



# UNDERGRADUATE ANNOUNCEMENTS

2015-2016



2014-2015 Record  
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## NOTIFICATION OF RIGHTS UNDER THE FAMILY EDUCATIONAL RIGHTS AND PRIVACY ACT (FERPA)

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. These rights include:

1. The right to inspect and review the student's education records within 45 days of the day the University receives a request for access.

A student should submit to the registrar, dean, head of the academic department, or other appropriate official, a written request that identifies the record(s) the student wishes to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

(2) The right to request the amendment of the student's education records that the student believes are inaccurate, misleading, or otherwise in violation of the student's privacy rights under FERPA.

A student who wishes to ask the University to amend a record should write the University official responsible for the record, clearly identify the part of the record the student wants changed, and specify why it should be changed.

If the University decides not to amend the record as requested, the University will notify the student in writing of the decision and the student's right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

*Note:* The challenge of a student under this paragraph is limited to information which relates directly to the student and which the student asserts is inaccurate or misleading. With regard to a student's grade, this right does not permit the student to contest a grade on the grounds that a higher grade is deserved, but only to show that the grade has been inaccurately recorded.

(3) The right to provide written consent before the University discloses personally identifiable information from the student's education records, except to the extent that FERPA authorizes disclosure without consent.

The University discloses education records without a student's prior written consent under the FERPA exception for disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); contractors, consultants, volunteers and other outside parties to whom the institution has outsourced institutional services or functions instead of using University employees or officials (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks.

A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibilities for the University.

Upon request, the University also discloses education records without consent to officials of another school in which a student seeks or intends to enroll.

(4) The right to refuse to permit the designation of any or all of the following categories of personally-identifiable information as directory information, which is not subject to the above restrictions on disclosure: student's full name, permanent address and telephone number, local address and telephone number, e-mail address, Clemson identification number (the number that begins with a C on the student ID card and is also referred to as a student's XID), username, state of residence, date and place of birth, marital status, academic class, class schedule and class roster, name of advisor, major field of study, including the college, division, department or program in which the student is enrolled, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance and graduation, degrees and honors and awards received including selection to a dean's list or honorary organization and the grade point average of students selected, and the most previous educational institution attended. Photographic, video, or electronic images of students taken and maintained by the University are also considered directory information.

Directory information may be disclosed by the University for any purpose, at its discretion. Any student wishing to exercise his/her right to refuse to permit the designation of any or all of the above categories as directory information must give written notification to the Registration Services Office (E-206 Martin Hall) by the last day to register for the enrollment period concerned as published in the Clemson University calendar.

(5) The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University to comply with the requirements of FERPA. The name and address of the Office that administers FERPA is Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, DC 20202-5901.

## DISCLOSURE OF EDUCATION RECORDS IN HEALTH AND SAFETY EMERGENCIES

If the University determines that there is **an articulable and significant threat to the health or safety of a student or other individuals**, FERPA allows disclosure of information from education records to **appropriate parties whose knowledge of the information is necessary to protect the health and safety of the student or other individuals.**<sup>1</sup>

- “Articulable and significant threat” means that if a school official can explain why, based on all the information then available, he or she reasonably believes that a student poses a significant threat, such as a threat of substantial bodily harm, to any person, including the student, the University may disclose education records to any person whose knowledge of information from those records will assist in protecting a person from that threat.
- “Appropriate parties” include parents of the student; parents may be notified when there is a health or safety emergency involving their son or daughter.

In making a determination to disclose information, the University may take into account the totality of the circumstances pertaining to a threat to the safety or health of the student or other individuals. An emergency can be related to the threat of an actual, impending, or imminent emergency, such as a terrorist attack, a natural disaster, a campus shooting, or the outbreak of an epidemic such as e.coli. An emergency can also be a situation in which a student gives sufficient, cumulative warning signs that lead the school official to believe the student may harm himself at any moment.

