the Bill of Rights

This course is an examination of major judicial decisions and political conflicts that have shaped and defined the guarantees of the Bill of Rights and the Fourteenth Amendment.

Prerequisite: POL 411 or permission of the instructor

POL420 - Seminar-International Relations-Comparative Politics

A seminar for advanced political science majors, intended as one of the alternatives for the political science capstone experience. This particular seminar is designed primarily for students preparing for graduate study in international studies or comparative politics.

Prerequisites: POL 320 or 330 and junior status

POL450 - Field Experience

This course is an educational experience designed to supplement traditional classroom work. It is intended as one of the alternatives for the political science capstone experience. The student is provided with a unique opportunity to gain substantive knowledge as well as practical experience as to the inner workings of government. The field experience may include not only working in governmental institutions but also in campaign organization, and nonprofit political institutes as well as legal offices.

Prerequisites: POL 110, 111, and senior status

POL500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Pre-Health Professions Program

Professor: Harris (Pre-Health Professions Committee chair)

Students preparing for admission to graduate schools in the health professions may elect to major in any discipline. If they wish to be recommended to professional schools by the Pre-Health Professions Committee (PHPC), they should register with the PHPC as early as possible, and maintain that registration during their undergraduate preparation. The committee provides recommendations for applicants to health-professional schools in the fields of allopathic medicine, osteopathic medicine, dental medicine, veterinary medicine, podiatric medicine, optometry, physical therapy, occupational therapy, or physician assistant studies. To secure a recommendation from the committee, in addition to the requirements of a major, a student must successfully complete the 10 to 14 courses in biology, chemistry, mathematics, physics, English, psychology, or sociology as designated for their chosen career goals in the Student Pre-Health Handbook. This document is available from the Pre-Health Professions Committee and [on the pre-health webpage](#).

The College has agreements regarding admission of qualified students to the Temple University School of Medicine; the Lake Erie College of Osteopathic Medicine programs in osteopathic medicine, dentistry, and pharmacy; the Chatham University School of Physical Therapy; the Pennsylvania College of Optometry at Salus University; and the Chatham University Program of Master of Physician Assistant Studies. Details are available in the Student Pre-Health Handbook.

Pre-Law

Professor: DiSarro (Legal Profession Committee chair)

The Pre-Law Program advises students interested in the legal profession and helps prepare students for admission to law school. Although no specific courses are required for pre-law students and such students may major in any subject they choose, pre-law students are encouraged to take challenging courses in accounting, English composition, and literature as well as law-related courses in economics, history, and political science. Further information about the Pre-Law Program is available from Dr. Joseph DiSarro.

Professional Writing

Coordinator: Troost

Steering Committee: Fleury, Harding, Taylor

The interdisciplinary professional writing program offers two options: a minor (6 courses) or concentration (4 courses) available to all students. Students completing the Professional Writing minor or concentration may choose courses from a variety of departments to suit their own interests and academic goals. All students who complete the program should be able to write clear non-academic prose for a variety of audiences. The program has also been designed to encourage fluency in research, technology, design, and professional ethics.

MINOR REQUIREMENTS: The minor consists of six required courses. All students must take two courses, [ENG 201](#): Introduction to Professional Writing (generally offered every semester) and [ENG 301](#): Advanced Professional Writing (generally offered every spring in even-numbered years). One additional course must be selected from Group 1; three additional courses must be selected from Group 1 or Group 2. Students must select courses from at least two departments. Courses may be taken in any order, though some have pre-requisites. The minor is available to students in any major.

It is **highly recommended** that students in the minor pursue an internship or editorship. A pre-approved internship or editorship may be completed in place of a sixth class.

Group 1: [COM 101](#), [ENG 202](#), [ENG 203](#), [CIS 271](#), or [CIS 275](#).

Group 2: [BIO 215](#), [CIS 297](#) (Information Visualization), [COM 271](#), [COM 311](#), [COM 351](#), [ENG 200](#), [FRN 371](#), [GER 371](#), [MUS 310](#), [PHL 231](#), [PHL 232](#), [SPN 371](#), or one pre-approved editorship or internship.

CONCENTRATION REQUIREMENTS: The concentration consists of four required courses. All students must take the foundational course, [ENG 201](#): Introduction to Professional Writing (generally offered every semester). One additional course must be selected from Group 1; two more courses must be selected from Group 1 or Group 2. Students must select courses from at least two departments. Courses may be taken in any order, though some have pre-requisites. The concentration is available to students in any major. It is recommended that students in the concentration pursue an internship or editorship. A pre-approved internship or editorship may be completed in place of a fourth class.

Group 1: [COM 101](#), [ENG 202](#), [ENG 203](#), [ENG 301](#), [CIS 271](#), or [CIS 275](#).

Group 2: [BIO 215](#), [CIS 297](#) (Information Visualization), [COM 271](#), [COM 311](#), [COM 351](#), [ENG 200](#), [FRN 371](#), [GER 371](#), [MUS 310](#), [PHL 231](#), [PHL 232](#), [SPN 371](#), or one pre-approved editorship or internship.

Psychology

Professors: Bennett, Cavoti (chair), Crabtree, Wilson

Associate Professors: Klitz, McDonald

Assistant Professors: Petchel, Seltzer

Psychologists study behavior from a wide range of perspectives that include social, clinical, physiological, developmental, organizational, and cognitive psychology. As a science, the psychology department employs empirical methods to learn about behavior and the variables that affect it. The department participates in a wide range of research and applied programs that intersect our discipline including: [neuroscience](#); [human resource management](#); [forensic science](#); and [child development and education](#). Please see the relevant sections of the catalog for further information on these areas of study.

MAJOR REQUIREMENTS: All students must complete a minimum of eight courses in psychology including [PSY 101](#), [102](#), [215](#), and one advanced laboratory course from [405](#), [406](#), [425](#), [427](#), [465](#), [475](#), [485](#), or [495](#). In addition, majors must complete one 300-level course (or one non-lab 400-level course) plus two core courses from [PSY 225](#), [235](#), [245](#), [265](#), [275](#), [285](#) (or [NSC 210](#)), and [295](#). Students are also required to take [MTH 125](#) or [BIO/MTH 245](#). A student may not count both [PSY 285](#) and [NSC 210](#) toward the psychology major. Please note that [PSY 101](#), [PSY 215](#), and the advanced laboratory course must be completed successfully at W&J. The department also recommends that students take [ENG 200](#) and [COM 221](#).

MINOR REQUIREMENTS: All students must successfully complete a minimum of six courses in psychology including [PSY 101](#) and [102](#), and [215](#). Students must also complete any two core psychology courses from [PSY 225](#), [235](#), [245](#), [265](#), [275](#), [285](#) (or [NSC 210](#)), and [295](#). One additional PSY elective from the 200-level or above is also required. A student may not count both [PSY 285](#) and [NSC 210](#) toward the psychology minor. Please note that [PSY 101](#), [PSY 215](#), must be completed successfully at W&J.

Students majoring in Child Development and Education or Neuroscience may not major or minor in Psychology.

For students working to meet requirements of both Psychology and Neuroscience, i.e. majoring in one and minoring in the other, no more than 2 courses may be used to satisfy requirements for both programs. Students may not major in both Psychology and Neuroscience.

Psychology majors also minoring in forensic science can count no more than 3 courses from the forensic science minor toward

their psychology major. Psychology minors also minoring in forensic science can count no more than 2 courses from the forensic science minor toward their psychology minor.

Students interested in the human resource management program are advised to contact Dr. Seltzer of the Department of Psychology.

Sequencing: For both the major and the minor, successful completion of PSY 101 and 102 is required before any additional courses may be taken in psychology. PSY 101 must be completed at W&J. With the exception of certain Intersession courses as noted in the Intersession listing of courses, students must successfully complete a 200-level PSY course before taking a 300-level PSY course. Students must successfully complete PSY 215 and a 300-level PSY course before taking an Advanced Laboratory course.

AP Policy: Students scoring a 5 on the Psychology Advanced Placement Test will receive credit for PSY 102 and will begin their study of psychology at W&J with PSY 101.

Psychology Majors Planning to Study Abroad:

Please note that, in order to complete the psychology major, you must successfully complete PSY 215, Experimental Psychology, by the second semester junior year if you plan to study abroad during the fall semester of your senior year.

PSY101, 102 - Elementary Psychology I, II

This course is a study of the basic concepts in the scientific study of behavior. The first term emphasizes the scientific method, physiology, sensation, perception, learning, and memory. The second term considers such topics as intelligence, emotion, personality, behavioral health disorders, therapy, and social psychology.

Prerequisite: PSY 101 is a prerequisite to PSY 102

PSY215 - Experimental Psychology

An introduction to the empirical methods employed in the scientific study of behavior. The student will gain experience in collecting psychological data and reporting of procedures and results. Problems involved in experimental design and applied statistics will also be discussed.

Three hours lecture-recitation, three hours lab

Prerequisites: PSY 101 and 102, and MTH 125 or BIO/MTH 245. (MTH 125 or BIO/MTH 245 may be taken concurrently)

PSY225 - Social Psychology

This course is an examination of the ways in which other individuals, singularly or in groups, influence an individual's behavior, attitudes, and beliefs. Topics such as conformity, altruism, aggression, obedience, attitude change, person perception, interpersonal attraction, and group dynamics will be examined.

Prerequisites: PSY 101 and 102

PSY235 - Theories of Personality

Theories of the development, structure, and function of personality, together with relevant experimental evidence, will be examined in the interest of evaluating their adequacy. In addition, the biological components associated with developing personality, and disordered personality will be explored.

Prerequisites: PSY 101 and 102

PSY245 - Abnormal Psychology

This course studies the principal forms of mental and behavioral disorders with an emphasis on their causes, symptoms, course, prognosis and treatment. An integrated approach, examining neurological/biological, psychological and socio-environmentally factors is employed.

Prerequisites: PSY 101 and 102

PSY265 - Developmental Psychology

This course examines the nature of human development from conception through adolescence. Material covers physical,

cognitive, and social development, with an emphasis on understanding the interacting influence of biological and environmental factors. Topics are presented in the context of major developmental theories and empirical research, with attention to the methodological issues pertinent to the study of developmental change.

Prerequisites: PSY 101 and 102

PSY275 - Cognitive Psychology

This course is an introduction to cognitive psychology. Topics include how people perceive and attend to visual and auditory information; a detailed understanding of the process of memory; basic processes of reading and language; and problem solving and decision making. Students will take an experimental approach to the study of cognition, which will include reading primary source articles and participation in a set of laboratory studies that replicate many of the classic studies in cognitive psychology.

Prerequisites: PSY 101 and 102

PSY285 - Physiological Psychology

This course provides information on how physiological processes control behavior. Basic neuroanatomical and neurophysiological processes will be used to explain the following human and animal behaviors: sensation, movement, sex, thirst, hunger, emotion, aggression, learning, memory, and mental disorders.

Prerequisites: PSY 101 and 102

PSY295 - Industrial-Organizational Psychology

This course examines psychological principles as they apply to industrial and business enterprises. Such areas as selection and placement, assessment and performance, leadership, satisfaction, motivation, training, teamwork, and legal issues will be considered.

Prerequisites: PSY 101 and 102

PSY303 - Organizational Behavior Management

This course is an in-depth examination of the application of behavior analysis to industrial and business settings. It begins with a thorough review of the basic concepts of behavior analysis, but emphasizes the application of these techniques. Several actual cases of managerial problems in business and industry will be examined carefully, along with their solutions. Since students will be expected to develop their own intervention plans to address actual management challenges, this course is especially valuable to those individuals planning careers in applied psychology, business, or industry.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY311 - History and Systems in Psychology

A course examines the influence of philosophical antecedents, early scientific contributors, and major learning theorists to the development of psychology. Theories and systems will be critically evaluated in terms of contributions and how adequately they explain and predict behavior.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY321 - Psychology and the Environment

Students will focus on the relationship of our behavior and experiences with the natural and man-made environments. The course will be divided into three major sections. Section I will be introductory and will examine what environmental psychology is and how it studies its questions of interest. Section II will examine the natural environment and topics like noise, temperature, and natural disasters. Section III will examine the man-made environment and topics like crowding, cities, work and leisure, and personal space. (Counts as a course for the Environmental Studies Program)

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY324 - The Psychology of Communicating

With consideration of the communication source, message characteristics, and channels of communication as a foundation, students will analyze a variety of communication situations and attempt to learn what contributes to their success or failure. Topics will include persuasion, influence, nonverbal communication, and mass media with particular emphasis on advertising. The course will examine how psychological factors play a role in each.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY326 - Psychology and the Law

This course will focus on applications of personality, social, cognitive, and clinical psychology to the courtroom. The legal system's informal theories about human behavior will be compared to what we know about the psychology of human behavior. A number of topics will be explored in-depth, including scientific jury selection, the accuracy of eyewitness testimony, and the role of psychologists as expert witnesses.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY330 - Principles of Psychological Assessment

This course is an examination of the use of tests within psychological work and research. The psychometric issues of tests and of test construction will be examined. Also examined will be the current varieties of psychological tests in use including intellectual, ability, personality, clinical, projective, neuropsychological, interest, and occupational tests.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY347 - Special Topics in Psychology

This seminar emphasizes contemporary theories and issues in psychology and related areas.

Prerequisite: PSY 101 and 102, and any 200-level PSY course

PSY370 - Sensation and Perception

This course is an introduction to the five basic senses -- touch, smell, taste, hearing, and vision. One half of the semester will be devoted to discussing the basic aspects of vision, including the biology of the visual system, color perception, identification of objects, depth perception, and visual illusions. The other half of the semester will be devoted to hearing, touch, smell, and taste. The course will take a functional approach to the senses, describing not only how the senses work, but what the senses are used for, and how impairments in the senses can have a profound influence on everyday life.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY380 - Drugs and Behavior

This course studies the effects of psychoactive drugs on behavior. The topics to be covered include the physiological basis of drug effects; drug pharmacology; the behavioral effects of the most-often used prescription and nonprescription drugs (including alcohol); and the psychological, social, and legal consequences of drug use.

Prerequisites: PSY 101 and 102, and any 200-level PSY course

PSY382 - Psychology of Sex & Gender

This course is designed to allow students the opportunity to review and contemplate current research and scholarship dealing with the categories of male and female. The material is divided into two broad categories: theories that attempt to explain why there are similarities and differences between males and females, and the accumulated research that attempts to identify those similarities and differences. Theories covered in the course include biological, evolutionary, psychoanalytical, social learning, and cognitive development. Areas of difference studied include physical, emotional, health, cognitive and social. This topic provides an excellent means to evaluate many issues from a critical perspective. Students can see how observable phenomena can be interpreted differently by using varied theoretical frameworks. The topic also lends itself well to looking at issues about the ethics and politics of science.

Prerequisite: PSY 101 and 102, and any 200-level PSY course

PSY390 - Political Psychology

This course examines how psychological principles can describe, predict, and explain political thought and behavior. At the individual level, topics such as the political personality; attitudes and ideology; and principles of leadership will be explored. At the group level, the course will investigate group decision-making; voting behavior; nationalism; and the psychological roots of conflict and terrorism.

Prerequisites: PSY 101; PSY 102; Any 200-level PSY course

PSY392 - Psychology of Management

This course is an extension of industrial psychology, which focuses upon the problems of management in industry.

Supervisor-subordinate relations; management selection, placement, and training; decision making; and special problems that managers are likely to encounter will be stressed.

Prerequisite: PSY 101 and 102, and any 200-level PSY course

PSY405 - Advanced Laboratory in Learning

This advanced laboratory course explores methods and findings from classical learning theory. Topics include classical and operant conditioning and observational and spatial learning. The course includes experiments with both human and animal subjects. No invasive techniques are used.

Three hours lecture, three hours lab

Prerequisite: PSY 215 and a 300-level Psychology course

PSY406 - Advanced Laboratory in Perception and Cognition

This advanced laboratory course will introduce techniques necessary to perform experiments in perception, memory, and reasoning. At the end of the course, students will design and perform their own experiment using the techniques learned in the course. The lecture portion of the course will be organized around three main topics, sensory information processing, memory, and thought processes.

Three hours lecture-recitation, three hours lab

Prerequisite: PSY 215 and a 300-level Psychology course

PSY425 - Advanced Laboratory in Social Psychology

This advanced laboratory course is designed to explore the methods of investigation used in social psychology, the study of how we think about, are influenced by, and relate to other people. These methods will be explored firsthand through a series of student-designed research projects as well as through class lectures/discussions and assigned readings of primary research articles and other sources.

Three hours lecture-recitation, three hours lab

Prerequisite: PSY 215 and a 300-level Psychology course

PSY427 - Advanced Laboratory in Social Cognition

This is an advanced laboratory course designed to introduce research methods used in social cognition -- the interface between social psychology and cognitive psychology. These scientific methods will be explored firsthand through student-designed research projects. Selected topics in social cognition will be explored in depth.

Three hours lecture-recitation, three hours lab

Prerequisite: PSY 215 and a 300-level Psychology course

PSY430 - Seminar in Psychotherapy and Counseling

This course provides a systematic and critical examination of major traditional, as well as current, theories and techniques of psycho-therapy and counseling. Emphasis will be on the examination of the theoretical bases of psycho-therapy and counseling systems and techniques, and on the application of such theoretical principles in the remediation of psychological disturbances.

Prerequisites: PSY 235 or 245

PSY465 - Advanced Laboratory in Developmental Psychology

This course examines the application of the scientific method to the study of developmental phenomena in the field of psychology, with an emphasis on the social and cognitive domains. Students will learn about methodological issues encountered in developmental research and gain experience in searching for, reading, and discussing empirical work in the field. Students will apply their knowledge and skills by conducting a semester-long research project that will be presented in oral, written, and poster form at the end of the semester.

Prerequisite: PSY 215 and a 300-level Psychology course

PSY475 - Advanced Laboratory in Sensation and Perception

This advanced laboratory course is designed to examine the methods of research used in sensation and perception, specifically in the area of reading, including the study of eye movements in reading. The course will include the analysis and presentation of material from primary source readings (journal articles) related to the sensory and perceptual processes involved in reading. The course will culminate in student research projects, which will include research design, execution of the study, analysis of data, and presentation of the results in a written research report and participation in a poster session.

Three hours lecture-recitation, three hours lab

Prerequisite: PSY 215 and a 300-level Psychology course

PSY485 - Advanced Laboratory in Behavioral Neuroscience

This upper-level laboratory course examines basic neuroanatomical and neurophysiological processes used to explain behavior. Research methodology and instrumentation will be the major features of laboratory exercises.

Three hours lecture-recitation, three hours lab

Prerequisite: PSY 215 and either PSY 285 or NSC 210, and a 300-level Psychology course

PSY495 - Advanced Laboratory in Industrial/Organizational Psychology

This course examines the application of the scientific method to the study of topics in the field of Industrial/Organizational psychology, with an emphasis on the domains of personality and individual differences. Students will learn about both content- and methodologically-based issues encountered in I/O research and gain experience in searching for, reading, and discussing empirical work in the field. Students will demonstrate their overall proficiency by conducting a semester-long research project that will be presented in oral-, written-, and poster-format at the end of the semester.

Prerequisite: PSY 215 and a 300-level Psychology course

PSY499 - Psychology Practicum

This course is a supervised field experience in some approved area of human behavior. Areas may include institutional work, school psychology, special education, etc.

Prerequisite: Selection and screening by department

PSY500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Public Relations

The emphasis in public relations is available to [Communication Arts](#) majors. It is intended to provide skills for graduate study or participation in the enterprise defined by the Public Relations Society of America as "a strategic communication process that builds mutually beneficial relationships between organizations and their publics." Coursework in this emphasis includes training in the creation and assessment of oral, written, and visual messages; as well as exposure to theoretical knowledge of rhetorical principles foundational to building individual, organizational, and public relationships.

PUBLIC RELATIONS EMPHASIS REQUIREMENTS: [COM 101](#); [COM 102](#); [COM 112](#); [COM 221](#); [COM 241](#); 200-level elective (may include [COM 198 \(Internship\)](#), recommended for this emphasis); [COM 301](#); [COM 311](#); [COM 341](#); [COM 401](#) (the Senior

Project completed in COM 401 must be relevant to public relations). A communication arts major with an emphasis in public relations requires 10 courses total.

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. 1-credit practicums in theatre (COM 252) and radio (COM 242) are available each semester, and each course may be taken up to four times. The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company. Participation in the WNJR radio station is also available to all W&J students. After a meeting with the student Station Manager or the Faculty Advisor, followed by completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit wnjr.org.

Religious Studies

Assistant Professor: Solovieva (director)

The mission of the Religious Studies program is to acquaint students with the role religion has played and continues to play in human life and society. By helping students acquire an appreciative knowledge of diverse religious traditions and offering them a context for self-conscious reflection on their own worldviews, Religious Studies courses prepare them to become informed, reflective, and responsible citizens of our “global village.”