The FERPA **recordkeeping requirements** require the University to record 1) the articulable and significant threat that formed the basis for the disclosure and 2) the parties to whom the information was disclosed. This record will demonstrate what circumstances led to the determination that a health or safety emergency existed and how the disclosure was justified. The record must be made within a reasonable period of time after the disclosure was made. The record must be maintained with the education records of the student for as long as the student’s education records are maintained. **After disclosing information under the FERPA health and safety exception, employee(s) must document the following information and forward the records to the dean of students.**

- Student’s name
- Name(s) of person(s) to whom the student posed a significant health or safety threat
- Description of the significant threat to health or safety
- Description of the circumstances and the information available (including relevant dates)
- Description of all the information that was disclosed
- Names(s) of person(s) to whom the information was disclosed (person(s) whose knowledge of the information would have assisted in protecting a person or persons from the threat; or student’s parents)
- Date(s) disclosure was made
- Name(s) of CU employee(s) who determined a health and safety emergency existed
- Name(s) of CU employee(s) who disclosed the information
- Date the record of disclosure was made

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<sup>1</sup>Note: The FERPA health and safety requirements do not apply to disclosures to a Clemson University employee with a legitimate educational interest in the information. Information from education records may be disclosed to University employee if the information is necessary for that employee to perform work appropriate to his or her position.

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# ACADEMIC CALENDAR 2015-2016

## Fall Semester 2015

Aug 17-18, M-Tu	Late enrollment
Aug 18, Tu	University Convocation
Aug 19, W	Classes begin
Aug 25, Tu	Last day to register or add a class, declare Audit or Pass/No Pass
Sep 1, Tu	Last day to drop a class or withdraw from the University without a W grade
Sep 8, Tu	Last day to apply for December graduation
Oct 9, F	Last day for instructors to issue midterm evaluations
Oct 12-13, M-Tu	Fall break
Oct 27, Tu	Last day to drop a class or withdraw from the University without final grades
Nov 2, M	Registration for spring and summer terms begins
Nov 25-27, W-F	Thanksgiving holidays
Dec 3-4, Th-F	Classes meet; exams permitted in labs only
Dec 7-11, M-F	Examinations
Dec 14, M	9:00 A.M.—Deadline to submit candidate grades
Dec 16, W	9:00 A.M.—Deadline to submit other grades
Dec 16, W	Candidates for graduation may access grades
Dec 17, Th	Graduation

## First Fall 2015

Aug 17, M	Late enrollment
Aug 17, M	Classes begin
Aug 24, M	Last day to register or add a class, declare Audit or Pass/No Pass
Aug 28, F	Last day to drop a class or withdraw from the University without a W grade
Sep 8, Tu	Last day to apply for December graduation
Sep 11, F	Last day for instructors to issue midterm evaluations
Sep 18, F	Last day to drop a class or withdraw from the University without final grades
Oct 2, F	Last day of classes
Oct 5-9, M-F	Examinations
Oct 14, W	9:00 A.M.—Deadline to submit grades

## Second Fall 2015

Oct 12-13, M-Tu	Fall break
Oct 14, W	Late enrollment
Oct 14, W	Classes begin
Oct 21, W	Last day to register or add a class, declare Audit or Pass/No Pass
Oct 27, Tu	Last day to drop a class or withdraw from the University without a W grade
Nov 2, M	Registration for spring and summer terms begins
Nov 10, Tu	Last day for instructors to issue midterm evaluations
Nov 17, Tu	Last day to drop a class or withdraw from the University without final grades
Nov 25-27, W-F	Thanksgiving holidays
Dec 4, F	Last day of classes
Dec 7-11, M-F	Examinations
Dec 14, M	9:00 A.M.—Deadline to submit candidate grades
Dec 16, W	9:00 A.M.—Deadline to submit other grades
Dec 16, W	Candidates for graduation may access grades
Dec 17, Th	Graduation

## Fall Minimester A 2015

Aug 17-18, M-Tu	Late enrollment
Aug 19, W	Classes begin
Aug 19, W	Last day to register or add a class, declare Audit or Pass/No Pass
Aug 20, Th	Last day to drop a class or withdraw from the University without a W grade
Aug 28, F	Last day for instructors to issue midterm evaluations
Sep 1, Tu	Last day to drop a class or withdraw from the University without final grades
Sep 8, Tu	Last day of classes
Sep 8, Tu	Last day to apply for December graduation
Sep 9, W	Study day
Sep 10, Th	Examinations
Sep 14, M	9:00 A.M.—Deadline to submit grades