The minor in Religious Studies is designed to introduce students to a wide range of disciplinary perspectives, including history, philosophy, literary studies, sociology, psychology, and gender studies. In this way, the Religious Studies curriculum provides an intellectual arena for exploring the fascinatingly complex world of religion in ways that are directly relevant to students' academic, personal and professional interests. The broad liberal arts education and critical thinking and communications skills that students acquire by completing Religious Studies minor will prepare them for any number of careers, including those in education, health care, social work, politics, international communications, ministry, and law.

MINOR REQUIREMENTS: Six courses, including REL 101, Introduction to Religious Studies. At least one course must be from the advanced (300) level; and at least one course must be a comparative Religious Studies course or have a primary focus on non-Judeo-Christian religious traditions (REL 106, 205, 207, 217, 274, HIS/REL 355). Courses from other departments applicable to the minor include ENG 226, HIS 302/REL 310, HIS/REL 355, PHL/REL 145, PHL 201, SOC/REL 232; for other possible affiliated courses, consult with the program's director.

REL101 - Introduction to Religious Studies

This course is an examination of religious experience and beliefs and their expression in symbol, ritual, myth, theology, ethics, and community. Using a comparative case study approach, this introduction to the field of religious studies offers the student an opportunity to encounter and reflect upon religion in human life. The course exposes students to basic religious questions, concepts, and phenomena from different religions and different historical periods.

REL102 - Religion in America

This course is an introduction to the history, themes, and issues in American religion from the precolonial period to the present. This course examines the principal religious traditions and movements that have shaped American culture and politics, including Native American and African American traditions, Puritanism, Catholicism, Judaism, revivalism, religious movements originating in America, American civil religion, the emergence of fundamentalism, the religious roots of the civil rights movement, the changing role of women in religious life and thought, and the contemporary challenge of religious pluralism in American society.

REL104 - World Religions (Non-Christian)

A general introduction to the major living religions (including primal religious expressions of North America and Africa, Judaism, Islam, Hinduism, Buddhism, Confucianism, and Daoism), to the leading problems of religious thought, and to the alternative approaches of world religions to ultimate questions concerning the meaning of human life.

REL105 - Western Religious Traditions

Western civilization has been shaped decisively by three monotheistic religious traditions -- Judaism, Christianity, and Islam. Despite their distinctiveness, these traditions share a common background and numerous historical convergences. Using a comparative approach, this course examines such topics as scripture and tradition; monotheism; authority; worship and ritual;

ethics; material culture (e.g., architecture, art, food, musical instruments, and ritual objects); religion and the political order; and the presence of radical (fundamentalist) forms of expression within these traditions that is increasingly shaping the course of world history.

REL106 - Eastern Religious Traditions

A general introduction to the major Asian religious traditions, including Hinduism, Buddhism, Jainism, Sikhism, Confucianism, Daoism, and Shintoism as well as the place of Islam in historical and contemporary Asia. Using a historical and geographical approach, this course examines the religious literature, the central beliefs, and the sacred practices of each tradition in addition to such factors as ethnicity, nationality, and gender.

REL115 - Human Origin-Scientific and Christian Perspectives

Explanations concerning human origin touch at the core of what it means to us to be human. This class will explore the topic of human origin from scientific and Christian perspectives. The nature and philosophy of science, the historical interaction between Christianity and science, and the scientific and creationist views that offer explanations for our origin will be discussed.

REL145 - Faith and Reason

This is an introductory-level course exploring the relationship between reason and faith, particularly as they relate to the groundings of religious belief. The course will explore both classical and contemporary readings. This course is the same as PHL 145.

REL201 - The Hebrew Bible (Old Testament) in Context

An academic study of the Hebrew scriptures in their historical and cultural setting, designed to acquaint students with the central beliefs and moral values that helped shape Western society. This course examines the major themes of the Old Testament (e.g. creation, fall, exodus, covenant, promised land, royal theology, prophecy, wisdom, and apocalyptic) as well as its sources, types of literature, principal narratives, main characters, and religious value.

REL202 - The New Testament in Context

An academic study of the literature of the New Testament in its historical and cultural setting, designed to acquaint students with the central beliefs and moral values underlying the Christian religion. This course examines the life and teaching of Jesus Christ, the origin and early history of the Christian Church, the teachings of Paul and the apostles, and the Book of Revelation.

REL203 - Biblical Studies

A study of a selected book or topic from the Bible.

Normally taught during Intersession

REL203 - Introduction to Judaism-Its History, Beliefs, and Practices

A survey of Judaism and its emergence from Israelite religion into the rabbinic culture of interpretation and halakah (Jewish law). Using both a historical and thematic approach, the course focuses upon key periods of development and upon the major ideas, movements, and practices central to ancient and modern Jewish life and thought. Attention is paid to the role of sacred Jewish texts and interpretation, community, covenant, and halakah observance as well as the crises, challenges, and choices confronting Judaic faith and practice today. The course includes such topics as anti-Semitism, the Holocaust, and the state of Israel.

REL204 - Introduction to Christianity-Its History, Beliefs, and Practices

An essential introduction for students who want to understand the dynamics of the world's most numerous religion. Using a historical approach, the course examines the biblical sources, the centrality of Jesus, the essential doctrines of Christian theology, and what it means to be a Christian in the modern world.

REL205 - Introduction to Islam-Its History, Beliefs, and Practices

This course is a study of the origin and growth of Islam as a religious, cultural, and political force in the world. Beginning with the

founding by the Prophet Muhammad in the early seventh century, the course presents a detailed explanation of the Qur'an, as well as the core of beliefs and obligations. The course also explores the content and practical applications of the Sharia (Islam's holy law); the differences between the Sunnis and Shiite forms in their historical, theological, and sociopolitical perspectives; Sufism; and Islam's strength and influence in the contemporary world in addition to social factors such as ethnicity, nationality, and gender.

REL207 - Introduction to Buddhism

This course provides a general overview of Buddhism as it developed across 2500 years within diverse socio-cultural contexts. After starting the course with a basic thematic and historical introduction, we will proceed to look at a wide range of Buddhist religious texts, ethical and philosophical teachings, and meditative techniques, including those of Theravada, Mahayana, Zen and Tibetan Tantric traditions. We also will be raising questions about Buddhism's role in the contemporary world, both in traditional Buddhist countries and in the West. To answer these questions, we will read the writings by prominent activists and thinkers of the "socially engaged" Buddhism, look at the connections between Buddhism and modern ethics, psychology, and spiritual practice, and attend to the Buddhist analysis of the predicaments of contemporary society.

Prerequisites: none

REL208 - Adventures in Spirituality

Understanding religion both as art form and as means toward personal and social transformation, this course introduces students to different understandings of spirituality; to stages of spiritual growth and formation; to various spiritual themes, representative thinkers, and practitioners (primarily, though not exclusively, from the Christian tradition); to the established spiritual disciplines; and to goals and deterrents of spirituality. Students will have the opportunity to examine their own personality (and spirituality) type.

REL215 - Religion and Film

This course examines basic religious questions (e.g., the existence of God, the problem of free will, the immortality of the soul, the problem of evil, the notion of divine revelation, the nature of religious experience) in the light of the art form of contemporary film.

REL217 - Death and Immortality

Death is both a basic and universal fact of our existence (we're born, we live, we die—we all do that!) and one of the most awesome and mind-boggling mysteries we human beings have to face. Throughout human history people have developed many ways in which they deal with the reality of death and also strive to go beyond its limits. In this course we will focus on the religious imagination of death and its transcendence. By looking at the stories, symbols, rituals and doctrines of several religious traditions (Buddhism, Christianity, Islam, Mesoamerican religions, etc.) we will explore diverse and fascinating ways of understanding death and the experience of dying, and of imagining the realms beyond this life. We'll also see how these perspectives are integrally related to the particular religions' cosmologies, theological reflections, and visions of human nature and morality—in other words, how our way of dying is a part of our way of living, inviting us to come to terms with who we are and to imagine what we could become.

Prerequisites: NONE

REL232 - Sociology of Religion

This course is a study of religion as a social institution, including its historical development, its organization and operation, its effects on individuals, and its relation to society as a whole. Special attention is given to contemporary issues of secularization, new religious movements, civil religion, the rise of evangelical and fundamentalist movements, religion and politics, and religion and health. This course is the same as SOC 232.

REL247 - Topics in Religion

A course in religious studies varying from year to year. The topic or subject to be studied in any term will be published in the pre-registration bulletin.

REL274 - Religion, the Body, and Sexuality

Is our body a temple of God, a sacred mandala channeling the energies of bliss and wisdom—or is it an impure vessel, a dangerous beast out of control, a prison for the soul? Are female bodies less conducive to spiritual attainments, or are they the most perfect images of the divine realities? Would having sex diminish your spiritual powers and religious standing or enhance them? If you're looking for answers in the history of religion, the answer to all these questions is "YES!" Throughout human history religious traditions imagined, represented, and utilized human embodiment and sexuality in a variety of ways. In this course we will examine some of these diverse constructions through the study of texts, visual art, and ritual practices of selected religious traditions such as Tantric Buddhism, Hinduism, Christianity, Islam, Graeco-Roman religions, and religions of the Aztecs and the Maya. The issues explored in this course include constructions of embodiment, sexuality and gender; theological and cosmological significance of human body; theories of erotic desire; relationship between sex and power; and transformative possibilities of sex and sexual renunciation.

Prerequisites: none

REL301 - The Development of Western Christianity

A study of the growth and development of Christianity against the backdrop of select ideologies and worldviews that have influenced Western civilization from the classical Greek period to the present. Important issues of human existence as well as theological concerns will be examined from an historic Christian perspective, including the meaning of God; human nature; epistemology (the sources of knowledge); cosmology (the nature and meaning of reality); ethics and social relationships; and the development of such Christian doctrines as the Trinity, Christology, salvation, sin, the Church, the sacraments, eschatology, and the relation of Christianity to other world religions.

Prerequisite: One previous religious studies course or permission of the instructor

REL302 - Global Christianity

Though the story of Christianity has been inextricably bound up with that of Europe and European-derived civilizations, above all in North America, for most of its history Christianity was stronger in Asia and North Africa than in Europe. During the past century, the center of gravity in the Christian world has shifted inexorably southward to Africa, Asia, and Latin America. This course examines the spread of Christianity through the non-Western world, focusing on the inculturations of the past and on concepts of cultural synthesis that are transforming this missionary religion from a primarily Western phenomenon to a chiefly southern one. Particular emphasis is placed on such recent developments as liberation theology, feminist perspectives, evangelicalism, and neo-Pentecostalism. Topics include relations between Christians and non-Christians in regions of the world marked by conflict and instability.

Prerequisite: One previous religious studies course or permission of the instructor

REL305 - Ancient Greek and Graeco-Roman Religions

This course is an examination of the varieties of religious expression found in Ancient Greek and Graeco-Roman societies. By looking at the material drawn from mythology, popular fiction, hagiographical and philosophical texts, art, poetry, ritual, and drama, we will explore diverse perspectives on the cosmos, the nature of god(s) and one's relationship with the divine, the human self and its potentials and discontents, and other fundamental issues articulated in these ancient traditions. At once fascinating and unsettling, distant and familiar, these religious worlds present an important test to our contemporary religious and scholarly sensibilities. Our goal is to learn how to approach them in a truly reflective—i.e., critical yet sympathetic—way.

Prerequisites: One course in Religious Studies or instructor's approval

REL310 - Europe Transformed-Renaissance and Reformation, 1450-1650

This course is a study of the cultural and religious transformation of Europe focusing on the emergence of humanism, the rise of Protestantism, and the resurgence of Catholicism. This course is the same as HIS 302.

REL355 - Global Buddhism

This course is an examination of the philosophical and religious transformations of Buddhism as it was spread from India to other parts of the world. Particular emphasis is placed on early Buddhist beliefs and practices in India, and on later expressions in Tibet, China, Japan, and the contemporary United States. This course is the same as HIS 355.

The course is limited to juniors and seniors

REL500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Reserve Officers' Training Corps (ROTC)

Program Faculty Advisor: Leonard

Army Reserve Officers' Training Corp (ROTC) programs emphasize qualities of character and responsibility that are embedded in W&J's mission to graduate the "well-educated person." Every course in W&J ROTC teaches personal qualities of leadership, character development, and ethics, as well as skills of teamwork, analysis, problem solving, and oral and written communication, that will help students in their other curricular and co-curricular efforts at the College.

ROTC is an elective curriculum students can take along with their required college classes. Pursuit of ROTC may be combined with any of W&J's areas of study. Freshmen and sophomores may enroll in the Army ROTC Basic courses (101, 102, 201, and 202) without commitment of service to the Army unless they have already received an Army ROTC Scholarship. Students can enter the program as incoming freshmen; as existing freshmen or sophomores without scholarship assistance; or as two-, three-, or four-year scholarship students, based on the time remaining to complete their degree.

Army ROTC scholarship students, or those who enter the Army ROTC Advanced courses (301, 302, 401, 402), must agree to complete an eight-year obligation to the Army. Additional program details, including eligibility requirements, can be obtained from the faculty director; from the ROTC office; or by emailing rotc@washjeff.edu.

REQUIREMENTS: ROTC Scholarship students must take one MSC course each semester they are under contract with the Army. Non-scholarship students may take [MSC 101, 102](#) (as freshmen) or [MSC 201, 202](#) (as sophomores) without commitment. The Advanced ROTC courses ([MSC 301, 302, 401, and 402](#)) require contract with the Army. All ROTC courses must be taken under the Satisfactory/Unsatisfactory grading option.

MSC101 - Adaptive Team Leadership

(1/4 course, Unbilled)

MSC 101 introduces the new student to the Army culture and the process of developing, educating and training the Army Officer. The course covers the Army organization, ranks, roles of Soldiers, as well as leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Students will explore dimensions of leadership attributes and core leader competencies in the context of practical, hands-on, and interactive exercises. This course requires participation in physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test (contracted students only) by the end of the semester.

PED: Counts for 1/4 course of PED for students who successfully complete the course.

MSC102 - Introduction to Tactical Leadership

(1/4 course, Unbilled)

MSC 102 overviews leadership fundamentals such as setting direction, problem-solving, listening, presenting briefs, providing feedback, and using effective writing skills. Cadets explore dimensions of leadership values, attributes, skills, and actions in the context of practical, hands-on, and interactive exercises. This course requires participation in physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test (contracted students only) by the end of the semester.

PED: Counts for 1/4 course of PED for students who successfully complete the course.

MSC201 - Foundation of Leadership

(1/4 course, Unbilled)

This course explores the dimensions of creative and innovative tactical leadership strategies and styles by examining team dynamics and two historical leadership theories that form the basis of the Army Leadership Requirements Model (trait and behavior theories). Cadets practice aspects of personal motivation and team building in the context of planning, executing, and assessing team exercises and participating in leadership labs. Focus is on continued development of the knowledge of leadership values and attributes through an understanding of Army rank, structure, and duties, and basic aspects of land navigation and squad tactics. Case studies provide tangible context for learning the Soldier's Creed and Warrior Ethos as they apply in the Contemporary Operating Environment (COE). This course requires participation in physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test (contracted students only) by the end of the semester.

PED: Counts for 1/4 course of PED for students who successfully complete the course.

MSC202 - Foundation of Leadership

(1/4 course, Unbilled)

This course examines the challenges of leading teams in the complex operational environment. The course highlights dimensions of terrain analysis, patrolling, and operation orders. Further study of the theoretical basis of the Army Leadership Requirements Model explores the dynamics of adaptive leadership in the context of military operations. MSC 202 prepares Cadets for MSC 301. Cadets develop greater self awareness as they assess their own leadership styles and practice communication and team building skills. Case studies give insight into the importance and practice of teamwork and tactics in real-world scenarios. This course requires participation in physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test (contracted students only) by the end of the semester.

PED: Counts for 1/4 course of PED for students who successfully complete the course.

MSC301 - Adaptive Team Leadership

(1/4 course, Unbilled)

This is an academically challenging course where students will study, practice, and apply the fundamentals of Army leadership, Officership, Army values and ethics, personal development, and small unit tactics at the squad and patrol/platoon level. At the conclusion of this course, students will be capable of planning, coordinating, navigating, motivating and leading a squad or patrol in the execution of a tactical mission during a classroom practical exercise (PE), a Leadership Lab, or during a Situational Training Exercise (STX) in a field environment. Successful completion of this course will prepare students for success at the ROTC Leadership Development and Assessment Course (LDAC) which they will attend the following summer at Fort Lewis, WA. This course includes reading assignments, homework assignments, small group assignments, briefings, case studies, practical exercises, mid-term exam, and written papers. Students will receive systematic and specific feedback on leader attributes, values, and core leader competencies from the course instructor and other ROTC cadre and MS IV Cadets who will evaluate students using the ROTC Leader Development Program (LDP) model. This course requires physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test by the end of the semester.

PED: Counts for 1/4 course of PED for students who successfully complete the course.

MSC302 - Applied Team Leadership

(1/4 course, Unbilled)

This is an academically challenging course where students will study, practice, and apply the fundamentals of Army leadership, Officership, Army values and ethics, personal development, and small unit tactics at the team and squad level. At the conclusion of this course, students will be capable of planning, coordinating, navigating, motivating and leading a team or squad in the execution of a tactical mission during a classroom PE, a Leadership Lab, or during a Situational Training Exercise (STX) in a field environment. Successful completion of this course will help prepare students for success at the ROTC Leader Development and Assessment Course (LDAC) which they will attend the following summer at Fort Lewis, WA. This course includes reading assignments, homework assignments, small group assignments, briefings, case studies, and practical exercises, a mid-term exam, and a final exam. Students will receive systematic and specific feedback on leader attributes, values, and core leader competencies from the course instructor and other ROTC cadre and MS IV Cadets who will evaluate students using the ROTC Leader Development Program (LDP) model. This course requires physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test by the end of the semester.

PED: Counts for 1/4 course of PED for students who successfully complete the course.

Prerequisite: MSC 301

MSC401 - Adaptive Leadership

(1/4 course, Unbilled)

MSC 401 is a practical application of adaptive leadership. Throughout the semester, students are assigned the duties and responsibilities of an Army staff officer and must apply the fundamentals of principles of training, the training management, the Army writing style and military decision making to weekly training meetings. During these weekly training meetings, the student will plan, execute and assess ROTC training and recruiting events. Students will study the special trust proposed to Army Officers by the US Constitution and the President of the United States--a special trust given to no other civilian professions. Students will study how Army values and leader ethics are applied in the Contemporary Operating Environment and how these values and ethics are relevant to everyday life. The student will study the Army officer's role in the Uniform Code of Military Justice, the counseling of subordinates, administrative actions and the management of an Army Officer's career. Students will be given numerous opportunities to train, mentor and evaluate underclass students enrolled in the ROTC Basic Course while being mentored and evaluated by experienced ROTC cadre.

The MSC 401 course is designed to include multiple opportunities for student-centered learning, to include, but not limited to student reading assignments; homework assignments; participation in small group assignments, practical exercises and case studies; student-delivered briefings and operations orders; and a variety of student assessments such as quizzes, a mid-term and a final exam. In addition, MSC 401 students are rotated through a variety of leadership positions that support a variety of ROTC battalion training and recruiting events throughout the semester where the student will receive detailed and constructive feedback on their leader attributes and core leader competencies from experienced cadre. This course requires physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test by the end of the semester.

PED: Counts for 1/4 course of PED for students who successfully complete the course.

Prerequisite: MSC 302

MSC402 - Adaptive Leadership

(1/4 course, Unbilled)

MSC 402 explores the dynamics of leading in the complex situations of current military operations in the contemporary operating environment (COE). Students will examine differences in customs and courtesies, military law, principles of war, and rules of engagement in the face of international terrorism. Students also explore aspects of interacting with non-government organizations, civilians on the battlefield, and host nation support.

The course places significant emphasis on preparing students for BOLC II and III, and their first unit of assignment. It uses case studies, scenarios, and "What Now, Lieutenant?" exercises to prepare students to face the complex ethical and practical demands of leading as a commissioned officer in the United States Army. This semester, students will:

- Explore Military Professional Ethics and ethical decision making facing an Officer
- Gain practical experience in Cadet Battalion Leadership roles
- Demonstrate personal skills in operations and communications
- Evaluate and develop MSC III small unit leaders and examine issues of force protection in the COE
- Prepare for the transition to a career as an Army Officer

This course requires physical training (PT) for one hour three days per week. The PT component is a combination of strength conditioning, running, and cardiovascular exercises, and requires a passing score on the Army Physical Fitness Test by the end of the semester.

PED: Counts for 1/4 course of PED for students who successfully complete the course.

Prerequisite: MSC 401

Rhetoric

The emphasis in rhetoric is available to [Communication Arts](#) majors. Coursework in this emphasis is designed to familiarize students with issues relevant to the study of persuasive communication, from the roots of rhetorical studies in the classical world to recent developments in theory, criticism, and practice.

RHETORIC EMPHASIS REQUIREMENTS: COM 101; COM 102; COM 111; COM 221; COM 271; 200-level elective (may include COM 198 (Internship)); COM 301; COM 311; COM 331; COM 401 (the Senior Project completed in COM 401 must be relevant to rhetoric). A communication arts major with an emphasis in rhetoric requires 10 courses total.

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. 1-credit practicums in theatre (COM 252) and radio (COM 242) are available each semester, and each course may be taken up to four times. The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company. Participation in the WNJR radio station is also available to all W&J students. After a meeting with the student Station Manager or the Faculty Advisor, followed by completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit wnjr.org.

Russian

Assistant Professor: Vdovichenko

The end of the Cold War signals a new urgency in the study of Russian as the Federation moves to consolidate its position in the emerging power structures of the new century. History, language, and cultural tradition conspire to create an interesting and timely field of study. Courses in Russian language are offered through the Department of Modern Languages. Students with a background in Russian should consult with Dr. Vdovichenko about appropriate placement.

PLACEMENT PROCEDURES: All entering freshmen with prior experience in Russian will receive language placement by program faculty. This placement will determine their first course in the sequence. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

RUS105, 106 - Elementary Russian I, II

Fundamentals of grammar; regular review of the essentials; study of prose texts related to the grammar and vocabulary of each unit.

Prerequisite: RUS 105, or permission of the instructor, is a prerequisite for RUS 106

RUS207, 208 - Intermediate Russian I, II

This course includes a review of all grammar with expanded categories of verb application and readings of graduated difficulty from Russian literature. Oral drill is emphasized as well as accumulation of vocabulary.

Prerequisites: RUS 106, or permission of the instructor, is a prerequisite for 207; RUS 207, or permission of the instructor, is a prerequisite for 208

RUS212 - Historical and Contemporary Moscow

A two-week course in late May/early June at the International University of Moscow, an education institution with which Washington & Jefferson College has a formal agreement. The course will consist of 24 contact hours in Russian language taught by IUM Russian language instructors and six hours of formal lectures in English presented by specialists in economics, culture, politics, and history. Sightseeing will include the Kremlin; Park Pobeda (Victory Park), commemorating the Soviet victory over Nazi Germany in World War II; the tomb of the Unknown Soldier in the Alexander Gardens, adjacent to the Kremlin; Novodeveichy Cemetery and Convent; Tretyakov Gallery of Russian Art; the State Duma; the Bolshoi Theater; and an overnight to the ancient cities of Vladimir and Suzdal. This is the same course as HIS 321.

Students who register for HIS 321 must select a historical and/or cultural topic and have it approved by the instructor before the course begins. The student will do some reading and research on this topic before departure. Following completion of the Moscow portion of the course, the student will research and write a paper of 15 to 20 pages on that topic. The paper will be submitted six weeks after returning from Russia.

Note: HIS 321/RUS 212 is treated as if it was a January intersession course, except that it occurs at the end of the academic year. It is recommended that the student actually register for the course during the fall preregistration for Intersession and spring of the academic year.

RUS257 - Masterpieces of Russian Literature in Translation

This is a course in reading and interpreting Russian literature in context. Students read and gain an appreciation of texts from a variety of genres and historical periods. The topic, such as a survey of Russian literature, 19th-century Russian literature, or the

modern Russian novel, varies from year to year and will be published in the preregistration bulletin. This course is cross-listed as English 255 and counts towards the English major and minor.

Prerequisites: None

RUS309, 310 - Advanced Russian I, II

This is a course in the fundamental constructions and common idioms of contemporary Russian with readings and excerpts taken from the classics as well as from various aspects of Russian professional life. This course is intended to familiarize students with the language of government, economics, social sciences, the arts, and Russian journalism.

Prerequisites: RUS 208, or permission of the instructor, is a prerequisite for 309; RUS 309, or permission of the instructor, is a prerequisite for 310

RUS500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Russian Area Studies

The Russian Area Studies concentration is a 4-course interdisciplinary program of study in the liberal arts that allows students to explore Russian-speaking regions of the world through courses in language, humanities, and social sciences. Through this themed, breadth-of-study concentration, students develop the skills, knowledge, and qualities necessary to communicate and interact in culturally appropriate ways with speakers of the critical world language of Russian, more fully understand the literature, history, and politics of the Russian-speaking world and become more global citizens. The specific courses comprising the Russian Area Studies concentration provide skills and knowledge in Russian language, history, and culture.

CONCENTRATION REQUIREMENTS: 2 courses selected from [RUS 105](#), [RUS 106](#), [RUS 207](#), [RUS 208](#), [RUS 309](#), or [RUS 310](#); [HIS 231](#); 1 course selected from [LAN 255*](#), [RUS 257/ENG 345](#), [GER 235](#), or [RUS 500](#) (independent study).

*LAN 255: "Life After The Fall" is a summer study abroad course in the Russian Federation offered every year; this course counts as transfer credit through a consortium with the University of Pittsburgh.

Sociology

Professors: Miller

Associate Professors: Hyden, Krol (chair)

Assistant Professor: Ficco

Sociology analyzes social and cultural issues on both the macro- and micro-levels and facilitates the exploration of the reciprocal nature of the individual and society. This better equips sociology majors to understand and shape the world in which they live as they pursue successful careers, active citizenship, and social responsibility.

SOC 101 is a prerequisite for all other sociology courses. A student must have at least one 200-level course before taking a 300-level course. SOC 101 provides a set of foundational concepts on which all other courses rely; 200-level courses give students an introduction to various sociological areas; and 300-level courses explore a particular area in great depth. Students may seek a waiver of the SOC 101 requirement to enter one SOC 200-level course only.

MAJOR REQUIREMENTS: Majors are required to complete successfully 9 sociology courses and [MTH 125](#). There is a required sequence for four of the core courses: [SOC 101](#), [SOC 200](#), [SOC 314](#) and [SOC 495](#). The three other core courses ([SOC 201](#), [SOC 301](#), and [MTH 125](#)) may be taken at any time prior to SOC 495. In addition, the major requires one SOC 200-level elective and two SOC 300-level electives. All core courses required for the major, except SOC 101 and MTH 125, must be taken at Washington & Jefferson College.

MINOR REQUIREMENTS: Minors are required to complete [SOC 101](#), [SOC 200](#), [SOC 201](#) and three additional courses at least two of which must be at the 300-level.

SOC101 - Introduction to Sociology

This course provides students with an overview of sociological theory and methods and basic macro-and micro-sociological views. Culture, institutions, socialization, social structure, groups, inequality, deviance, and social change are key terms that are emphasized. The course acts as the gateway for all other sociology courses.

Prerequisite for all upper-level sociology courses and required for the major and minor.

SOC147 - Special Topics

A study of sociological issues relating to some area of current sociological interest in the world today.

SOC200 - Research and Writing

This course examines the techniques needed to produce good sociological work. Such work requires seeking out materials appropriate for sociological investigations, keeping track of the information which is found, organizing and reducing the volume of information found, properly citing sources, and structuring arguments.

Prerequisite: SOC 101. Required for the major and minor

SOC201 - The Sociological Tradition

An exploration of the social and intellectual history of sociology, this course will cover the major theories, methods, and problems of the discipline up to 1930. During this time period a basic understanding of the discipline of sociology is established.

Prerequisite: SOC 101. Required for the major and minor

SOC220 - Social Problems

This course provides students with the opportunity to consider social problems in terms of a variety of opinions surrounding their causes and solutions. Social science perspectives that provide a framework for a better understanding of social problems are a chief focus of the course. Ideological forces involved in creating, defining, and attempting to solve social problems are also considered.

Prerequisite: SOC 101

SOC223 - Juvenile Justice, An American Dilemma

This course examines juvenile delinquency and society's attempts to manage it. The history of delinquency and juvenile justice is traced from colonial days to the present. The focus is on the nature of delinquency and the juvenile justice system, including police programs, diversion programs, probation, institutionalization, and aftercare as well as some of the issues involved in juvenile justice.

Prerequisite: SOC 101

SOC226 - The Sociology of Deviant Behavior

This course is an examination of the social processes producing unusual, bizarre, and condemned behavior.

Prerequisite: SOC101

SOC232 - Sociology of Religion

This course is a study of religion as a social institution, including elements of its historical development, its organization and operation, its effects on individuals, and its relation to society as a whole. Special attention is given to contemporary issues of secularization, and to monasticism as a way of organizing religious experience. This is the same course as REL 232.

Prerequisite: SOC 101

SOC233 - The Family

This course is an in-depth look at the nature and diversity of family forms in modern day America, as well as in other cultures and historical periods. Some of the topics included are the formation of families; interaction in families; dating and mate selection; childbearing and rearing, and the dissolution of marriage through divorce. Problems and strengths of the modern family will also be addressed.

Prerequisite: SOC 101

SOC240 - Sociology of Gender

This course will provide a framework for understanding female and male gender roles in society, particularly as these relate to gender-based systems of stratification. Included will be such topics as the meaning and development of gender roles; gender identity; the gender-based division of labor at home and in the workplace; and change in gender roles over time. Cross-cultural and historical evidence will be emphasized.

SOC241 - Race and Ethnicity

This course is an examination of the basic concepts, theories, social processes and resulting societal configurations of race, racism and ethnicity. A historical and global review of selected groups will test the accuracy of the theories presented. Contemporary social interactions will be introduced as the data unfolds during the course.

Prerequisite: SOC 101

SOC245 - Animals and Human Society

This course will delve into many ways, both instrumental and expressive, that animals are central to human society by considering scholarship, commentaries, and controversies on the role of animals in our lives. The course will consider, among other things, the topics of companion and other domestic animals, attitudes towards animals, wildlife, social problems centering on animals, and the use of animals and animal imagery in economic activity.

Prerequisite: SOC 101

SOC247 - Special Topics

A study of sociological issues relating to some area of current sociological interest in the world today. Topics change; consult pre-registration bulletin for special

topics titles and course descriptions.

Prerequisites: SOC 101

SOC262 - Environment and Society

Air and water pollution, the destruction of the soil and rain forests, acid rain and global warming issues are all symptoms of human decision-making and social processes. This course examines the social causes of the environmental problems the world faces today by focusing on the industrial revolution, social structures, ideologies and values, population growth and distribution, urbanization, poverty, the status of women, environmental law and criminal activity, and public policy in economic and social realms as it relates to environmental issues.

Prerequisite: SOC 101

SOC270 - Social Psychology

This course studies interrelationships of social institutions and personality, groups as personality-shaping forces, the human individual as a culture-creating organism.

Prerequisite: SOC 101

SOC301 - Contemporary Social Theory

This course examines modern theories of society and social action as they begin to take shape from about 1930 to the present. During this time period sociology moves from a reliance on key individuals to the development of several conceptual schools of thought and their variations of social theory.

Prerequisite: SOC 101 and at least one SOC course at the 200-level. Required for the major.

SOC302 - Sociology of Wealth and Power

This course examines caste, class, status and power as principal forms of inequality, with emphasis on historical changes and modern conditions. Consequences of inequality for social solidarity and intergroup conflict and for individual life chances and life

styles.

Prerequisite: SOC 101 and at least one SOC 200-level course

SOC314 - Research Methods

This course examines the collection and analysis of sociological data. SOC 200 focused on the management of already published materials. This course focuses on generating new data using techniques such as participant observation and surveys.

Prerequisites: SOC 101 and SOC 200. Required for the major.

SOC323 - Criminology

Examination of the crime problem in the United States with major emphasis on the police, prosecution and court systems. Specific offenses will be examined as well as the causes and prevention of crime.

Prerequisite: SOC 101 and at least one SOC 200-level course

SOC330 - Sociology of Work

The focus of this course is on occupations and organizations and their sociological contexts. The course examines the transition from industrial societies to service societies and from local economies to global economies. The course critically examines the nature of work and globalization.

Prerequisite: SOC 101 and at least one SOC 200-level course

SOC336 - Sociology of Law

This course considers the components of law and their relation to traditional and contemporary values of society.

Prerequisites: SOC 101 and at least one SOC 200-level course

SOC347 - Special Topics

This course is a study of sociological issues relating to some area of current sociological interest in the world today. Topics change; consult pre-registration bulletin for special topics titles and course descriptions.

Prerequisites: SOC 101 and at least one SOC 200-level course

SOC361 - Population and Demography

Population studies focuses upon the stages of population growth as well as the numbers of people and their distribution throughout the industrialized and industrializing world. Particular attention is paid to the causes of population growth including fertility, mortality and migration, the different theoretical perspectives that interpret population growth, the age/sex population structure and current trends and consequences. Topics such as poverty, the status of women and urbanization are discussed.

Prerequisites: SOC 101 and at least one SOC 200-level course

SOC365 - Urban Sociology

This course examines changes in the human ecology of urban areas. The importance of territory in urban life is also studied.

Prerequisite: SOC 101 and at least one SOC 200-level course

SOC370 - Sociology of Sport

This course distinguishes sport from other activities and institutions. This course examines, among other topics, university sports, gender in sports, the use of science in sports, and doping in sports.

Prerequisites: SOC 101 and at least one SOC 200-level course

SOC391, 392 - Tutorial

A tutorial course is intended to provide individual students the opportunity to pursue a specific course of academic work under the close direction of an instructor who has agreed to supervise the work. The 291 and 292 courses are for freshmen and sophomores while the 391 and 392 courses are for juniors and seniors.

Prerequisites: At least one 100- and one 200-level sociology courses, comparable courses in the other social sciences, including

psychology, or permission of the instructor

SOC495 - Senior Seminar (Capstone Experience)

This course provides the student with an opportunity to demonstrate an awareness of sociological knowledge, the ability to apply sociological knowledge and methods to a social situation in need of investigation, and the skill needed to combine the theoretical and pragmatic aspects of sociology covered in the undergraduate program in sociology to an identified social situation. Students will report during each class period where they are in their research, the nature of the material being covered and the issues and problems with which they are working. These issues and problems will be discussed by all members of the seminar.

Prerequisites: SOC 101, SOC 200, SOC 314, MTH 125, SOC 201, and SOC 301. Required for the major.

SOC500, 501- Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director. During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

Prerequisites: SOC 101, SOC 200, and at least one 300-level SOC course.

Spanish

Associate Professors: Alpañés, H.J. Manzari, C. Shaughnessy, Ternes (program coordinator)

The Spanish major and minor programs are offered through the Department of Modern Languages. The Spanish program offers courses in language, literature, and film with a strong emphasis on Spanish and Latin American cultures. Spanish has become one of the fastest growing languages spoken by more than 400 million people in 21 countries. The Spanish program at W&J seeks to develop student language proficiency and cross-cultural competency, providing the students with the necessary skills to succeed in their local and global communities.

The Spanish program at Washington & Jefferson College offers a diverse curriculum that includes Spanish language study, Latin American, Spanish and U.S. Latino literature and culture studies. Language study in the department is proficiency-based. At each of the various levels (100, 200, 300, and 400) students must demonstrate standards-based abilities appropriate for that level of study. Classes at the 100-level are elementary in nature and focus on everyday interactions, basic exchanges of information, and a functional notion of the culture. Classes at the 200-level are intermediate in nature and require students to be able to understand a wider variety of spoken and written Spanish and to demonstrate more specific knowledge of the Spanish-speaking world. Students are introduced to literature and are asked to make connections between disciplines. Classes at the 300 and 400 levels are designated as "advanced level." These classes require students to discuss, debate and develop arguments verbally and in written form on a wide variety of cultural and literary topics. These classes are taught exclusively in Spanish.

MAJOR REQUIREMENTS: Students must take six advanced (300-level or above) classes, three of which must be at the 400-level. In addition, students must complete a capstone project in consultation with their major advisor. Capstone experiences may include a special research project associated with a 400-level course or Independent Study, a follow-up presentation on a language intensive internship, or a pre-approved special project associated with a semester length study abroad experience.

STUDY ABROAD: All modern language majors (currently French, German, and Spanish) must spend a minimum of one semester, or the academic equivalent, on a study abroad program (course of study or internship) that is pre-approved by the language program director. The approved program must follow general College study-abroad guidelines. Intersession trips abroad do not count toward the study abroad requirement.

MINOR REQUIREMENTS: Students who begin in 207 will take five classes, including 207, 208, 309, 310, and one 400-level class. Students who begin in 208 must still take five classes to complete a minor. Students who begin in 309 are not eligible for a minor.

NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

AP Policy: Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.

PLACEMENT PROCEDURES: All entering freshmen with prior experience in Spanish will receive language placement by Spanish program faculty. This placement will determine their first course in the sequence. Because of the varying requirements for completing a Spanish major or minor, it is to the student's advantage to begin at the highest level possible. NOTE: Students who have completed coursework at one level may not take courses at a lower level without departmental approval.

TEACHER CERTIFICATION: Students may seek Specialty Education (grades K-12) Certification in Spanish by completing the Spanish major, including SPN 260, and an Education minor consisting of those courses required for Specialty Education (grades K-12) Certification. Before being formally admitted to the program, students must satisfy--by the end of the sophomore year--the Certification Program Requirements described in the Education (Teacher Certification) section of the catalog.

SPN105, 106 - Elementary Spanish I, II

These two sequential introductory courses are for students with little or no knowledge of Spanish. Both courses implement a proficiency-oriented, communicative approach that combines the rapid development of speaking, listening, and reading comprehension skills with the acquisition of cultural knowledge. Through constant exposure to visual media, cultural products, and written texts, students learn high-frequency vocabulary and structures. The language students practice in class has practical application in the Spanish-speaking world; they will be able to perform basic communicative tasks in a range of everyday situations. Cultural study at this level broadens students' understanding of relationships between their own culture and those of Spanish-speaking countries and regions.

Taught largely in Spanish.

Prerequisites: Departmental placement; SPN 105, or permission of the instructor, is a prerequisite for SPN 106

SPN207, 208 - Intermediate Spanish I, II

These two sequential intermediate courses are for students with a basic knowledge of Spanish. They review and extend students' communication skills (speaking, listening, reading, writing) and cross-cultural competency, with emphasis on the oral production of Spanish. Students will have numerous opportunities to use linguistic and cultural information to communicate in realistic interpersonal situations and to express ideas and opinions. Through the exploration of authentic visual, audio, and written materials, students become participants in a wide range of language learning and cultural experiences. Because these materials are products of communities within Spain, Latin America, and the US, students gain more detailed knowledge of the diversity within the Spanish-speaking world.

Taught in Spanish.

Prerequisites: Departmental placement; SPN 106, or permission of the instructor, is a prerequisite for SPN 207; SPN 207 or permission of the instructor is required for SPN 208

SPN257 - Spanish Literature in Translation

This course is a study of a special topic, such as Hispanics in the United States or the work of a particular author. The topic to be studied will be announced in the preregistration bulletin.

Offered Intersession

Taught in English

SPN260 - Theory and Techniques of Teaching Modern Foreign Languages

An introduction to the theoretical and practical aspects of teaching modern foreign languages, students will study the history of language teaching as well as the various approaches and strategies to language instruction and their relationship to second-language acquisition theory. This course must be completed prior to student teaching. Taught in English. This course satisfies the Pennsylvania Department of Education requirement that candidates for certification in foreign languages receive instruction in methods of teaching foreign languages, a subject which in the last 50 years has developed an extensive literature and repertoire of theoretical approaches.

Offered fall term, every other year

Prerequisites: Sophomore status and permission of the instructor

SPN289 - New World Encounters: Latin America through Film

The course is meant as an introduction to the history and culture of Latin American through films made in Latin America about Latin America. The films range over a large span of Latin American history (at least since the area arguably became "Latin America," from the time of the European invasion beginning in 1492 to the present). We will learn about Latin American culture, politics, history, and identity as well as examine how movies can be used as a tool to understand their subtext and to read films critically inside of the social context of each country. We will watch contemporary films (Brazil, Argentina, Colombia), as well as documentaries that scope political landscape (Chile) and drama addressing gender and identity (Cuba). This course is taught in English.

Prerequisites: None

SPN309, 310 - Advanced Spanish I, II

These two sequential advanced courses focus on the development and application of advanced functional, purposeful Spanish language skills, with special emphasis on speaking and writing. Through formal and informal writing assignments, grammatical exercises, and reading of different genres of texts, students will be able to advance their proficiency in Spanish. In written and spoken Spanish they will express complex ideas, debate critical perspectives, and construct arguments. Course materials center on popular topics in the Spanish-speaking world and issues of global importance. Students will demonstrate knowledge of advanced grammar and linguistic aspects of Spanish, such as morphology, semantics, and syntax.

Taught in Spanish.