## Fall Minimester B 2015

Sep 15, Tu	Late enrollment
Sep 16, W	Classes begin
Sep 16, W	Last day to register or add a class, declare Audit or Pass/No Pass
Sep 17, Th	Last day to drop a class or withdraw from the University without a W grade
Sep 25, F	Last day for instructors to issue midterm evaluations
Sep 29, Tu	Last day to drop a class or withdraw from the University without final grades
Oct 6, Tu	Last day of classes
Oct 7, W	Study day
Oct 8, Th	Examinations
Oct 12-13, M-Tu	Fall break
Oct 14, W	9:00 A.M.—Deadline to submit grades

## Fall Minimester C 2015

Oct 12-13, M-Tu	Fall break
Oct 14, W	Late enrollment
Oct 14, W	Classes begin
Oct 14, W	Last day to register or add a class, declare Audit or Pass/No Pass
Oct 15, Th	Last day to drop a class or withdraw from the University without a W grade
Oct 23, F	Last day for instructors to issue midterm evaluations
Oct 27, Tu	Last day to drop a class or withdraw from the University without final grades
Nov 3, Tu	Last day of classes
Nov 4, W	Study day
Nov 5, Th	Examinations
Nov 9, M	9:00 A.M.—Deadline to submit grades

## Fall Minimester D 2015

Nov 10, Tu	Late enrollment
Nov 11, W	Classes begin
Nov 11, W	Last day to register or add a class, declare Audit or Pass/No Pass
Nov 12, Th	Last day to drop a class or withdraw from the University without a W grade
Nov 20, F	Last day for instructors to issue midterm evaluations
Nov 24, Tu	Last day to drop a class or withdraw from the University without final grades
Nov 25-27, W-F	Thanksgiving holidays
Dec 4, F	Last day of classes
Dec 7, M	Examinations
Dec 14, M	9:00 A.M.—Deadline to submit candidate grades
Dec 16, W	9:00 A.M.—Deadline to submit other grades
Dec 16, W	Candidates for graduation may access grades
Dec 17, Th	Graduation

**Spring Semester 2016**

Jan 4, M	Orientation
Jan 4-5, M-Tu	Late enrollment
Jan 6, W	Classes begin
Jan 12, Tu	Last day to register or add a class, declare Audit or Pass/No Pass
Jan 18, M	Martin Luther King Jr. holiday
Jan 20, W	Last day to drop a class or withdraw from the University without a W grade
Jan 27, W	Last day to apply for May commencement
Feb 26, F	Last day for instructors to issue midterm evaluations
Mar 11, F	Last day to drop a class or withdraw from the University without final grades
Mar 14-18, M-F	Spring break
Mar 28, M	Registration for fall term begins
Apr 21-22, Th-F	Classes meet; exams permitted in labs only
Apr 25-29, M-F	Examinations
May 3, Tu	9:00 A.M.—Deadline to submit candidate grades
May 4, W	9:00 A.M.—Deadline to submit other grades
May 5, Th	Candidates for graduation may access grades
May 6, F	Commencement

**First Spring 2016**

Jan 4, M	Late enrollment
Jan 4, M	Classes begin
Jan 11, M	Last day to register or add a class, declare Audit or Pass/No Pass
Jan 18, M	Martin Luther King Jr. holiday
Jan 19, Tu	Last day to drop a class or withdraw from the University without a W grade
Jan 27, W	Last day to apply for May commencement
Feb 1, M	Last day for instructors to issue midterm evaluations
Feb 8, M	Last day to drop a class or withdraw from the University without final grades
Feb 22, M	Last day of classes
Feb 23-26, Tu-F	Examinations
Feb 29, M	9:00 A.M.—Deadline to submit grades

**Second Spring 2016**

Feb 29, M	Late enrollment
Feb 29, M	Classes begin
Mar 7, M	Last day to register or add a class, declare Audit or Pass/No Pass
Mar 11, F	Last day to drop a class or withdraw from the University without a W grade
Mar 14-18, M-F	Spring break
Mar 28, M	Registration for fall term begins
Apr 1, F	Last day for instructors to issue midterm evaluations
Apr 8, F	Last day to drop a class or withdraw from the University without final grades
Apr 22, F	Last day of classes
Apr 25-29, M-F	Examinations
May 3, Tu	9:00 A.M.—Deadline to submit candidate grades
May 4, W	9:00 A.M.—Deadline to submit other grades
May 5, Th	Candidates for graduation may access grades
May 6, F	Commencement