Prerequisites: SPN 208, or permission of the instructor, is required for SPN 309; SPN 309, or permission of the instructor, is required for SPN 310

SPN311 - Spanish for Healthcare Professionals

SPN 311 is an advanced conversation course dedicated to the development of Spanish language skills applicable to the field of healthcare and the work of medical professionals. Through a variety of communicative strategies such as class discussions, role-playing, and presentations, students will develop an awareness and understanding of healthcare issues for non-English speaking populations, will learn how to provide and obtain confidential patient-physician information, and will exchange opinions

in a culturally sensitive environment. Through the use of authentic texts (written and audiovisual) students will strengthen their ability to communicate, identify and interpret main ideas and important details. At all times the students will be aware of socio-cultural nuances in writing, reading, and oral speech. Emphasis will be placed on the students' versatility when challenged to use different language registers and communicative strategies in Spanish. The class will be conducted in Spanish.

Prerequisites: Spanish 208 or permission of the instructor

SPN354 - An Introduction to Literary Analysis

This course introduces basic theoretical and practical approaches to literary analysis. The course covers the definition and characteristics of traditional genres (narrative, poetry, drama and essay), and the correct terminology in Spanish used to analyze literary texts, while continuing to improve oral and written expression in Spanish. The course is highly practical and the students will be expected and encouraged to participate in the daily discussions with comments, questions and insights into the material.

Taught in Spanish.

Prerequisite: SPN 309

SPN371 - Spanish Business Communication and Culture

This course provides a solid foundation in business vocabulary and an overview of basic business and cultural concepts within the geographic and cultural context of the Spanish-speaking world. The course emphasizes the development of international business communications skills through reading, writing, speaking, and listening.

Taught in Spanish.

Prerequisites: SPN 309

SPN420 - Topics in Hispanic Culture

A study of Hispanic cultural topics, including Spain's history from medieval times to the present, Latin American culture from the pre-Colombian era to the twenty-first century, and significant issues in politics, economics, and the dynamic tension between tradition and change in contemporary Latin American society. Emphasis is given to advanced language study, composition, and oral proficiency. The topic to be studied will be announced in the preregistration bulletin.

Taught in Spanish.

Prerequisite: SPN 310 or permission of the instructor

SPN421 - Latin American Film

This survey of Latin American film from the 1980s to the present examines the development of cinema in Latin America from its arrival as an imported technology to the present. This course is designed to introduce students to the cinematic work of a number of Latin American film artists and to develop a more detailed and creative reception of each film. Films are studied in relation to their sociopolitical environment and emphasis is placed on close analysis as well as a contextual understanding of the material. Topics to be discussed may include the struggle to create national film industries, the "art film" and New Cinema movements, and recent trends in countries such as Mexico and Argentina as well as the Caribbean.

Taught in Spanish.

Prerequisites: SPN 310

SPN422 - Spanish Film

This course is a survey of Spanish peninsular film from the end of the Spanish dictatorship (1975) to the present. It examines the creative cinematic product in a nation that was experiencing cultural freedom for the first time since the beginning of the 20th century. The course aims to introduce students to the cinematic work of a number of Spanish film artists and to develop a more detailed and creative reception of each film. Students will examine the different genres and styles of Spanish cinema by applying critical and creative analysis of the movies presented in class, while focusing on composition and oral proficiency. The course challenges students to draw meaningful parallels between movies and the society from which they emerge. Topics to be discussed may include the struggle to create a national and free cinematic language, the "Movida," and recent trends in Spanish cinema. This course is taught in Spanish.

Prerequisite: SPN 310

SPN451 - Don Quixote

This course is a study of Miguel de Cervantes' novel, Don Quixote de la Mancha. The philosophical, esthetic, and historical values which shaped the novel will be examined. Major critical approaches will be considered, as well as the influence that this

seminal work has had in Hispanic letters.

Taught in Spanish.

Prerequisite: SPN 310 or permission of the instructor

SPN453 - Peninsular Literature I

This course offers an overview of Peninsular literature from the Middle Ages up to 1700. Students will study authors and their textual production in view of the political, social, and cultural processes that have affected Spain through these centuries. The course is focused on textual analysis of the different literary works, research of secondary sources, and development of a critical discourse suitable to the level.

Taught in Spanish.

Prerequisite: SPN 310 or permission of the instructor

SPN454 - Peninsular Literature II

This course offers an overview of peninsular literature from the eighteenth century to the present day. Students will study authors and their textual production in view of the political, social, and cultural processes that have affected Spain through these centuries. The course is focused on textual analysis of the different literary works, research of secondary sources, and development of a critical discourse suitable to the level.

Taught in Spanish.

Prerequisite: SPN 310 or permission of the instructor

SPN455 - Spanish American Literature I

An introduction to basic genres, themes, and techniques to study and analyze works by major literary figures in Spanish America from the Pre-Columbian to modernist periods. The selections correspond to different stages of historical and cultural development in Spanish America so that students may gain a better understanding of how those events produced a distinct literature.

Taught in Spanish

Prerequisite: SPN 310 or permission of the instructor

SPN456 - Spanish American Literature II

An introduction to basic genres, themes, and techniques to study and analyze works by major literary figures in Spanish America from modernism to the present day. The selections correspond to different stages of historical and cultural development in Spanish America so that students may gain a better understanding of how those events influenced the production of a distinct literature.

Taught in Spanish.

Prerequisite: SPN 310 or permission of the instructor

SPN457 - Topics in Spanish and Latin American Literature

This course is a focused study of a special topic in literature varying from year to year. Likely topics include medieval literature, modern Spanish drama, Latin American Nobel Prize winners, Latin American women writers, Latin American short story, or the work of a particular author. The topic to be studied will be announced in the preregistration bulletin.

Taught in Spanish.

Prerequisite: SPN 310 or permission of the instructor

SPN500, 501 - Independent Study

Independent study projects allow a student to do individual work, under the guidance of a qualified director, on a topic of special interest to the student. The student is responsible for the overall scope and direction of the project, but receives course credit only with the approval of the independent study director.

During the January Intersession term and with departmental approval, the independent study option (299J) is open to all students. During the fall or spring term, juniors and seniors are permitted and encouraged to pursue some course of independent study. Sophomores may petition the Academic Status Committee for permission to pursue independent studies.

Application forms are available from the Office of Academic Affairs. The project must be approved by the student's advisor, the academic department supervising the project, and the Office of Academic Affairs.

The deadline for approved independent study courses is the end of drop-add in the session when the independent study course will be done.

Theatre

The emphasis in theatre is available to **Communication Arts** majors. It is designed to enable students to participate knowledgeably in multiple aspects of the creation of works performed before a live audience. Students are encouraged to gain appreciation for and develop skills in the writing, staging, performance, and analysis of theatrical productions, with special attention to relationships among artists, audiences, and communities.

THEATRE EMPHASIS REQUIREMENTS: COM 101; COM 102; COM 111; COM 211; COM 251; COM 271; COM 301; COM 341; COM 351; COM 401 (the Senior Project completed in COM 401 must be relevant to theatre). A communication arts major with an emphasis in theatre requires 10 courses total. The practicum COM 252 is recommended and may be taken up to four times.

The Department of Communication Arts offers credit and non-credit opportunities for creative expression to all W&J students. 1-credit practicums in theatre (COM 252) and radio (COM 242) are available each semester, and each course may be taken up to four times. The department stages a theatrical production each semester, with auditions held early in the term. Auditions are open to all W&J students. For more information about getting involved with theatre productions, contact the department chair or join the W&J Student Theatre Company. Participation in the WNJR radio station is also available to all W&J students. After a meeting with the student Station Manager or the Faculty Advisor, followed by completion of brief written and hands-on tests, a student can host a radio show either alone or with a co-host. For more information about WNJR visit wnjr.org.

Thematic Emphasis

To achieve flexibility in designing an original course of study, a student may propose a thematic emphasis. A thematic emphasis allows a student to retain the depth and breadth integral to an existing major while pursuing a specific focus relevant to his or her interests. For instance a student majoring in English could select three or more English courses that would comprise an emphasis in Medieval Studies. A student majoring in History might select three or more courses from History, Political Science and English to create a thematic emphasis in American Studies. Thematic emphases must be student-designed, supervised by at least one faculty member, and approved by majority vote of the department or program steering committee offering the related academic major. Please check with the appropriate Department Chairperson or Program Director, as there may be specific requirements within that discipline related to thematic emphases. (Some Departments/Programs may choose not to approve any thematic emphases.)

A thematic emphasis must include a minimum of three courses and can include independent studies and internship experiences. An emphasis can be interdisciplinary or composed of courses within one discipline. The total number of courses for the major and emphasis combined cannot exceed 16 (including any pre-requisites that apply to courses outside the discipline).

Students who complete thematic emphases will make connections between courses and will synthesize information and texts from many sources. As a culmination of the thematic emphasis, a deliverable (e.g., a three-page paper, a 20-minute oral presentation, a poster at the Student Poster Session) that provides reflection on the area of emphasis is required of each student. This deliverable will be evaluated by the faculty member who advises the emphasis. He or she will then notify the registrar (via a signed and submitted form) that the student has completed the requirements of the thematic emphasis.

Thematic emphases will showcase student initiative and creativity. They are intended to encourage active reflection upon the connections among emphasis courses. For this reason, students must submit a completed thematic emphasis proposal form to the Curriculum and Program Committee no later than October 1 of their senior year. The proposal must include the following:

- A one-page rationale for the thematic emphasis;
- A list of courses that have been or will be taken to satisfy the academic major;
- A list of a minimum of three courses that will comprise the emphasis, indicating when the student took or plans to take the courses (at least one of the courses proposed must remain to be completed);
- A plan for the deliverable which completes the emphasis; and
- Signatures of the student's academic advisor, thematic emphasis supervisor, and Department Chairperson or Program Director for the academic major to which the emphasis is attached.

Thematic Major

The purpose of the thematic major is to provide a creative opportunity for students to build an individualized curriculum around a particular theme and to explore interrelationships between academic disciplines. Examples of some of the most recent thematic majors at the College include conservation biology, the cultural and philosophical basis of art, and American studies.

Thematic majors are developed and pursued under faculty supervision. Completed proposals must be submitted no later than the end of the add/drop period of the student's junior year.

Students may secure additional information about the thematic major from the [Thematic Major](#) web pages.

Academic Opportunities & Services

Content

- [Academic Advising](#)
- [Office of Study Abroad](#)
- [Library Services](#)

Academic Advising

Mission Statement

Academic advising fosters the development of the whole student and is central to the teaching mission of Washington & Jefferson College.

While the advisor and advisee share the responsibility in academic planning, the student is ultimately responsible for his/her educational decisions. Through ongoing conversations, the advisor helps his/her advisee

- explore personal interests and abilities in order to create meaningful educational, extracurricular, and career plans;
- understand the College curriculum and institutional policies;
- create coherent and appropriate course schedules;
- monitor his/her progress toward fulfilling graduation requirements;
- locate campus and community resources when different or additional expertise is required; and
- become more focused, self-directed, and engaged in his/her education.

Library Services

U. Grant Miller Library

The Library is a great place to study, but it has a lot more than peace and quiet to offer. The Library welcomes socializing and collaborating among faculty and students. Open 109 hours a week, it can be the last remnant of hope when you're looking for company or want to hang out and explore the newest books, magazines, or movies. The Library supports up-to-date technology with scanners, printers, and creative software suites.

The Library staff is happy to assist you with all your information needs. From selecting a topic and starting your research to helping you sort through the hundreds of thousands of print and electronic resources available in-house and online, the U. Grant Miller Library staff is there. In addition to participating in the First Year Student Orientation, librarians can be found near the Commons and G&T's on Wednesdays as part of the Librarian on Location program. All students benefit from the individualized attention of face-to-face reference assistance each evening and our online [info.licio.us](#) guides provide database or subject focused help on the rare occasion when a librarian is not available.

The Library has a wide selection of popular videos and DVDs - many of which have been nominated for Academy Awards - available for check-out or to view in the Library. Additionally, there is an excellent selection of both educational and international movies.

Library hours are affected by Holidays and Term Breaks. See their Website for details www.washjeff.edu/library .

Hours during regular session are as follows:

Monday - Thursday - 8:00am to 2:00am

Friday - 8:00am to 9:00pm

Saturday - 9:00am to 6:00pm

Sunday - 11:00am to 2:00am

Office of Study Abroad

Off-Campus Study (Study Abroad)

Students are encouraged to learn the languages, cultures, and customs of other nations and to deepen their understanding of world affairs. To introduce students to diverse cultures and a wider world, the College encourages its students to study abroad. The Office of Study Abroad maintains a list of nearly 40 approved semester- and year-long programs of academic study in more than 20 countries, including formal exchange agreements with universities in Australia, Austria, Chile, China, Denmark, Ecuador, Egypt, France, Germany, Hong Kong, Japan, Mexico, the Netherlands, Norway, Russia, South Africa, South Korea, Spain, and the United Kingdom. All approved programs are regularly evaluated and monitored by faculty and staff in order to ensure high academic quality and immersion in the host culture.

The Office of Study Abroad conducts extensive advising activities, guiding students through the process of identifying and applying for programs that fit personal and academic goals, consulting with W&J faculty to obtain course approval, and navigating the process of preparing to study off-campus. The office provides mandatory pre-departure orientation meetings for all students going off campus, and provides support before, during, and after the off-campus experience.

REQUIREMENTS: To be approved for semester- or year-long off-campus study, students must be in good disciplinary and academic standing, and have a minimum cumulative grade point average of at least 2.5 (individual programs may have higher GPA requirements). Students must have achieved at least sophomore status by the time they are to study off-campus.

APPLICATION: Students apply through the Office of Study Abroad for both international and domestic off-campus study. Students submit one application to W&J for approval to study off-campus, and another application to their selected program. As part of this process, applicants are required to consult with academic advisors and obtain recommendations from faculty.

FEES AND FINANCIAL AID: W&J endeavors to make off-campus study affordable to all students. Financial aid, as determined by the Office of Financial Aid, continues when students study off-campus on an approved program. In addition, students may apply through the Office of Study Abroad for scholarship awards specific to study abroad.

W&J requires the payment of W&J's tuition and room, and in some cases board; W&J then handles payment of the corresponding off-campus tuition, room, and board (if applicable) charges directly with the program partner. W&J charges a nominal administrative fee of \$300 per semester for participation in an off-campus program. Students are responsible for airfare, international health insurance coverage, and any personal expenses. For more detailed information on how financial aid pertains to off-campus study, please consult the Financial Aid office.

FOREIGN LANGUAGE: As study abroad is an excellent opportunity to improve foreign language skills, students are encouraged to study the language of their host country. Students with the equivalent of at least two semesters of college-level language study may qualify to take coursework in their target language (some programs require additional semesters of language study to qualify). W&J also offers approved programs abroad where students may learn the host language while taking other coursework in English.

ACADEMIC CREDIT: Academic credit is given for programs approved by W&J. Students must receive a C- (C minus) or better for credit to transfer. Grades earned on semester- and year-long programs do not count in the student's grade point average, with the exception of the PCIC program in Cologne, Germany, and select courses taken on the Lewis & Clark Year in Munich program. With the approval of the appropriate academic department or program, courses taken off-campus may count toward the student's major, minor, or general education requirements.

MODIFIED RESIDENCY REQUIREMENT FOR TRANSFER STUDENTS: Transfer students who enter W&J with 13-16 semester courses and who are pursuing a major that requires study abroad may count one semester (up to four semester courses), completed in an approved W&J program toward the College's residency requirements.

Academic Regulations

- [College Calendar & Academic Load](#)
- [Enrollment Information](#)
- [Registration Information](#)
- [Grading Policies](#)
- [Academic Honesty Policy](#)
- [Leaving the College](#)

College Calendar and Academic Load

The College year is divided into a four-month fall term; a one-course, three-week Intersession; a four-month spring term; and a summer session. Dates of the beginning and end of each term and Intersession, the summer session, vacations, recesses, and examination periods are indicated in the academic calendar. All enrolled students must be in attendance after the opening of an academic term until the close of the final exam period for each session unless they are pursuing an approved off-campus course of study.

The typical academic load for a fall or spring term is the equivalent of four courses, with the possible addition of physical education or other partial courses. During Intersession, students are limited to one course, with the possibility of adding physical education and wellness courses. Students are required to complete 32 regular semester courses and 2 Intersession courses.

Enrollment Information

- [Full-Time and Part-Time Status](#)
- [Special Status](#)
- [Class Levels](#)

Full-Time and Part-Time Status

A student attains full-time status by being enrolled in a minimum of three courses during a 14-week term, or one course during Intersession, or two courses during a summer session, except under conditions to be determined by the Office of Academic Affairs. Students enrolled in fewer than three full courses are considered part-time. Part-time students do not have access to the full range of College resources.

Special Status

Students who wish to take one or more courses at the College, but who are not seeking a degree, may apply as special students. Special students who subsequently decide to seek a degree at Washington & Jefferson College should contact the Office of Admission.

Class Levels

For the purpose of course registration, students are grouped into classes according to the following rule:

- Students who have completed fewer than eight courses* are considered freshmen;
- Those who have completed at least eight courses, but fewer than 16, are sophomores;
- Juniors have completed at least 16 courses, but fewer than 25; and
- Seniors have completed 25 or more courses.

*Please note that physical education courses are not included in these calculations, and that your academic progress is evaluated along a related rule for financial aid purposes.

Registration Information

- [Faculty Advisor](#)
- [Declaration or Change of Major](#)
- [Registering for Classes](#)
- [Penalties for Late Registration](#)
- [Changes to a Schedule \(Add-Drop\)](#)
- [Course Auditing](#)
- [Overload Policy](#)
- [Fifth Course](#)
- [Class Attendance](#)
- [Final Examinations and Other Diagnostic Exercises](#)
- [Withdrawing from a Course](#)
- [Repeat of a Course](#)
- [Obtaining Course Credit from Other Colleges](#)

Faculty Advisor

Every student has a faculty advisor. Freshmen are advised by their First Year Seminar instructor; students who have not declared a major by sophomore year will be assigned to open major advisors. Once a student has declared a major, he or she will usually be advised by a member of that department. Faculty advisors will assist in selecting courses, counsel on academic progress, and help develop vocational plans and objectives. In all academic advising, the student has certain responsibilities. He or she must arrange meetings with the advisor several times a term, not just prior to registration. It is the responsibility of each student to know both the general graduation requirements and those of the student's major field of study, and to meet all requirements satisfactorily for graduation.

Declaration or Change of Major

All new first-year students enter the College as open majors, in order that they may explore freely the College's academic offerings. First-year students may declare a major at the end of the fall term, and all students must declare a major by the end of the sophomore year. This declaration is nonbinding.

Students declare or change their majors via a form obtainable from the Office of the Registrar or its website. The declaration or change of a major does not take effect until recorded in the registrar's office. They should also choose a new advisor in the discipline they intend to pursue. Students should consult the department chair for assistance in selecting a major advisor. Those students intending to pursue a double major should retain advisors in both disciplines.

Registering for Classes

Incoming first-year students will receive assistance with the class registration, along with other information, during LAUNCH, one of the College's orientation programs for new students. During LAUNCH, students meet with faculty advisors who will acquaint them with the College's curriculum and academic policies. Transfer students participate in a separate, similar orientation program.

Current or re-enrolling students at the College will use WebAdvisor, the online registration system, to sign up for classes. The registrar's office publishes deadlines and procedures prior to each registration period, typically held in November for Intersession and spring terms and in April for summer and fall terms.

Penalties for Late Registration

Please contact the Business Office at 724-503-1001, ext. 6014 for the latest information regarding penalties for late registration.

Changes to a Schedule (Add-Drop)

Students may begin making changes to their schedules immediately following the close of the registration period. This is called the add/drop period. For fall or spring terms, students may make changes to their registrations up to the end of the first full week of classes. For Intersession, students have until the end of the second day of the Intersession term. Course changes made before this add/drop deadline do not appear as course registrations, and no record of the transaction will appear on the student's transcript. After the add/drop period ends, a student may withdraw from one or more courses, but may not add a course. Withdrawing from a course after the add/drop period will result in a designation of that withdrawal on the student's transcript (in the form of a W).

Students may not drop a course to avoid the penalties of a case of academic misconduct.

Add/drop transactions can be processed as follows: if the desired course is open and the student has the necessary prerequisites, it is possible to add or drop via WebAdvisor, the online registration system. If the course is at full capacity or if the student does not have the necessary prerequisites, the course can only be added with instructor and advisor permission using the Course Petition form available at the registrar's office. The transaction is not final until the form is returned to the registrar's office and processed. Students processing add/drops through WebAdvisor should follow the registrar's online instructions for receiving verifications of the transaction.

Course Auditing

Auditing of a course, for no credit, is permitted upon the payment of tuition incurred and the written consent of the instructor. Students should obtain in writing an agreement with the instructor regarding what constitutes successful completion of the course audit. Permission to audit a course must be obtained from the registrar's office by the end of the add/drop period as described in the [Changes to a Schedule \(Add/Drop\)](#) section. Once a course is declared as an audit, a student is not permitted to reverse this action and take the course for a grade.

Overload Policy

For full-time students, fall and spring tuition cover nine course registrations, or the equivalent, per academic year. Intersession courses are included in tuition in two of these years; in other years, a ninth course can be taken during the regular semester at no additional charge, in accordance with the [Fifth Course policy](#). Additional Intersession course registrations (beyond two) incur overload tuition at the posted summer school rate. Students registering for more than 36 credits (the equivalent of nine courses) in one academic year will be charged a fee per credit in excess of the 36.

Please note that this calculation is based on what you register for in a year, rather than what you complete. Your registration for each term is tabulated at the end of the add/drop period. Finally, this policy does not apply to physical education and wellness courses, applied music studies, COM 242 and COM 252, EDU 250, MTH 320, MTH 420, PHY 441, PHY 442, BIO 301, or freshman and sophomore-level ROTC courses (MSC 101, 102, 201, and 202).

Fifth Course

A fifth course can be taken by any student who has completed one semester on campus; the student must be in good academic standing with a grade point average of 2.00 or better. A fifth course that results in more than nine course registrations for a single academic year may carry an additional tuition charge, in accordance with the overload policy.

Students can obtain the Fifth Course Petition Form from the registrar's website.

Class Attendance

Students are expected to attend all scheduled meetings, lectures, discussions, diagnostic exercises, and laboratory periods that constitute the course in which they are enrolled. Absences which, in the opinion of the professor, are damaging to a student's academic work will be reported to the Office of Academic Affairs. Continued absence may result in the dismissal of a student from the course with a grade of F.

Students will be disenrolled from any courses they are registered for at the start of the semester but fail to attend at least once before the end of the add/drop period.

In the case of illness, a student must report immediately to the Office of Health Services so that competent medical attention may be provided. A student choosing to pursue medical care through another practitioner should notify the Office of Student Life so they can be aware to the illness.

In all cases of absence, it is the student's responsibility to notify his or her course instructors of the situation, either directly or through the student life office. Students may be asked to provide documentation supporting the reason for their absence, and should be aware that faculty attendance policies remain in effect even in cases of illness.

Final Examinations and Other Diagnostic Exercises

At the beginning of each term, instructors will distribute a course syllabus that indicates the diagnostic exercises for that course. Such exercises may include announced and unannounced quizzes, examinations, papers, and oral presentations. Typically, courses terminate with a final examination given during the final exam period designated in the official schedule, although substitutions such as a final paper or presentation may exist.

Attendance at all scheduled and announced examinations is required. Unauthorized absence from an examination may result in a grade of F on the examination. Students who must, for whatever reason, be absent from a test or presentation may be required by the instructor to obtain an excuse in writing from the Office of Academic Affairs.

Any student with three or more final exams falling on the same day may approach his or her instructors to request an alternate exam time. Such requests should be submitted to the instructor in writing a minimum of one week prior to the scheduled exam time. Students who are unable to obtain an accommodation from their instructors may appeal to the Office of Academic Affairs for assistance.

Withdrawing from a Course

After the usual one week set aside for course changes during registration (add/drop period), students may officially withdraw from a course (excluding FYS) until 10 class days (two weeks) after midterm. Note that the class attendance policy is in effect until the student officially withdraws from the course. Course withdrawal requires the signatures of the instructor of the course and the student's academic advisor. Students will be given the grade of W (withdrawal). Courses for which a student has received a grade of W do not count as completed courses, nor are these grades considered in determining a student's grade point average. If a student withdraws from a course that he or she is repeating (See [Repeat of a Course](#)), the original course grade will continue to be applied towards graduation requirements and the grade point average. Students may not withdraw from a course to avoid the penalties of a case of academic misconduct.

Repeat of a Course

Any course (except First Year Seminar) successfully completed at W&J may be repeated once. Successful completion implies a C- or better for all courses required for a major (unless otherwise stated by a department) and a D- or better for all other courses. The original course (and grade) and the repeat of the course (and grade) will appear on the student's transcript; however, only the second course (and grade) are counted towards graduation requirements and the grade point average. Courses successfully completed at W&J cannot subsequently be repeated at other institutions under this policy. Students may take any number of special topics courses with the same course number as long as the topics of the courses are different.

Only letter-graded work (A-F) can replace letter-graded work (A-F) in a student's GPA. So, if a student repeats a course in which a letter grade has been recorded and takes it according to our [Satisfactory/Unsatisfactory](#) policy; or, if a student repeats a course at another institution according to our [Obtaining Course Credit from Other Colleges](#) policy; or, if a student repeats a course and then withdraws from it under our [Withdrawing from a Course](#) policy, the original course grade will continue to be applied towards graduation requirements and the student's grade point average.

A course originally taken according to our [Satisfactory/Unsatisfactory](#) policy can be repeated under the normal rules of this and other policies.

Obtaining Course Credit from Other Colleges

A currently enrolled W&J student, with approval of his or her major advisor and the registrar's office, may take courses at another college or university. Courses in which the student earns a grade of C- or better may be transferred to W&J, subject to existing regulations covering such courses. The student initiates the procedure by obtaining a course description from the other institution and presenting this to the relevant department chair at W&J. The registrar's office will provide further instructions and the appropriate course transfer form.

Courses transferred from other institutions are credited to the student's transcript, but grades from these courses do not appear on the transcript, nor are they used to calculate the student's grade point average.

If you are an incoming transfer student, the registrar's office, in conjunction with the Office of Academic Affairs and department chairs, will provide the final determination of the course credit awarded from the courses you have completed prior to coming to W&J.

In any given summer, a W&J student may transfer to W&J up to two courses taken in another summer school program. These courses must be approved in advance according to the procedure described in the first paragraph in this section.

Policy on Online Courses

Students may transfer up to two courses taught entirely or substantially through indirect contact with an instructor (distance, online, blended/hybrid) toward fulfillment of W&J graduation requirements. As with all approved transfer courses, students will receive either general elective credit or, with the approval of the relevant department/program chair or academic dean, specific course equivalency. Students wishing to transfer such courses at W&J must:

- [Follow all policies and procedures](#) regarding transfer courses stated elsewhere in this catalog
- Submit an official transcript for the course from a fully accredited institution
- Complete a credit transfer form indicating the electronic method of delivery
- Provide a course description to the registrar

Grading Policies

- [Grading System](#)
- [Satisfactory - Unsatisfactory Option](#)
- [Incomplete Grades and Grade Changes](#)
- [Student Grade Grievances](#)
- [Academic Sanctions](#)
- [Readmission After Academic Dismissal](#)

Grading System

At the close of a session or upon completion of a class, the instructor reports a final grade indicating the quality of the student's work in the class. Grade reports are available after the close of each session via WebAdvisor, the College's online registration system. Official copies of grade reports and transcripts are available to you through the College registrar.

In addition to final term grades, midterm grades are reported to some students. All first-term, full-time freshmen receive midterm evaluations, as do students on academic probation or those whose work to date in the class would merit grades below C-. Midterm grades are available via WebAdvisor.

Grade-point values are assigned for each credit according to the grading system below.

LETTER GRADE	POINT VALUE
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	.67
F	0.00 (No Credit Earned)
S, Satisfactory	Credit Earned
U, Unsatisfactory	No credit
W, course withdrawal	No credit
L, Audit	No credit
I, Incomplete	Credit awarded upon successful completion of the course

The basis for determining the student's overall scholastic standing is the grade point average. This average is determined by dividing the total number of grade points earned by the total number of courses attempted. For example, if the student earns a C (2.00) in each of two full courses, and a B (3.00) in each of two half-courses, first multiply the course units by the point value of the grade (grade of 2.00 X 1 course = 2.00 grade points and grade of 3.00 X ½ course = 1.5 grade points) and add the grade point values for each course together to find the total number of grade points (2+2+1.5+1.5=7). Then add the course units together to find the courses attempted (1+1+½ +½=3). Finally, divide the grade points by the courses attempted to find the grade point average (7 / 3 = 2.33, or C+ average). The grade point average is figured only on hours attempted - courses in which you receive letter grade (A through F). Grades of "Satisfactory" represent courses earned, but are not used in the calculation of the grade point average.

Satisfactory - Unsatisfactory Option

The satisfactory/unsatisfactory option is open to all students at the College. Between midterm and 10 class days (two weeks) after midterm, or during the second full week of Intersession, students may convert a course (excluding ENG 111, ENG 112, and First Year Seminar) from a graded to a satisfactory-unsatisfactory (S/U) basis. Students exercising this option may not subsequently withdraw from that course or convert it from S/U back to a graded basis.

A student taking a course graded S/U must do all the work normally assigned in the course. For example, he or she must take all tests and quizzes and must complete all papers. The student is also subject to the current College attendance requirements.

No more than two courses (excluding internships, PED, and MSC classes) may be taken on an S/U basis during a student's time at W&J.

Courses graded S/U will not count towards the fulfillment of requirements in a course of study (major, minor, concentration, emphasis, etc.). This applies to courses in the primary department, as well as those from other departments that are required by the course of study.

Grading for S/U courses is governed by the following: A student earning a C or better will be considered to have earned a "satisfactory" grade. A student receiving an "unsatisfactory" grade will not receive credit for the course. Neither an S grade nor a U grade will affect the student's grade point average.

ROTC (MSC) and Physical education and wellness courses are offered on an S/U basis, unless specifically approved otherwise by the faculty.

Incomplete Grades and Grade Changes

Failure to satisfy minimal course requirements shall result in a grade of F, unless the Office of Academic Affairs approves a student's request for an incomplete grade, which must be submitted on a "Request for Incomplete" form, available from Academic Affairs. Generally, the granting of Incompletes is limited to students with family or medical emergencies that prevent them from completing a final paper or project or taking a final exam. They are not granted to students who are struggling in a course and want a little more time to complete their assignments. Unless an emergency makes it impossible for the student to do so, such requests must be submitted within two business days of the end of the final exam period. Incomplete courses must be completed, and the grade changed, by the date listed on the "Request for Incomplete" form and no later than the end of the fourth week of the succeeding session in which a student is enrolled (not to include Intersession or summer) or the grade of incomplete will automatically be converted to an F.

Student Grade Grievances

Any student wishing to dispute a final course grade should first contact the course instructor to resolve the grievance. It is the student's responsibility to review grades and initiate any grievance process as soon as final course grades are posted. If the grievance remains unresolved after discussion with the course instructor, the student may submit a written appeal to the Chair of the department under which the course is offered. This appeal must be submitted no later than the end of the first week of the succeeding session (not to include Intersession or summer). After departmental review, unresolved grievances may be further appealed to the Office of Academic Affairs for final consideration.

Academic Sanctions

Full-time students whose academic performance fails to meet acceptable standards will be issued a warning or placed on probation by the Academic Status Committee or, with the approval of the faculty, will be dismissed from the College. When students are placed on academic probation they must arrange an interview with a representative of the Office of Academic Affairs. The purpose of this interview will be to review their academic performance and establish a program for improvement. Students placed on academic probation are expected to remove their deficiencies at the earliest possible time. This can be accomplished only by means of improved grades. The staff will assist in designing individualized programs to improve the academic performance of students placed on academic probation. These programs may include time management, study skills, restricted activities, and personal conferences with academic advisors, deans, and members of the faculty. In addition, students on probation may not participate in co-curricular College activities, such as student government, intercollegiate athletics, and

other clubs and organizations, while on probation without written permission from the Office of Academic Affairs. Students may be removed from probation only by the Academic Status Committee after the completion of a regular session or a summer session of full-time study at this College, as defined in the description of full-time status.

Rarely is a student permitted to remain on probation for more than one year. The Academic Status Committee reviews the record of every probationary student at the close of each session. Students who have improved their work to the satisfaction of the committee standards are removed from probation. Others, whose work shows no improvement, may be dismissed from the College. Students who are dismissed may appeal their dismissal in writing to the vice president of academic affairs within 10 business days of notification of dismissal. The vice president of academic affairs will make a recommendation to the president of the College, who will make a final decision on the appeal. Students may not attend classes at W&J while appealing their dismissal.

A student who is academically dismissed for a second time is ineligible to return to the College.

Readmission after Academic Dismissal

Students who are dismissed from the College must remain away from school for at least one full fall or spring term. After that period, students may petition the Academic Status Committee for permission to reapply. During their time away, dismissed students should engage in a course of activity, which may include attendance at another institution, intended to address the causes of their lack of academic success and to demonstrate their readiness to return to W&J. More information about readmission after academic dismissal may be obtained from the Office of Academic Affairs.

A student who is academically dismissed for a second time is ineligible to return to the College.

Academic Honesty Policy

- [The Principle of Academic Honesty](#)
- [Violations of Academic Honesty \(Academic Misconduct\)](#)
- [Procedures for Cases of Academic Misconduct](#)

The Principle of Academic Honesty

Washington & Jefferson College is a community dedicated to the intellectual and personal development of its students. Such development may be achieved in many ways, including creating original works of writing, art, and music; conducting research; engaging in discussions; taking examinations; and participation in co-curricular activities. Central to such developmental activities is that whatever a student represents as being the fruit of his or her own intellectual labor is indeed his or her own. Otherwise the student will not only have acted dishonestly, but will also have wasted the developmental opportunities afforded by the College.

W&J upholds academic honesty in the College community by pursuing cases of academic misconduct. When such academic misconduct is discovered, the College will ensure through the imposition of appropriate penalties that the student does not gain unfair advantage through his or her dishonesty, and will help the student address the concerns that led to the offense. If the nature of the intellectual dishonesty is determined to be conscious, calculated and/or intentional, or if academic misconduct recurs, the student may be judged to be incapable of benefiting to a satisfactory degree from the developmental opportunities afforded by the College, and may then be permanently dismissed so that the College's resources may be directed to deserving students.

Violations of Academic Honesty (Academic Misconduct)

The Washington & Jefferson College community requires its students to create and submit their own work in every setting at the College, including classes, laboratories, and co-curricular endeavors. A violation of this principle constitutes academic misconduct. Examples of academic misconduct include, but are not limited to:

- Plagiarism, which is representing the fruits of another's intellectual labor as one's own, whether this is done with the intention to deceive or is the result of incompetence. Examples include using someone else's ideas, research results, sentence structure, or phrasing without properly crediting the author, thus leading the reader to assume that they are the student's own creation. Note that quotation marks, in addition to appropriate citation, must always be used to signal the borrowing of another person's exact language.
- Fabricating material and representing it as genuine. This includes falsifying research results for a laboratory report or falsifying information for a written essay.
- Misrepresenting one's contributions to a group project. Examples include having one's name on a project to which one did not contribute in a meaningful manner, or providing grossly inaccurate assessment of one's own or a teammate's contributions.
- Submitting papers or other academic work in two different classes or other academic setting without full knowledge of the instructors involved and written permission from both instructors. When an assignment asks for original work, the presumption is that the work has not been submitted in a different class or another academic setting.
- Knowingly giving or receiving unauthorized aid on a piece of academic work (including tests, papers, research, artwork, etc.). For example, a person knowingly giving answers to another person during a test is as guilty of academic misconduct as the person receiving the answers.
- Misconduct in a testing situation, including copying answers from another student's test, using electronic devices or other unauthorized sources of information during a test, or illicitly collaborating on tests taken outside of the classroom.

Students are responsible for adhering to academic honesty policies specific to each of their classes. Such policies are in addition

to the College's general policy, and are communicated by the instructor.

Procedures for Cases of Academic Misconduct

If a course instructor suspects that a student has committed plagiarism or another form of academic misconduct, the instructor must first notify the student or students involved. If the academic misconduct has taken place outside of a classroom setting, the supervising person responsible should contact the Office of Academic Affairs for advice on how to proceed.

If a course instructor believes that the case of academic misconduct is minor (for example, the student may simply have misunderstood how to cite a source), the instructor is not required to impose a specific penalty on the student, and the case need not be reported to academic affairs.

If a course instructor believes that the student is guilty of intentional or major academic misconduct, the instructor may give the student an "F" for the course, or impose other penalties consistent with the instructor's academic honesty policy. The instructor must send written documentation of the violation and the penalty to the student and to the vice president of academic affairs, or another representative of the Office of Academic Affairs, who will keep a record of the offense. The Office of Academic Affairs will send a letter to the student and to the faculty member indicating that a charge of academic misconduct has been received, affirming the penalty imposed by the faculty member, and informing the student of the appeal process. If the Office of Academic Affairs has a record of previous academic misconduct, or if a single infraction is judged to be sufficiently serious, the Office of Academic Affairs may impose an additional penalty, up to and including dismissal from the College. The letter to the student will include a description of this additional penalty and a rationale for imposing that penalty.

Students found to have committed academic misconduct are required to meet with the Assistant Dean of Academic Advising within a period specified in the misconduct letter from Academic Affairs. Failure to meet this requirement will cause the student to be placed on academic probation.

A student contesting the decision of the faculty member or the Office of Academic Affairs has the right to appeal in writing to the Academic Status Committee within 10 business days of the date of the letter from the Office of Academic Affairs. The Academic Status Committee will review the student's appeal, and if needed, contact the student, faculty member, the Office of Academic Affairs, and any other parties that may be involved, for further information. The decision of the Academic Status Committee will be sent in written form to the Office of Academic Affairs, to the student, and to the faculty member, along with a recommendation for action to be taken by the Office of Academic Affairs.

Students who intend to appeal a charge of academic misconduct should notify their instructor of that intent in writing; such students have the right to continue to attend class until the appeal process has concluded.

A faculty member who serves as an independent resource for students is available for consultation on issues of academic misconduct.

Leaving the College

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- [Voluntary Leave or Withdrawal and Return to School](#)
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Graduation Procedures

Students who plan to graduate must file an application for graduation during the first term of their senior year. Forms are available on the registrar's office website. Only those who have no academic or financial obligation to the College are permitted to participate in graduation ceremonies, including Baccalaureate and Commencement. This means that all degree requirements must be completed by the end of the spring of the senior year, and that the student's account is in good standing with the Business Office.

Voluntary Leave or Withdrawal and Return to School

In order to withdraw from the College or pursue a temporary leave of absence, students must consult in person with the Office of Student Life. In either case, official action cannot be taken until the student files an official written statement of leave/withdrawal.

Right of Petition

Students have the right to petition any faculty committee regarding a waiver of academic rules and regulations. Petitions should be submitted to the Office of Academic Affairs.

Posthumous Degrees

In certain rare instances, Washington & Jefferson College may award honorary undergraduate degrees posthumously. In such cases, students who, at the time of their death, were enrolled at the college, were in good standing (a cumulative GPA of 2.00 or higher), and had earned a minimum of 75% of the credits toward their bachelor's degree may be eligible to receive a posthumous degree. Such a degree is granted by a vote of the full faculty after a recommendation from the Academic Status Committee.

Sunset Policy

Students are expected to complete their degree requirements within ten years of matriculation at W&J. If ten years or more have elapsed since matriculation, a returning student will be required to meet current graduation and program requirements (general education, major, minor, etc.). For both returning W&J students and new transfer students, any coursework that is older than ten years must be reviewed for currency in order to be counted toward a W&J degree.

Academic Honors and Prizes

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Dean's List

Each session, the Office of Academic Affairs compiles a list of full-time students whose grade point averages for the previous session were 3.50 or higher, based upon a minimum of three courses exclusive of those taken satisfactory/ unsatisfactory. Courses taken S/U must be passed.

Alpha and Beta Scholars

At the end of each academic year, students (except graduating seniors) who have attained a cumulative grade point average of 3.85 or higher are designated as Alpha Scholars. Students attaining a cumulative grade point average of 3.70 or higher, but less than 3.85, are designated Beta Scholars. To achieve Alpha or Beta status, students must have taken a minimum of seven graded courses at W&J or in a program run by W&J (in which case letter grades transfer) during the year. Students who satisfactorily complete an off-campus study program or full-time internship may reduce the number of graded courses at W&J required for eligibility by four courses for each full semester spent off campus during the year. Alpha/Beta Scholar status is noted on the student transcript and recognized at a suitable College occasion.

Graduation with Latin Honors

The rank of a student at graduation will be determined wholly by the work done while at Washington & Jefferson College. In order to be eligible for the ranks of summa cum laude, magna cum laude, or cum laude, a student must have completed at least four 14-week terms of four-day classes each plus two Intersessions.

Eligible students whose grade point average for their full course is not less than 3.85 will be graduated summa cum laude; those whose grade point average is less than 3.85, but not less than 3.70, will be graduated magna cum laude; those whose grade point average is less than 3.70, but not less than 3.50, will be graduated cum laude.

Graduation with Honors in an Academic Major

To achieve honors, a student must display academic excellence beyond the classroom by successfully completing a substantial research or creative project, beyond regular classwork, in any area of study offered by the College. A project worthy of honors should be well researched and well crafted and should make an identifiable contribution to its field; these standards will be determined and verified by faculty in the project's area of study. In addition, the student should be able to communicate, by written and oral means, the details, rationale, and value of the project to specialists and non-specialists alike. Consequently, students awarded honors at W&J fulfill in a highly advanced way the goals of the College's liberal arts mission.