**Spring Minimester A 2016**

Jan 4-5, M-Tu	Late enrollment
Jan 6, W	Classes begin
Jan 6, W	Last day to register or add a class, declare Audit or Pass/No Pass
Jan 7, Th	Last day to drop a class or withdraw from the University without a W grade
Jan 18, M	Martin Luther King Jr. holiday
Jan 18, M	Last day for instructors to issue midterm evaluations
Jan 20, W	Last day to drop a class or withdraw from the University without final grades
Jan 27, W	Last day of classes
Jan 27, W	Last day to apply for May commencement
Jan 28, Th	Study day
Jan 29, F	Examinations
Feb 1, M	9:00 A.M.—Deadline to submit grades

**Spring Minimester B 2016**

Feb 1, M	Late enrollment
Feb 1, M	Classes begin
Feb 1, M	Last day to register or add a class, declare Audit or Pass/No Pass
Feb 2, Tu	Last day to drop a class or withdraw from the University without a W grade
Feb 10, W	Last day for instructors to issue midterm evaluations
Feb 12, F	Last day to drop a class or withdraw from the University without final grades
Feb 19, F	Last day of classes
Feb 22, M	Examinations
Feb 29, M	9:00 A.M.—Deadline to submit grades

**Spring Minimester C 2016**

Feb 29, M	Late enrollment
Feb 29, M	Classes begin
Feb 29, M	Last day to register or add a class, declare Audit or Pass/No Pass
Mar 1, Tu	Last day to drop a class or withdraw from the University without a W grade
Mar 9, W	Last day for instructors to issue midterm evaluations
Mar 11, F	Last day to drop a class or withdraw from the University without final grades
Mar 14-18, M-F	Spring break
Mar 25, F	Last day of classes
Mar 28, M	Registration for fall term begins
Mar 28, M	Examinations
Apr 4, M	9:00 A.M.—Deadline to submit grades

**Spring Minimester D 2016**

Apr 4, M	Late enrollment
Apr 4, M	Classes begin
Apr 4, M	Last day to register or add a class, declare Audit or Pass/No Pass
Apr 5, Tu	Last day to drop a class or withdraw from the University without a W grade
Apr 13, W	Last day for instructors to issue midterm evaluations
Apr 15, F	Last day to drop a class or withdraw from the University without final grades
Apr 22, F	Last day of classes
Apr 25, M	Examinations
May 3, Tu	9:00 A.M.—Deadline to submit candidate grades
May 4, W	9:00 A.M.—Deadline to submit other grades
May 5, Th	Candidates for graduation may access grades
May 6, F	Commencement

**Summer 2016**

May 10, Tu	Late enrollment
May 11, W	Classes begin
May 12, Th	Last day to register or add a class, declare Audit or Pass/No Pass
May 18, W	Last day to drop a class or withdraw from the University without a W grade
May 31, Tu	Last day to apply for August graduation
Jun 13-17, M-F	Long summer break
Jun 28, Tu	Last day for instructors to issue midterm evaluations
Jul 4, M	July 4th holiday
Jul 5, Tu	Last day to drop a class or withdraw from the University without final grades
Jul 27, W	Last day of classes
Jul 28, Th	Study day
Jul 29&1, F&M	Examinations
Aug 2, Tu	2:00 P.M.—Deadline to submit candidate grades
Aug 3, W	9:00 A.M.—Deadline to submit other grades
Aug 4, Th	Candidates for graduation may access grades
Aug 5, F	Graduation

**First Summer 2016**

May 10, Tu	Late enrollment
May 11, W	Classes begin
May 12, Th	Last day to register or add a class, declare Audit or Pass/No Pass
May 16, M	Last day to drop a class or withdraw from the University without a W grade
May 27, F	Last day for instructors to issue midterm evaluations
May 31, Tu	Last day to apply for August graduation
Jun 2, Th	Last day to drop a class or withdraw from the University without final grades
Jun 14, Tu	Last day of classes
Jun 15, W	Study day
Jun 16-17, Th-F	Examinations
Jun 22, W	9:00 A.M.—Deadline to submit grades