To qualify for honors, students should have an overall grade point average of 3.20 or above. Students may work for honors in either the junior or senior years. Students interested in pursuing honors should discuss potential projects with their chosen faculty directors no later than the spring proceeding the academic year in which they will file for honors. In the following fall, students working toward honors will file an "Intent to Complete an Honors Project" form with the Academic Status Committee, which will review all proposals. Once the honors project is complete, the student's work will be judged by faculty in the area of study; the

student's effectiveness of communication to a college-wide audience will be judged by faculty both inside and outside the area of study. Successful completion of these requirements will earn the student honors, to be awarded by the College in the student's area of study.

Complete procedures for graduation with honors may be obtained from the Office of Academic Affairs or from the College's Web site. The student should consult with the chair or program director in the area of study concerning the criteria for honors-level work.

Honorary and Departmental Societies

A number of honorary and departmental societies have chapters at W&J. These include Phi Beta Kappa, which has been active on campus since 1937, and the following: Alpha Kappa Delta (sociology); Alpha Lambda Delta (first-year students); Alpha Psi Omega (theatre); Student Affiliates of American Chemical Society (SAACS); Gamma Sigma Alpha (Greek academic); Delta Omicron (music); Delta Phi Alpha (German); Gamma Sigma Epsilon (chemistry); Kappa Delta Epsilon (education); Omicron Delta Epsilon (economics); Pi Gamma Mu (social sciences); Pi Mu Epsilon (mathematics); Student Pennsylvania State Education Association; Phi Alpha Theta (history); Phi Sigma (biology); Pi Delta Phi (French); Phi Sigma Alpha (political science); Pre-Legal Society; Pre-Health Professions Society; Psychology Club; Sigma Delta Pi (Spanish); Sigma Lota Rho (international studies); Phi Sigma Tau (philosophy); Sigma Tau Delta (English); Psi Chi (psychology); Sigma Pi Sigma (physics); and Order of Omega (Greek leadership).

Academic Prizes

Certain academic departments annually recognize the intellectual curiosity and scholarly accomplishments of students in their programs. Specific award criteria are set by the departments themselves, but are all based upon meritorious academic achievement. Prizes are well-bound books selected jointly by the recipient and the chair of the department.

The prizes are:

Art	Scholar in Art
Biochemistry	Scholar in Biochemistry
Biology	Edwin Scott Linton Prize
Chemistry	Jesse W. Lazear Prize
Communication	Scholar in Communication
Computing and Information Studies	The CIS Award for Independent Learning
Economics	Benjamin Franklin Prize Walter Hudson Baker Prize
Education	Scholar in Education
English	John Livingston Lowes Prize William Holmes McGuffey Prize
History	Henry Willson Temple Prize
Languages	J. Adolph Schmitz Prize
Mathematics	Clyde Shepherd Atchison Prize
Music	Scholar in Music
Philosophy	Edward Moffat Weyer Prize
Physics	George Winchester Prize
Political Science	James Gillespie Blaine Prize James Clyde McGregor Prize
Psychology	Scholar in Psychology
Sociology	Scholar in Sociology

Endowed Prizes

The following prizes have been established by endowments from private donors:

Emily M. Auld Memorial Prize in English - Awarded annually to a junior majoring in English who has achieved a high level of performance and demonstrates great promise for the future. Established by Frank L. Auld '35 in memory of his wife, Emily, a former senior English teacher at Trinity High School.

Friedrich R. Crupe Prize in International Relations - This award is supported by an annual gift from Friedrich R. Crupe to encourage the study of foreign language and international trade. A prize is awarded each year to a member of the senior class who has excelled in the study of international trade and foreign language. Students are evaluated for their performance in two areas: academic achievement and an essay that integrates some aspect of foreign language or culture and international economics or business.

Charles P. Eaton Prize for Entrepreneurial Studies - Established in 2004, in honor of Charles P. Eaton '64 by his coworkers at C.P. Eaton & Associates, Inc., this academic prize is given to a student who exhibits innovative and rigorous studies within the Entrepreneurial Studies Program.

Thomas V. Fritz Memorial Prize - this endowed prize fund has been created to annually offset the cost of internships or related travel opportunities at prominent organizations, corporations or government entities as determined by the chair of the Political Science Department or another W&J representative mutually agreed upon by the College and the donor. Preference will be given to junior political science or pre-law students with financial need. If the donor is unable to assist in the selection of the W&J representative, the existing chair of the Political Science Department will represent the College.

The Dr. Mariano Garcia '39 Award in Mathematics - Established in 2005 by an endowment from Dr. Mariano Garcia '39, the annual award is given to one or more students to celebrate academic excellence in the study of mathematics. Annually, the mathematics department faculty will select one or two award recipients who have excelled in mathematics with preference given to an outstanding senior, a promising junior or sophomore, or both. Recipients may or may not be mathematics majors or minors.

Gilbert Award in Old English Literature - Provided by the will of Howard Worcester Gilbert, which offers an award for the best essay on Old English language and literature, beginning with Beowulf and extending to the year of 1060. The essay is to consist of either a general survey of the literature of the period or of a treatise on any author of that period.

Robert Harbison Bible Prize - Established by the will of Robert Harbison of Beaver County, Pennsylvania, the prize is awarded to the member of the senior class who passes the best examination on the Old and New Testaments.

Samuel Jones Classical Prize - Competition for this annual prize is open to members of the junior or senior class for significant independent research in an area of classical interest.

Samuel Jones Prize in Chemistry and Physics - This prize is alternated yearly between the departments of chemistry and physics. It is awarded to a member of the junior or senior class who writes the best essay on a specific topic or attains the highest score on a departmental examination.

Josephine Markley Prize in Physics - Offered each year. Students in introductory physics courses are eligible to take an examination, with the prize going to the student achieving the highest examination score.

William G. and Belle M. Marshall Prize in Economics - Established in 1984 by James M. Marshall '40, in memory of his parents, William G. Marshall '11, trustee from 1949 until his death in 1957, and Belle M. Marshall. Preference for the award will be given to students demonstrating achievement and promise in economics and business.

A. Richard Oliver Prize in French - Established by students, friends, and colleagues of Dr. A. Richard Oliver, professor of French from 1947 until his death in 1976. Income from this fund is used annually for a book prize awarded to an outstanding student in French. If a student of French is not available to receive the prize, it will be awarded to a student in another foreign language.

Jennifer Lynn Oliver Prize in Theatre - Established by an endowment from Ms. Oliver's mother and stepfather, Page and Ray Bruno, other family, and friends, this prize is awarded annually to the graduating senior theatre major achieving the highest cumulative grade point average during his/her tenure at the College. The prize is given in memory of Jennifer Lynn Oliver '00, a gifted actress and scholar who made many noteworthy contributions to theatre and intellectual life at W&J.

The Richard S. Pett Academic Travel Award - Established in memory of Richard S. Pett by his wife, Lynne, and his daughters, Melissa and Lauren, the Academic Travel Award goes to a deserving junior or senior majoring in a foreign language who desires to study abroad.

The Michael P. Rettger Memorial Academic Award - This multi-year academic award goes to a promising sophomore or junior majoring in accounting who desires to begin his/her career with a public accounting firm. Established in memory of Michael P. Rettger '01 by his friends and co-workers at Ernst & Young LLP in Pittsburgh, the award is given to honor the memory of Mike Rettger, a bright young business man who died from a sudden illness in 2003.

Matthew Brown Ringland Prizes in the Social Sciences - The will of Josiah Ringland of Washington, Pennsylvania, bequeathed a sum to the College for the purpose of establishing a prize in the social sciences. Income from this sum is awarded annually by the faculty to two students who do the most outstanding work in "commerce, trade, finance, statesmanship, and

international law.”

The William M. and Sandra Stout Endowed Prize Fund in Education – provide a prize fund to students who are rising Juniors or Seniors and who are either majoring in Child Development and Education or who have been admitted to the Teacher Certification Program at Washington & Jefferson College. The donors express a preference for students who graduated from a high school in Washington, Fayette, or Greene Counties in Pennsylvania and who have achieved a cumulative GPA of at least 3.0 or higher.

Alfred Henry Sweet Prize in History - Income from a fund given by students, friends, and colleagues of Dr. Alfred Henry Sweet creates a prize that is awarded annually to a student who has done the most competent piece of research in the field of history.

Nicholas C. and Josephine C. Tucci Memorial Prize in Chemistry - Awarded annually to a junior chemistry major who has demonstrated outstanding achievement and financial need. Established in memory of Nicholas C. and Josephine C. Tucci, community leaders and friends of W&J.

Nicholas C. and Josephine C. Tucci Music Prize - Awarded annually to a deserving student for the study of music during Intersession. A committee, named by the College, will select the winner based upon academic performance and interest and promise in music. Established by Josephine C. Tucci in memory of her late husband, Nicholas C. Tucci, community leader and friend of the College.

Maurice Cleveland Waltersdorf Award for Innovative Leadership - Established through a challenge grant by his son, John M. Waltersdorf, member of the Class of 1946, and support from former students. An annual award is given to a student who has completed three full years at W&J and who best exemplifies academic excellence and promise as a leader in our free enterprise society. Dr. Waltersdorf was a professor and chairman of the economics department from 1924 to 1956.

Maurice Cleveland Waltersdorf Prize in Economics - Income from a fund given by friends and former students of Maurice C. Waltersdorf provides a prize that is awarded annually to the member of the graduating class who, as an economics major, attained the highest average in all work done in the Department of Economics.

Stelvio W. Zanolli '43 Memorial Scholarship Award - Established by the family, friends, and former students of Professor Zanolli, this scholarship award is given annually to a student who is eligible for financial aid and who has excelled in leadership at the College through athletics or other endeavors.

The Barbara Betler Greb and Edward Martin Greb Endowed Student International Travel Award Fund - Established by Dr. Edward Martin Greb, a member of the Washington & Jefferson College faculty since 1975, this fund commemorates Dr. Greb's appreciation of a quality college education that endeavors to widen students' horizons through affordable international travel opportunities. As directed by the Donors, this award may be available to one or more students in good standing regardless of class year who indicate a desire to travel internationally for college credit and meet the qualifying criteria for award consideration. Qualifying students will be considered based upon the criteria established by the appropriate review committee of the College and include the founding Donors fund establishment intent and student selection considerations.

Dr. Emory A. Rittenhouse II Prize in Biology - This endowed prize is given annually to the senior Biology or Biochemistry major who best exemplifies the qualities of academic excellence, research engagement, and service to the department, college, and/or profession.

Betty and Bill Saalbach Adam Smith Silver Pin Award - Established and endowed in 2007, by Bill and Betty Saalbach, and contributed to by alumni, faculty and friends, this endowed prize fund has been created to support a qualifying economics major whom authors the outstanding senior thesis. The annual amount for the prize award provided by this Fund will be a \$500 cash prize, and the Silver Pin Award. This annual award shall be administered by the Economics and Business Chair and faculty in accordance with the above guidelines.

Theodore M. Slabey Prize in Mathematics Education - The award is to be given to an outstanding student in mathematics education who has completed his/her graduation requirements. Preference is to be given to a student either in primary (upper elementary) education with a focus major/minor study in mathematics or secondary education (mathematics education). It is intended that this award be given to a senior and presented at the spring Honors Convocation.

David and Kristin Steinberg Scholarship in Computing and Information Studies - Established in 2005 by David and Kristin Steinberg to provide scholarship aid to one Washington & Jefferson College student, as chosen by the Chair of the CIS Department in conjunction with department faculty. This scholarship will be awarded with preference given to a sophomore or junior student who has completed four CIS courses by the end of the semester in which an application for scholarship is made.

The Dennis G. Trelka Endowed Fund in the Life Sciences – Provides an annual student prize for original research in the life sciences.

The Dr. Frederick H. Wilson Memorial Academic Prize in Economics - Established endowment by family and friends in memory of Dr. Frederick H. Wilson, W&J Class of 1943, and Emeritus Trustee of the College until his death in June 2004. Dr. Wilson was a well respected business and community leader who displayed a deep seated love and active interest in the educational value of his alma mater. Preference for this annual award is to be given to an upperclassman who has demonstrated

achievement and promise in economics and business. Award selection will be made in accordance with the College's academic recognition guidelines.

Special Prizes and Awards

The Alumni Prize for Original Research in the Life Sciences - This annual award was established by Bruce H. Wainer '69 to recognize one undergraduate original research project in the field of biology or psychology.

Birch Scholarship Award - Presented annually to an outstanding athlete who has won at least two letters in the same or various sports and has achieved an academic standing of graduation with distinction. Donated in 1938 by James M. Wray, it honors his mother, Harriet J. Birch, whose six brothers all were W&J graduates.

Barbara Ransohoff Burnett Prize in Music - Established in 1991 by former College President Howard J. Burnett in memory of his wife, Barbara Ransohoff Burnett, this prize recognizes an outstanding student in music, whose participation either in performing ensembles or classroom studies demonstrates high achievement, active interest, and strong commitment to the standards of excellence set by the Department of Music. The award is given in honor of Mrs. Burnett, a devoted member of the College and community, who nurtured support of the fine and performing arts at Washington & Jefferson College.

The Robert L. Ceisler '40 Pre-Law English Award - Established by Mr. and Mrs. Ceisler to honor and encourage a pre-law student and a member of the junior class who has excelled in clear, concise writing. In selecting the recipient, preference is to be given to students who are currently or have in the past been involved in the study of Judaism or Jewish heritage.

The Coblentz-Silliman Leadership Prize - This award is derived jointly from an endowment by Mr. and Mrs. George W. Coblentz in memory of their son, and from a similar fund provided by the Board of Christian Education of the Presbyterian Church in the U.S.A. It is presented annually to a student, selected by the College officers, who has been a leader in College activities, a good student, and who has exerted a distinct Christian influence on classmates.

Donald W. Ebbert Award - Given each year in memory of Donald Ward Ebbert of the Class of 1928 to the student completing the junior year whose effort and determination to achieve in academics, athletics, or other school activities have gained the respect, admiration and friendship of students and faculty alike.

Environmental Studies Grant - The grant funds original student projects/experiences of 1-3 months' duration designed to promote environmental conservation/sustainability anywhere in the world. The broadest definition of "environment" is applied to include natural and human-built ecosystems to include natural/social science approaches when dealing with natural and/or human built ecosystems.

Environmental Studies Prize - The Environmental Studies Prize has been made possible through a generous grant from the Margaret A. Cargill Foundation to the Environmental Studies Program. Awardees must have at least a 3.4 cumulative GPA, be in good standing with the College, and must have though a combination of coursework, course-related projects, extracurricular activities, and independent research projects demonstrated excellence in whatever facet of Environmental Studies they are pursuing.

Frederick J. and Frances Jeanne Frank for Leadership in the Communication Arts - Endowed in honor of Dr. Frederick J. Frank, who served W&J for 38 years (1947-1985) as faculty member, director of admission, and dean, the prize is awarded to an upperclass student whose leadership has benefited either W&J, the city of Washington, or the student's home community. The award criteria are leadership, campus involvement, and community service.

Franklin Internship Award - Presented annually as part of the Magellan Project, this award provides W&J-based support for sophomore-level and above students who wish to pursue once-in-a-lifetime internship opportunities.

The James W. Gargano Memorial Award - Presented annually for the best essay by a senior English major, the winner to be determined by members of the English department from among essays submitted by professors of that year's departmental seminars. The award commemorates the devotion to scholarship of James W. Gargano, an outstanding scholar of American literature and former chairman of the English department.

Geary Award - Presented annually as part of the Magellan Project, this award provides W&J-based support for freshmen who wish to pursue unique, self-designed summer projects.

The James W. Hanna Prize in Education - Established in 1996 by Dr. Hanna's sister, Ms. Linda Hanna Weaver, and by students, colleagues, and friends, the prize is awarded annually to an outstanding education student to encourage the successful completion of teacher certification. Preference in selection is given initially to graduates of Washington High School. If no such student is qualified, graduates from other high schools may be considered. Financial need shall be considered only between candidates of equal ability and character. The prize winner is selected by the president of the College, the dean of the faculty, and the chair of the education department.

Vira I. Heinz Program for Women in Global Leadership - Established through an annual grant by Mrs. Clifford S. Heinz of Pittsburgh, this award makes it possible for a woman member of the sophomore or junior class to study abroad during the summer, and to participate in leadership-development activities. Participants are selected by a committee, based on students'

written applications and a short interview. Women who have never before traveled abroad, and who have overall grade point average of 3.0 or above, are eligible to apply.

The Elizabeth A. Holmes '97 Music Prize - Presented annually to enhance the music opportunities and experiences of a junior or senior student who is active in the Wind Ensemble, Choir, or Chamber Singers and has a demonstrated interest in music.

The Dudley R. Johnson Prize in the Theater Arts - Established by friends and colleagues of Dudley R. Johnson, dean of students at W&J from 1951 to 1967, and awarded annually to a graduating senior who, during his or her years at the College, has made the most significant contribution to the theatre arts.

Kelso Award - Presented annually as part of the Magellan Project, this award provides W&J-based support for juniors who wish to pursue unique, self-designed summer projects.

Pete Kimmel Prize - Through a fund established by a donation of Mr. and Mrs. C. R. Kimmel in memory of their son, Robert C. (Pete) Kimmel '66, who was the first W&J graduate to die in Vietnam, an annual Pete Kimmel Award is provided to the outstanding member of the W&J track squad.

The Daniel Latchney Prize in Chemistry and Biochemistry - Presented annually to an outstanding junior or senior chemistry major and awarded by the Committee on Health Professions to a student registered in the Pre-Health Program. The student must exhibit distinguished academic achievement and good character. This prize was created in memory of this member of the Class of 1978 by his wife, Lisa '78, and his daughters, Jessica and Sarah.

Legacy of Leadership – Given by the Vice President and Dean of Student Life. The honoree's name is engraved on a plaque and announced at Commencement to recognize a graduating student who has made remarkable and substantial contributions to campus and community life, demonstrated true service to others, embraced challenges and taken risks to learn and grow, and modeled both school pride and personal humility, and done all of this while achieving academic success.

The Richard R. Martin Prize in Psychology - Given annually to an outstanding student majoring in psychology. This award was established in 2002 by faculty members in psychology who worked closely with Richard R. Martin in appreciation of his leadership as chair of the department.

Adlai E. Michaels Prize - This prize is awarded to an outstanding sophomore chemistry major selected by the chemistry department in honor of Dr. Adlai E. Michaels, professor of chemistry at W&J from 1959 to 1983.

Michael Missentgis Athletic Memorial Award - In memory of their son, Mike Missentgis, a member of the Class of 1973 and of the football team, Mr. and Mrs. James Missentgis of Jersey City, New Jersey, presented to Washington & Jefferson College a monetary gift. Income from this gift will be used for a plaque to be presented to the outstanding freshman football player.

The Patterson, Atchison, Shaub, Dorwart, and Thomas Mathematics Award - Established by former students in memory of these W&J mathematics professors. The award is to encourage students to pursue projects in which they investigate the application of mathematics to a problem in one of the sciences, business, economics, industry, government, or other discipline. Interested students or faculty from any major should contact the chairman of the mathematics department.

Paul L. Reardon Award - Presented annually to the junior athlete who demonstrates academic, athletic, and leadership qualities.

The James Rule 1898, Howard Hughes '11, and Robert Murphy '06 Fund - A fund in honor of James Rule, Howard Hughes, and Robert Murphy was established by an anonymous donor. Income from the fund is to be used to award a prize of at least \$2,000 each year at Thanksgiving time to a student in the sophomore year at the College to be selected by the president of the College.

Walter S. Sanderlin Prize in History - This prize was established by Robert A. Johnson, Esq. '66, to honor Dr. Walter S. Sanderlin who served as a member and chairman of the history department at W&J from 1946 to 1985. The prize is a monetary award given to a senior history major with a cumulative average among the top 10 percent of history majors and among the top 10 percent of the senior class, who has been accepted into graduate school in any discipline of the humanities or social sciences.

The David K. Scarborough Leadership Award - Awarded annually at Honors Day to a junior class member as selected by the president of the College. A tuition prize and plaque recognize the recipient's service to the College community, individual leadership, and academic achievement. David K. Scarborough served Washington & Jefferson College from 1956 to 1992 as basketball coach and then administrator, retiring as vice president and dean of student affairs. This fund is provided by alumni and associates of Dr. Scarborough to honor his leadership by example, devotion to development of the whole student, and dedication to Washington & Jefferson College.

Walker Award - Presented annually as part of the Magellan Project, this award provides W&J-based support for sophomores who wish to pursue unique, self-designed summer projects.

Phi Beta Kappa

Kappa of Pennsylvania (est. 1937) is the local chapter of Phi Beta Kappa, a national society honoring students for academic excellence in the liberal arts and sciences. Although important, a high grade point average does not by itself guarantee

membership: to be eligible for election, candidates must have taken at least three quarters of the courses required for their degree in the liberal arts. New members are elected by resident members at the College by secret ballot. Guided by individual judgment, they evaluate candidates according to the following criteria: intellectual curiosity and growth, good character, a love of learning for its own sake, and distinguished academic achievement in a challenging selection of courses. Phi Beta Kappa is an independent organization with a self-perpetuating membership; it is not an agency of Washington & Jefferson College.

Admission

**Office of Admission
Washington & Jefferson College
60 South Lincoln Street
Washington, PA 15301**

**724-223-6025 (p)
724-223-6534 (f)
admission@washjeff.edu**

Washington & Jefferson College is a member of the National Association of College Admission Counselors and abides by its Statement of Admission Practices and Procedures. The College admits students regardless of race, color, sex, sexual orientation, religion, age, disability, national origin, or any other legally protected status.

Admission Plan

Early Decision

The early decision application is for those students who have determined W&J to be their first choice college. A completed application for admission, along with the Early Decision Request Form, must be submitted to the Office of Admission by December 1 of the senior year. Candidates will be notified of the status of their application by December 15. Each student accepted under this plan will be required to submit an advance deposit of \$200 by January 15. This deposit is nonrefundable and will be credited to the first-term billing. If accepted under the Early Decision Plan, the student agrees to withdraw all applications to other colleges.

Early Action

The early action application deadline permits those students who have submitted a completed application by January 15 to be notified prior to the regular decision deadline. Unlike early decision, early action is nonbinding, and the regular application procedure is followed.

Early Admission

The Early Admission Plan is for those high school juniors who possess high academic credentials and desire to enter college one year early. Evaluation of the candidate's academic and social maturity is based on the following:

- Student must submit parents' written approval.
- Student must submit written approval and a recommendation from his/her high school principal.
- A personal interview will be held with a member of the Office of Admission.
- Records of application, College Board scores, and other data will constitute a complete file, whether full- or part-time student.
- Preference will be given to academically high-ranking students.
- It is the responsibility of the student to secure a high school diploma upon completion of the first year of college.

Regular Decision

The regular decision application is for students who wish to apply to W&J by the application deadline of March 1. Regular decision is a nonbinding application, and regular decision applicants will have an admission decision by April 1. However, if the student would like to submit a nonbinding application prior to the March 1 deadline, the College recommends that he or she consider the Early Action Plan.

Admission Decisions

Please refer to the timetable located within this section for the various notification dates. A decision is made after receipt of the application, official high school transcript, standardized test results, letter of recommendation, activities list, and personal statement. Accepted applicants are asked to confirm their intent to enroll by submitting an advance deposit of \$200 accompanied by the Admission Reply Form no later than May 1. This nonrefundable deposit is credited toward the first-term billing.

Admission Requirements

Each applicant is required to present a minimum of 15 academic units in the following distribution:

- three units of academic English;
 - three units of academic mathematics (Algebra I, Geometry, Algebra II);
 - two units of the same foreign language;
 - one unit of history, social studies, or natural science;
 - and six more academic units from the above areas.
- (Most applicants have more than the minimum academic units)

When considering an applicant for admission, primary emphasis is placed upon the academic record and rigor of curriculum, followed by the highest available standardized test scores (unless applying Score-Optional).

Application Procedures

Application materials are available through the Office of Admission or at www.washjeff.edu/admission or www.commonapp.org. To be considered for admission, applicants are asked to submit the following materials:

- Part 1 and Part 2 of the W&J Application or The Common Application®;
- An official high school transcript;
- Official SAT or ACT scores unless the student is applying **Score-Optional**. The SAT code for W&J is 2967. The ACT code for W&J is 3746.
- A 250-500 word personal statement or high school graded paper;
- A school report to be completed by your guidance/college counselor;
- A \$25 nonrefundable application fee in the form of a check or money order made payable to Washington & Jefferson College. The fee is neither refundable nor credited to the student's account. The College participates in the College Board and the American College Testing fee waiver programs for those students deemed underprivileged by reliable sources. The College also waives the application fee for those who visit the campus or apply online via our website or www.commonapp.org.

Credit for Advanced Placement (AP) Courses

Students who take Advanced Placement (AP) exams should request that their scores be sent to the College in care of the Office of the Registrar. A minimum score of 4 is necessary for any consideration of credit or placement to be given. If approved by the appropriate academic departmental chairperson and vice president for academic affairs, credit and/or advanced placement toward graduation will be awarded.

AP Credit Policies by Subject/Department

Accounting	N/A
Arabic	N/A
Art and Art History	The Art Department does not accept any AP Art History or AP Studio Art credits. If a student has received a 4 or 5 on an AP Studio Art evaluation, he or she may present a portfolio of work to the department chair for consideration to waive certain pre-requisites for course work in the Art Department.
Biochemistry	N/A
Biology	Students scoring a 4 or 5 on the AP Biology test will receive credit for BIO 100.
Business Administration	N/A
Chemistry	Students scoring a 4 or 5 on the AP Chemistry test will receive credit for CHM 100.
Chinese	Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.
Communication Arts	N/A
Computing and Information Studies	Students scoring a 4 or 5 on the Computer Science A or AB test will receive credit for CIS 220 upon successful completion of CIS 221.
Earth and Space Science	N/A
Economics	Students scoring a 5 on ECON-Macroeconomics AP test will receive credit for ECN 102. Students scoring a 4 on ECON-Macroeconomics AP test will receive credit for ECN 102 upon successful completion of ECN-202. The Prerequisite for ECN-202 is waived. Students scoring a 5 on ECON-Microeconomics AP test will receive credit for ECN 101. Students scoring a 4 on ECON-Microeconomics AP test will receive credit for ECN 101 upon successful completion of ECN-201. The Prerequisite for ECN-201 is waived.
Education	N/A

English	Students who earn a score of 4 or 5 on the College Board's test in English language and composition receive credit for ENG 111; students who earn a score of 4 or 5 on the test in English literature receive credit for ENG 190 (but not HUM designation).
Entrepreneurial Studies	N/A
Environmental Studies	Students scoring a 5 on the Environmental Science AP test receive credit for EVS 101. Students earning a 4 receive credit for an elective (EVS 100) from the approved list of "Natural Science" electives. They will still have to take one more elective from Humanities OR Arts and one from Social Sciences.
French	Students scoring a 4 or 5 on the French language AP exam receive credit for 207AP in that language.
Gender and Women's Studies	N/A
German	Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.
History	Students scoring a 5 on the American History AP test will receive credit for one of the following: HIS 201, HIS 204, HIS 206. (Students can choose which course they want credit for.) Students scoring a 4 on the American History AP test will receive credit for one of the courses listed above upon successful completion of a 200-level history course at W&J with a grade of "B" or better. Students scoring a 5 on the European History AP test receive credit for HIS-102 and are advised to take a 200-level course as their first history course at W&J. Students scoring a 4 on the European History AP test receive credit for HIS-102 upon successful completion of a 200-level history course at W&J with a grade of "B" or better.
International Studies	N/A
Japanese	Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.
Mathematics	Students with AP Calculus score of 4 or 5 may transfer credit in for MTH 151. Students with a score of 4 may elect not to transfer AP credit and in favor of repeating Calculus I by enrolling in MTH 151. However, such students may not transfer AP Calculus in for ELE 100 and then repeat MTH 151. Students with AP Calculus credit will not receive NSM breadth of study credit but will receive Q credit. Students with AP Calculus score below 4 will not get credit for ELE 100 nor MTH 111. Students with AP Calculus score 5 on the BC test may get credit for MTH 152 with Q credit but not NSM. Students who receive AP credit for MTH 151 may not take MTH 131. Students may elect not to transfer BC credit for Calculus II and repeat the material by enrolling in MTH 152. If AP credit is given for BC then student may proceed to MTH 208. Students with an AP Statistics score of 4 or 5 will receive credit for MTH 225.
Mind, Brain, and Behavior	N/A
Music	Students scoring 4 or 5 on the Music Theory AP exam receive credit for MUS-204. A Music Aural or Non-Aural Subscore as low as 3 is acceptable for MUS-204 as long as the overall Music Theory exam score is a 4 or 5.
Neuroscience	N/A
Philosophy	N/A
Physics	Students scoring a 5 on PHYSICS 1 AP test receive credit for PHY 101. Students scoring a 5 on PHYSICS C-MECH AP test receive credit for PHY 107. The Physics department recommends that students who are exempted from either PHY 101 or PHY 107 take another course in physics or another of the sciences during their first semester at W&J. Pre-health and pre-engineering students are advised not to take advanced placement credit in physics.
Political Science	Students scoring a 4 or 5 on the Comparative Government and Politics AP test receive credit for a POL elective course (POL 100AP). Students scoring a 5 on the U.S. Government and Politics AP test receive credit for POL 111. Students scoring a 4 on the U.S. Government and Politics AP test receive credit for a POL elective course (POL 100AP).
Psychology	Students scoring a 5 on the Psychology Advanced Placement Test will receive credit for PSY 102 and will begin their study of psychology at W&J with PSY 101.
Religious Studies	N/A
Russian	N/A
Sociology	N/A
Spanish	Students scoring a 4 or 5 on a language AP exam receive credit for 207AP in that language.
Theatre	N/A

Credit for College Courses Taken in High School

Students who have taken courses during high school for college credit should request that an official transcript be sent to the College in care of the Office of the Registrar. The registrar will determine the applicability of these courses to W&J course requirements, with the approval of the vice president of academic affairs.

Deferred Admission

Those students who desire to defer their admission to pursue nonacademic experiences such as employment, community service, or travel may secure deferred admission to W&J. The regular application procedure is followed. Upon notification of acceptance, the student should submit the advance deposit of \$200 along with the Admission Reply Form, indicating a preference for deferred admission. W&J will then reserve a place for the student to enter the following year.

International Baccalaureate

Washington & Jefferson College values the International Baccalaureate (IB) Diploma and Certificate and their engaging and challenging curriculum that encourages critical thinking, intercultural understanding and respect. W&J recognizes IB achievement by awarding course credit toward graduation.

Course credit will be granted for each higher level (HL) IB course with an exam score of 5 or higher. A department chair, program director or academic dean will determine whether a course counts as an elective or toward a specific requirement (minor, major or general education).

Students who have completed the entire IB Diploma Program can earn credit for up to 8 courses toward graduation at W&J.

The official International Baccalaureate transcript is required to award credit.

International Students

Washington & Jefferson College welcomes applications from international students. To apply, a student must send the following application materials to the Office of Admission: a completed application form, an official transcript in English of your marks/grades for all of your years of high school, a personal statement/essay, letters of recommendation, and SAT I scores, ACT scores, or an interview if applying [Score-Optional](#), certification of finances and supporting documentation, and a \$25 nonrefundable application fee in U.S. currency. The application fee is waived for students who apply online or visit campus. For students whose native language is not English, the College reserves the right to require results from the Test of English as a Foreign Language (TOEFL) or IELTS.

Other components of a student's application, including diplomas, National Exam results, the General Certificate of Education (G.C.E.), ordinary and advanced-level coursework, IB diploma results, and personal recommendations will also be considered. It is not necessary to send copies of certificates related to extracurricular achievements.

International students are eligible to receive institutional merit-based scholarships, but must be prepared to meet all college expenses through personal sources. The Immigration and Naturalization Office of the United States Department of Justice requires international students to submit documentary evidence of financial support for the entire period of stay in the United States. Therefore, the appropriate immigration form (I-20) will be forwarded to students who have been accepted and have submitted a \$200 advanced deposit and evidence of financial support. The \$200 nonrefundable deposit will be credited to the first term billing.

Interviews and Campus Visits

The Office of Admission strongly recommends that prospective students and their parents visit W&J and take the time to get to know the students, faculty, and administrators, as well as the campus facilities. A personal interview with a member of the Admission staff, while not required, is often desirable for the prospective student.

A prospective student who wishes to visit the College should make an appointment with the Office of Admission at least one week in advance. The Office of Admission, located in the Admission House, is open Monday through Friday, 9 a.m. to 5 p.m., and select Saturdays from 9 a.m. to noon (September through May). The Office of Admission also offers visit opportunities Monday through Friday during the summer months. To schedule an interview or campus tour, contact the Office of Admission at 724-223-6025 or 888-926-3529, or visit www.washjeff.edu/schedule-a-visit.

Prospective students wishing to have a more in-depth look at W&J can make arrangements for an overnight visit, class visit, a meeting with a specific academic department or professor, or an athletic coach. Please contact the Office of Admission at least one week in advance to allow for arrangements to be made with specific individuals of the College.

Merit Scholarships

Each year, Washington & Jefferson College rewards distinguished academic performance by offering merit scholarships to

selected members of the entering freshman class. Scholarships vary based on the candidate's level of achievement and are renewed annually subject to academic performance.

Readmission

Any student wishing to gain readmission to the College must file an application for readmission. A student dismissed for academic reasons first contacts the Office of Academic Affairs to request the appropriate form; one dismissed for social reasons begins with the Office of Student Life; and one who has withdrawn voluntarily applies directly to the Office of Admission. If the student has completed any college work elsewhere since withdrawing, an official transcript of all work must be submitted. Returning students with unpaid financial obligations to W&J must meet those obligations before matriculating.

Score Optional Policy

Washington & Jefferson College no longer requires applicants to submit test scores (SAT or ACT) as a part of the admission process. Academic success at Washington & Jefferson College is driven by engagement with distinguished faculty, involvement in the classroom, diligent study habits and a strong desire to excel. Testing is only one of many measures of potential academic success and often not the strongest. Applicants choosing the score-optional policy may be required to have an admission interview with a member of the Admission staff. If an on-campus interview is not possible because of distance from campus, the interview can be conducted by phone or Skype. Students who choose to apply under the score-optional application alternative will be given full consideration, with no disadvantage for admission.

Timetable

Early Decision Application	
Deadline (binding)	December 1
Early Decision Notification	December 15
Early Action Application	
Deadline (nonbinding)	January 15
Early Action Notification	February 15
Regular Decision Application	
Deadline (nonbinding)	March 1
Regular Decision Notification	April 1
Candidates' Reply Date	May 1

Transfer Students

Students who wish to transfer to Washington & Jefferson College from an accredited college or university may apply for admission. Transfer students must submit a completed transfer application, a \$25 nonrefundable application fee, a completed Transfer Clearance Form, and official transcripts from all previous colleges attended.

Additionally, transfer students are required to submit an official high school transcript with standardized test results from the SAT I: Reasoning Test (administered prior to March 2005), the SAT Reasoning Test (administered from March 2005 forward), or the American College Test (ACT) unless they are applying [Score Optional](#). The College also agrees to waive the application fee for those who visit the campus or apply online. Students whose work at another college has been unsatisfactory will not be permitted to transfer to W&J. If accepted, transfer students are required to make an advance deposit of \$200 (nonrefundable), which will be credited toward the first-term billing. A complete health form must be submitted before matriculation.

Final decision concerning transfer is made through the Office of Admission, and transfer credit is equated through the registrar. Any course accepted from another college will be recorded as credit by the registrar. Only grades attained at W&J will be used to compute a student's grade point average.

A transfer student is awarded a degree from W&J after successful completion of all W&J degree requirements, although the First Year Seminar is waived for such students. Transfer students must complete a minimum of 16 courses at W&J and must fulfill the requirements for general education and an academic major as described in the section entitled "Curriculum" within this catalog. Transfer students will be assigned to faculty advisors for consultations regarding their majors upon matriculating to W&J.

See the College website for additional information about [transfer policies](#), and [obtaining course credit from other colleges](#).

Financial Aid

The financial aid program at Washington & Jefferson College is designed to encourage outstanding achievement and to make the College affordable. Financial need is the prerequisite for awarding most of the College's financial aid. Financial need is the cost of education less those resources available from the family. Each family is expected to contribute their share through contributions from income and assets from both the parent(s) and the student.

In addition to need, other criteria for awarding aid are scholastic standing, good character, and extracurricular achievement. Students receiving financial assistance are expected to abide by the regulations governing College life. Each student is also expected to demonstrate academic promise and maintain satisfactory academic progress. Financial aid awards from the College may be reviewed, and adjustments made, if students do not meet these expectations. In awarding aid, the College tries to estimate the total contribution a student will make to the community of scholars.

Application Procedures - Financial Aid

All students wanting to be considered for financial aid must file the Free Application for Federal Student Aid at www.fafsa.gov. All financial aid awards are for a one-year period. Changes in a student's situation with respect to any of the criteria used for awarding financial aid may result in an increase, decrease, or withdrawal of aid. Any family experiencing a change in financial circumstances (unemployment, disability, etc.) should contact the Office of Financial Aid for assistance. Students and parents can be assured that all financial aid statements will be held in strict confidence.

Financial Aid - Freshmen

Students planning to attend W&J College and wishing to apply for financial aid from W&J are required to submit the Free Application for Federal Student Aid (FAFSA). The FAFSA should be filed as soon as possible after January 1 in the senior year of high school. It is recommended that the form be filed by February 15 to insure that the results are received by the College before March 15. This application is available from the secondary school counselor in the guidance office or online at www.fafsa.gov. Financial aid awards for the fall and spring term will be made when the FAFSA has been received by the College and the student has been accepted for admission. For students selected for verification, these awards are estimated until the required tax documentation has been received and reviewed.

Financial Aid - Transfer Students

Prospective transfer students who wish to apply for financial assistance should complete the FAFSA as soon as possible. Financial aid awards will be made when the FAFSA has been received by the College and the student has been accepted for admission. For students selected for verification, these awards are estimated until the required tax documentation has been received and reviewed. Please note that transfer students are awarded financial aid at the freshman class level status until official notification is given as to the actual class level of the transfer student based upon the official transcript and courses accepted to W&J College.

Financial Aid - Upper-class Students

Upper-class students wishing to renew their financial aid, or those wishing to apply for the first time, should submit the FAFSA by the College's priority deadline of March 15. Pennsylvania residents wishing to be considered for the Pennsylvania state grant must submit the FAFSA by May 1 at the latest. Students selected for verification must submit the tax documentation requested by the College before a financial aid award is processed for the academic year. Notification of financial aid awards is usually made in early summer.

Studying Abroad

Any student who is considering studying abroad for a semester or academic year must first meet with a representative from the Office of Financial Aid who will work with them to determine what financial aid is available for the specific program of study. In most cases, federal and state aid can be used to cover costs of an approved study abroad program. Use of W&J funding (grants and scholarships) to assist with the cost of a trip is contingent on program approval from the Director of Global Education and the term of study. Please note that tuition remission and tuition exchange cannot be used to cover expenses while studying abroad.

Students wishing to study abroad during intersession should be aware that trip costs cannot be covered by W&J funds (grants or scholarships). Students may use any remaining federal loan eligibility or apply for a private educational loan. Students need to complete a Cost of Attendance Adjustment Form in order for the Office of Financial Aid to determine eligibility.

Summer

Students interested in applying for financial aid for the summer term should complete a Summer Student Aid Request Form in addition to filing the FAFSA. Not all aid programs are available during the summer months.

Satisfactory Academic Progress

Students are expected to maintain a certain level of academic progress that will enable them to successfully complete the requirements for graduation over a four year period. To ensure that students are making adequate progress, the Committee on Academic Status meets after each term and notifies students who are not meeting academic standards. Students may be

warned, placed on probation, continued on probation, or dismissed from the College. For more specific information regarding this academic review, refer to the Academic Regulations section of the College Catalog.

In addition to the review of academic standing completed by the Committee on Academic Status, the Office of Financial Aid is required to monitor academic progress in regard to financial aid eligibility. The Federal Higher Education Amendments mandate that institutions of higher education establish and enforce standards of Satisfactory Academic Progress. This helps to ensure that students are moving toward successfully completing the program of study for which they are receiving financial aid in a timely manner. Washington & Jefferson College applies these standards to all institutionally awarded funds (including tuition remission and tuition exchange) and all Federal Title IV programs (including all grants and loans). Students receiving grant funds from the state are subject to the standards set by the state agency governing the funds. Some lenders require satisfactory academic progress for private loans as well.

The following requirements are established to define satisfactory academic progress as it relates to the renewal of financial assistance. Failure to meet minimum requirements will result in the loss of financial aid eligibility for the upcoming academic year.

Policy Requirements

Financial aid academic progress evaluations will occur annually after the end of the academic year (normally after the spring term). Freshman students who begin in January will be evaluated after the end of each fall semester.

Two criteria are involved in evaluating academic progress in regard to financial aid eligibility: Quantitative standards and Qualitative standards. Quantitative standards are the pace at which the student is progressing through their academic program and the qualitative standards are the GPA requirements needed at each evaluation.

Quantitative Standards

Students must maintain a pace of progression by completing a minimum of 75% of all attempted credits in order to complete a degree within the maximum time frame allowed for receipt of financial aid.

To meet the minimum course completion requirement, a student must receive a passing letter grade and earn credit in the course. PED credits do not count toward course completion since they are handled separately from the other courses required for graduation.

Full time students may receive federal financial aid for no more than a 6 year period (12 semesters). Periods of enrollment without financial aid assistance are included in this calculation. Periods of non-enrollment (for students whose education is interrupted) will not be counted.

Even though students show minimal academic progress to maintain financial aid eligibility, specific aid program requirements may limit the amount and/or number of awards they may receive prior to earning their degree. For example, W&J will award a maximum of 8 semesters of College funded aid to full-time students, although some federal programs may allow additional semesters of eligibility.

Grade Point Average

Students must achieve the following minimum cumulative GPA by the end of each academic year to maintain satisfactory academic progress:

First Year: 1.17

Second Year: 1.74

Third Year: 1.94
Fourth Year: 2.00
Fifth Year: 2.00
Sixth Year: 2.00

Years reflected above are measured in time and not grade level.

Other Considerations

Transfer Students

For transfer students, courses accepted for credit at W&J from the institution previously attended will be used to evaluate quantitative standards. Only grades earned at W&J will be used to calculate the cumulative GPA. The academic progress review for transfer students who enter at the beginning of the academic year or mid-year will occur at the end of the spring semester.

Readmission

Students who are re-admitted to W&J after a period of non-enrollment will be evaluated using the regular standards regarding pace of progression and cumulative GPA, taking into consideration all coursework from past and present. In regard to the 6 year maximum time frame, periods of non-enrollment are not considered.

Part-time Enrollment

For part-time students, the normal time frame for completion of a course of study will vary. Progress evaluation for part-time students will be determined by the pace of progression. The same cumulative GPA requirements apply as described under Policy Requirements.

Repeated Courses

For those students who repeat a course, both attempts will count toward pace of progression. Only the most recent grade will be used to determine the cumulative GPA.

Course Audits

Audited courses do not count toward pace of progression and also are not used in the determination of the cumulative GPA.

Incomplete Grades

Courses at an incomplete status will not be counted as completed until a passing letter grade is received. They also will not be included in the cumulative GPA calculation until a letter grade is assigned. According to the College Registrar, incomplete grades must be completed in the first four weeks of the succeeding session in which the student is enrolled, or the grade of "I" is converted into an "F." The student is responsible for informing the Office of Financial Aid of a grade change and asking for an immediate re-evaluation of progress through an appeal.

Withdrawn Courses

Courses at a withdrawn status are counted as attempted credits in the pace calculation but not as completed credits and are factored in to the maximum time frame of 6 years. (For example, one semester of courses at a "W" status counts as a semester toward the 12 semester maximum.) These courses do not affect calculation of the cumulative GPA.

Transfer Credit

Courses accepted for credit taken at another institution will be counted toward the pace of progression, but will not be used in the calculation of the cumulative GPA.

Satisfactory/Unsatisfactory

For courses taken Satisfactory/Unsatisfactory, the course will count as attempted credits but only a Satisfactory grade will count toward completed credits. Neither an "S" grade nor a "U" grade affects the cumulative GPA.

Appeal Process

The Office of Financial Aid will notify students who are not maintaining satisfactory academic progress that they have lost financial aid eligibility for the upcoming academic year. Students may appeal for reinstatement of aid by taking the following steps:

- 1) Submit a Satisfactory Academic Progress Appeal Form.
- 2) Include with this appeal form a typed explanation citing specific circumstances that prevented maintenance of satisfactory academic progress (trouble with coursework, illness, death in the family, etc.) and should include the specific steps taken to ensure progress in the future.
- 3) Enclose any supporting documentation to substantiate your appeal (for example, submit a medical statement if illness is the basis of the appeal). All information will be strictly confidential.
- 4) Submit an Academic Improvement Plan formulated with the Assistant Dean for Academic Advising (Office of Academic Affairs) to ensure satisfactory progress in the future.

Appeals must be received within 30 days of notification of loss of financial aid eligibility. The Financial Aid Appeal Committee will evaluate appeals and may request additional documentation when deemed necessary. Students will be notified of the Committee's decision in the mail. If the appeal is approved, the student is placed on Financial Aid Probation for one semester and financial aid eligibility is reinstated for this time period. Academic progress will be evaluated at the end of the probationary period (one semester) based on the standards specified in the Academic Improvement Plan. If satisfactory progress was made, the student is removed from Financial Aid Probation. If progress was not made, the student must again submit an appeal following the steps detailed above. Only students experiencing extreme circumstances will be given the opportunity to appeal for reinstatement of financial aid a third time.

In regard to the Academic Improvement Plan, please note the following:

- Summer school coursework not taken at W&J cannot be calculated in the student's GPA but can count toward pace of progression.
- Incomplete grades must be changed to a passing grade in the time frame designated by the Registrar in order to count toward pace of progression.
- Transfer credits will not be considered toward pace of progression until they are officially reflected on the W&J transcript.

Updated 7/14/14

Sources of Aid

Financial assistance is available in several forms: grants or scholarships, loans, and campus employment. Grants are based on financial need while college scholarships are based on merit. Each is a gift and does not have to be repaid. Financial assistance may be in the form of grants only, but usually is a combination of grant, loan, and/or campus employment. Aid recipients are expected to invest in their education through the use of educational loans and student employment.

Federal, state, private, and institutional funds are the basic sources of financial assistance. The federal government provides assistance through the following programs: *Pell Grants, Supplemental Educational Opportunity Grants (SEOG), Perkins Loans,

Federal Work-Study (FWS), and the William D. Ford Federal Direct Loan Program, which includes the Federal Stafford Loan and the Parent Loan for Undergraduate Students (PLUS). For all federal programs, the Title IV academic year is defined as 24 credits over a minimum of 30 weeks.

Financial assistance through federal programs is administered in accordance with government regulations and availability of funds. Changes in federal regulations or funding levels may result in a change to a student's financial aid package.

Many states provide financial assistance through state grant programs. Pennsylvania residents may receive assistance through the Pennsylvania Higher Education Assistance Agency (PHEAA). Other state grants are made based upon the policies and guidelines of those granting agencies.

Please note that once curricular requirements for graduation are met, eligibility for federal and state assistance is affected. Students choosing to continue taking classes should check with the Office of Financial Aid regarding any change in eligibility.

Students should investigate private grants or scholarships that they may be eligible to receive. Local civic groups, churches, schools, or parents' employers may have grants or scholarships available. The Office of Financial Aid must be notified of all outside scholarships received. College policy toward outside aid (except military benefits) is to use those funds to reduce or eliminate remaining financial need. If the total outside aid creates an over-award, adjustments are made first to self-help aid (loans and work study). Adjustments to College grants occur only if no other option can resolve the over-award. There is a separate policy in the Veterans section of the catalog that explains how the receipt of military benefits affect W&J funding.

Washington & Jefferson College provides assistance to eligible students in the form of grants, scholarships, loans, and campus employment. College funds are used to supplement the sources of financial aid to meet the needs of deserving full-time students, up to a maximum of eight semesters.

Endowed Student Loan Funds

College loan funds may be granted to students who, due to extenuating financial circumstances, may be deemed eligible. This assistance will be granted based upon a review of the circumstances by both the bursar and the director of financial aid. Repayment terms commence one year after the date the student is no longer registered as a full-time student. Proof of enrollment is required.

Repayment in monthly installments of principal and interest over a maximum period of ten years is required for College loans with no penalty for earlier repayment.

Government Aid Programs

Several federal financial aid programs are available to students. They are Pell Grants, Supplemental Educational Opportunity Grants (SEOG), Federal Work-Study (FWS), Perkins Loans, and loans from the William D. Ford Federal Direct Loan Program.

Three programs, the SEOG, Perkins Loans, and FWS, are administered by the College and designed to assist students with the greatest financial need. It is required that every student applying for financial assistance file the Free Application for Federal Student Aid (FAFSA) at www.fafsa.gov. All federal loans require submission of a master promissory note (MPN).

Additional information on the federal financial aid programs is available from secondary school guidance counselors, by contacting the Office of Financial Aid, or visiting www.studentaid.ed.gov.

Scholarships

Howard J. Burnett Presidential Scholarship and W&J Scholars Award

Each year, Washington & Jefferson College rewards distinguished academic performance by offering merit scholarships to selected full-time members of the entering freshman class. For both the Howard J. Burnett Presidential Scholarship and the W&J Scholars Award, selection is competitive. Awards are made to academically excellent students as determined by SAT (or ACT) scores, high school class rank, and other criteria, and are based upon the recommendation of the vice president of enrollment and the director of admission.

Admission applicants are considered and notified after the review of their application for admission has been made. No separate application is required, although each scholarship applicant is encouraged to have an on-campus interview. Scholarships are renewed annually (maximum of eight semesters of funding) subject to achievement of the required minimum cumulative grade point average (3.10 for Presidential and 2.80 for Scholars). Students must also maintain full-time enrollment status, remain in a degree-seeking program, and abide by the regulations governing College life.

For more information, contact the Office of Admission.

Alumni Scholarship

Washington & Jefferson College will award Alumni Scholarships to students whose father and/or mother is a graduate of the College. No formal application is required for this scholarship. Students must be enrolled in a full-time, degree-seeking program of study. This award may be renewed for up to a maximum of eight semesters provided the student maintains a 2.50 cumulative grade point average and abides by the regulations governing College life. A merit scholarship awarded supersedes any previous alumni scholarship offer.

Dean's Award

This scholarship is awarded to selected incoming members of the freshman class based upon academic performance in high school, distinguished achievement outside the classroom, and good citizenship. No formal application for the scholarship is necessary. Scholarship amounts may vary. Recipients must be enrolled as full-time students in a degree-seeking program of study. This award may be renewed for up to a maximum of eight semesters provided the student maintains a 2.50 cumulative grade point average and abides by the regulations governing College life.

Joseph Hardy Sr. Scholarship Program

The Joseph Hardy Sr. Scholarship Program provides financial assistance to full-time students in the Entrepreneurial Studies Program. Each applicant will be judged upon academic record. This scholarship may be renewed annually subject to a review of academic performance and continued study in the Entrepreneurial Studies Program.

Scholarship Renewals

The Office of Financial Aid will annually review merit scholarship renewal eligibility after the spring term for any students awarded a Presidential, Scholars, Dean's, or Alumni Scholarship or W&J Challenge Grant. Students who meet the minimum grade point average requirement specified will have their scholarships automatically renewed for the upcoming academic year. For students who do not meet the requirements, the Office will use the cumulative grade point average earned to determine eligibility for another scholarship program. When the next annual review is done, the student has the opportunity to have their initial scholarship reinstated at its original level if the higher grade point average requirement is attained. Any student who drops below the lowest grade point average requirement for scholarship and has filed a FAFSA will be considered for W&J Grant assistance if the student displays financial need.

Any student who takes the initiative to complete summer coursework at W&J that results in attainment of the required minimum grade point average may submit an appeal letter to the director of financial aid asking for reinstatement of the scholarship for the upcoming academic year. Appeals will not be accepted after the end of the fall term.

Merit scholarships are awarded for a maximum of eight semesters. Students graduating early forfeit any remaining semesters of eligibility.

W&J Challenge Grant

Members of the incoming freshman class who show academic promise may be awarded the W&J Challenge Grant. No formal application for this scholarship is necessary. Awards are renewed annually (maximum of eight semesters of funding) subject to achievement of the required minimum cumulative grade point average of 2.50, adherence to all regulations governing College life, and maintenance of full-time status in a degree seeking program. If at least a 2.80 grade point average is achieved at the end of the first year, the amount of the Challenge Grant will increase and remain this amount in future years as long as the minimum 2.80 grade point average is maintained. In some cases, this increase in Challenge Grant may replace other institutional grant funds. Falling below this 2.80 grade point average requirement upon the next review will result in the award being reverted back to the original amount at the lower grade point average requirement.

Student Employment

Part-time employment is available for students on campus. This employment is supported by the Federal Work Study program and the College work program. Preference for campus jobs is given to students who demonstrate financial need and are awarded federal work study. The Office of Financial Aid works with both students and offices to fill positions. Open campus positions are advertised on the College Central Network website. Advertisements for positions in the local community received by the Office of Financial Aid will be posted in the Financial Aid Office and with the Office of Career Services.

Veterans

Washington & Jefferson College is an approved institution for the training of students eligible for military benefits, whether it be benefits earned by the student or those transferred to the student from an eligible parent. Application for the education benefits available under these laws should be made to the applicable military office well in advance of the date the student plans to enter college. After receiving authorization for training, students should forward benefit documentation immediately to the College to

facilitate registration. All eligible students should also complete W&J's Military Benefits Information Form to ensure understanding of the benefits that will be received by W&J on their behalf.

W&J participates in the Department of Veterans Affairs' Yellow Ribbon GI Education Enhancement Program to assist eligible students with obtaining a degree.

Washington & Jefferson College has a policy regarding how the receipt of military benefits will affect W&J funds (grants, scholarships, tuition waivers) though these benefits typically do not affect eligibility for federal and state programs:

In accordance with The Higher Education Act of 1965, as amended, and the legislation covering the Post-9/11 educational benefits, the following is Washington & Jefferson College's policy regarding how funds from internal W&J scholarships, grants, and tuition waivers will be affected by receipt of military benefits.

Military benefits may consist of various programs under the Veterans Administration, Department of Defense, the state or ROTC for all branches of the military including reserves.

Students eligible for any type of military benefit must complete a Military Benefits Information Form annually and return it to the Office of Financial Aid. A certificate of eligibility or equivalent must also be on file with W&J's VA Certifying Official (Registrar).

Entitlement to military benefits may be considered when determining eligibility for W&J merit scholarships, grants and tuition waivers.

Additional information regarding this policy may be obtained from the Office of Financial Aid, the Business Office, or W&J's VA Certifying Official. Any loss of military benefits or change to enrollment should be communicated immediately to the Registrar.

W&J scholarships and grants are as follows:

- W&J merit scholarships (Presidential, Scholars, Deans, Challenge)
- W&J Alumni Scholarship
- W&J college grants (including GIFT)
- W&J endowed scholarships

1) The above scholarships and grants will be applied toward outstanding charges after the military payment and 3rd party scholarships and grants have been applied not to exceed the comprehensive fee. Thus, the order of payment on the student financial account is as follows:

First payer: Military

Second payer: 3rd party scholarships and grants (order of use: federal, state, private)

Third payer: W&J scholarships and grants listed above.

Last payer: federal and private loans

2) The comprehensive fee is defined as full time tuition (9 courses a year), standard fees (activity and service), 14 meal plan and standard double room for resident students. For commuters, this includes tuition (9 courses a year) and standard fees (activity and service).

3) For students who are eligible for the Yellow Ribbon (YR) Program of the Post 9/11 GI Bill, the above scholarships and grants (with the exception of endowed scholarships) will be used as the W&J YR contribution. The remaining tuition and fees due after the \$17,500 GI Bill payment can be covered by the W&J YR contribution (maximum of \$10,000) and the VA match of the YR contribution. In these cases, W&J's YR payment is counted in the first payer category above. Part-time students eligible for YR can receive W&J's YR contribution only if there are tuition and fee charges not covered by the GI Bill.

Tuition waivers are as follows:

- W&J tuition remission
- Tuition exchange through The Tuition Exchange, Inc.

For students eligible for Post 9/11 GI Bill benefits, tuition remission and exchange awards will be the first payer as required by the Department of Veterans Affairs since these awards are limited to tuition only.

For all other military benefit programs, tuition remission and exchange awards can be used after the military payment has been credited not to exceed the cost of tuition.

W&J College Grant

In addition to the scholarship programs listed above, the College awards funds in the form of grants to assist students with their educational expenses. Students enrolled full time must demonstrate financial need as determined by the FAFSA in order to be offered a W&J Grant. Financial need must be shown in subsequent years for this grant to be renewed. College grants are awarded for a maximum of eight semesters.

Title IV - Funds Policy

The Financial Aid Office is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60 percent of a payment period or term. The federal Title IV financial aid programs must be recalculated in these situations.

If a student leaves the institution prior to completing 60 percent of a payment period or term, the financial aid office recalculates eligibility for Title IV funds. Recalculation is based on the percentage of earned aid using the following Federal Return of Title IV funds formula:

Percentage of payment period or term completed = the number of days completed up to the withdrawal date divided by the total days in the payment period or term. (Any break of five days or more is not counted as part of the days in the term.) This percentage is also the percentage of earned aid.

Funds are returned to the appropriate federal program based on the percentage of unearned aid using the following formula:

Aid to be returned = 100 percent of the aid that could be disbursed minus the percentage of earned aid, multiplied by the total amount of aid that could have been disbursed during the payment period or term.

If a student earned less aid than was disbursed, the institution would be required to return a portion of the funds and the student would be required to return a portion of the funds. Keep in mind that when Title IV funds are returned, the student borrower may owe a debit balance to the institution.

If a student earned more aid than was disbursed to him/her, the institution would owe the student a post-withdrawal disbursement which must be paid within 120 days of the student's withdrawal.

The institution must return the amount of Title IV funds for which it is responsible no later than 45 days after the date of the determination of the date of the student's withdrawal.

Refunds are allocated in the following order:

1. Unsubsidized Federal Stafford Loans
2. Subsidized Federal Stafford Loans
3. Federal Perkins Loans
4. Federal Parent (PLUS) Loans
5. Federal Pell Grants for which a return of funds is required
6. Federal Supplemental Opportunity Grants for which a return of funds is required
7. Other assistance under this title for which a return of funds is required (e.g., LEAP)

Verification Policy

Any student who files a FAFSA may be chosen for a verification review. This process is required by federal regulation and the College is mandated by this regulation to adhere to the procedures explained below.

The verification process entails the review of tax documents and household information to ensure the accuracy of the FAFSA application. The selection of an application for verification does not necessarily mean that the College believes that a student's information is incorrect. Some applications are selected for review on a random sample basis. Some are selected upon a set of common edits developed by the U.S. Department of Education which check data for consistency and logic. Others are checked against prior year applications that students have submitted.

For incoming freshmen and transfer students, financial aid awards are processed, though the financial aid remains estimated until the verification process is complete. No federal or college financial aid will credit to students' accounts until this process is complete. This can result in late fees and loss of permission to register for upcoming semesters for students whose accounts are not paid by the deadlines specified by the Business Office.

For returning students selected for verification, financial aid award letters will not be processed until the review process is complete. Lack of payment to the Business Office by their required deadlines can result in late fees and loss of permission to register for upcoming semesters.

Notification of Selection

Students selected for verification review will be notified via mail at their home address beginning in April for the upcoming academic year. A student may be selected during the academic year as well. Letters sent will indicate the documents required and students are given three weeks to submit the information. Three reminder letters will be sent via mail four weeks apart. After the fourth and final notification letter, the Office of Financial Aid will not communicate with students again about this process.

Documentation Needed to Complete Verification

1. Copies of federal tax return transcripts for the student applicant and his/her parent(s). Copies of all W2s are required as well.

Independent students need not submit parental information; however spousal information is required.

Please note that the tax information required is for the tax year preceding the academic year.

2. Full completion of either a Dependent or Independent Supplement Form, which can be found in the Forms section of the Office of Financial Aid's Web site. A worksheet will also be sent via mail with the notification letter. Be sure to follow all instructions on the form and make sure all signatures are present.
3. Additional documentation may be requested at the discretion of the Financial Aid Director. For example, families who own a business will have to complete a Parent Business Value Verification Form and families who receive Social Security Income will need to submit a 1099.

Noncompliance

If the required documentation is not submitted, the following may occur:

1. No financial aid for the semester or academic year.
2. Future applications for financial aid may not be processed.
3. The financial aid application material may be forwarded to the U.S. Department of Education for their review.

Time Period

Following is the length of time you have to provide the requested documentation to the Office of Financial Aid:

- Federal Pell Grant - A valid Student Aid Report (SAR) must be submitted by students' last date of enrollment for the academic year. Students selected for verification have 120 days beyond the last day of their enrollment to complete the verification process.
- Federal Stafford Loan - Verification must be complete before the Office of Financial Aid will certify a Stafford loan and the certification must be processed prior to students' last date of enrollment.
- Federal Work Study - Students who are eligible to work on campus through the work study program will not be allowed to work until the verification process is complete and eligibility for this program is confirmed.
- Perkins Loan, SEOG and W&J College Grants - Verification documentation must be received and processed by the Office of Financial Aid resulting in a financial aid award no later than the last date of enrollment for the academic year.

Correction Information

When possible, the Financial Aid Office will make electronic corrections to students' FAFSA applications. These corrections will generate an updated Student Aid Report sent via paper or electronic means. The estimated family contribution may change based on the corrections made.

Completion of the Verification Process

When the verification process is complete, students will immediately receive:

1. A letter confirming that the verification review is finished.
2. An award letter indicating any change to the financial aid package for freshmen and transfer students. For upperclassmen, an initial financial aid award letter will be processed and mailed.

Referrals

If it is determined that a student has received funds which they were not eligible to receive, the student must repay the amount. If a repayment is not made, the overpayment must be referred to the U.S. Department of Education. No further applications for financial aid will be processed by the U.S. Department of Education or W&J's Office of Financial Aid.

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*Deceased October 30, 2014

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 ++Deceased April 20, 2013
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