**Second Summer 2016**

Jun 20, M	Orientation
Jun 21, Tu	Late enrollment
Jun 22, W	Classes begin
Jun 23, Th	Last day to register or add a class, declare Audit or Pass/No Pass
Jun 28, Tu	Last day to drop a class or withdraw from the University without a W grade
Jul 4, M	July 4th holiday
Jul 11, M	Last day for instructors to issue midterm evaluations
Jul 15, F	Last day to drop a class or withdraw from the University without final grades
Jul 27, W	Last day of classes
Jul 28, Th	Study day
Jul 29&1, F&M	Examinations
Aug 2, Tu	2:00 P.M.—Deadline to submit candidate grades
Aug 3, W	9:00 A.M.—Deadline to submit other grades
Aug 4, Th	Candidates for graduation may access grades
Aug 5, F	Graduation

**Summer Minimester A 2016**

May 10, Tu	Late enrollment
May 11, W	Classes begin
May 11, W	Last day to register or add a class, declare Audit or Pass/No Pass
May 12, Th	Last day to drop a class or withdraw from the University without a W grade
May 18, W	Last day for instructors to issue midterm evaluations
May 20, F	Last day to drop a class or withdraw from the University without final grades
May 27, F	Last day of classes
May 30, M	Examinations
May 31, Tu	Last day to apply for August graduation
Jun 1, W	9:00 A.M.—Deadline to submit grades

**Summer Minimester B 2016**

May 31, Tu	Late enrollment
May 31, Tu	Classes begin
May 31, Tu	Last day to register or add a class, declare Audit or Pass/No Pass
May 31, Tu	Last day to apply for August graduation
Jun 1, W	Last day to drop a class or withdraw from the University without a W grade
Jun 7, Tu	Last day for instructors to issue midterm evaluations
Jun 9, Th	Last day to drop a class or withdraw from the University without final grades
Jun 16, Th	Last day of classes
Jun 17, F	Study day
Jun 20, M	Examinations
Jun 22, W	9:00 A.M.—Deadline to submit grades

**Summer Minimester C 2016**

Jun 21, Tu	Late enrollment
Jun 21, Tu	Classes begin
Jun 21, Tu	Last day to register or add a class, declare Audit or Pass/No Pass
Jun 22, W	Last day to drop a class or withdraw from the University without a W grade
Jun 28, Tu	Last day for instructors to issue midterm evaluations
Jun 30, Th	Last day to drop a class or withdraw from the University without final grades
Jul 4, M	July 4th holiday
Jul 8, F	Last day of classes
Jul 11, M	Examinations
Jul 13, W	9:00 A.M.—Deadline to submit grades

**Summer Minimester D 2016**

Jul 13, W	Late enrollment
Jul 13, W	Classes begin
Jul 13, W	Last day to register or add a class, declare Audit or Pass/No Pass
Jul 14, Th	Last day to drop a class or withdraw from the University without a W grade
Jul 20, W	Last day for instructors to issue midterm evaluations
Jul 22, F	Last day to drop a class or withdraw from the University without final grades
Jul 29, F	Last day of classes
Aug 1, M	Examinations
Aug 2, Tu	2:00 P.M.—Deadline to submit candidate grades
Aug 3, W	9:00 A.M.—Deadline to submit other grades
Aug 4, Th	Candidates for graduation may access grades
Aug 5, F	Graduation

Note: Dates on this calendar were accurate at the time of printing. Dates, however, may change as conditions warrant. Current information is available at [www.registrar.clemson.edu/html/Acad\\_Cal.htm](http://www.registrar.clemson.edu/html/Acad_Cal.htm).

# ADMINISTRATION

## UNIVERSITY GOVERNANCE AND ADMINISTRATION

The University is governed by a board of 13 members, six selected by the state Legislature and seven self-perpetuating life members, in accord with the will of Thomas Green Clemson. The Board of Trustees is primarily responsible for adopting the long-range objectives of the University and the basic policies for achieving them; providing policy instruction for long-range planning; adopting the statutes of the University; electing the president of the University; employing the secretary of the board; maintaining ownership of University assets; and overseeing the evaluation of the University.

The president is the chief executive officer of the University, providing leadership to all phases of University planning, coordinating the operations of all units of the University, carrying out major University public relations functions, evaluating the results of University plans, and appointing personnel who report to the president. The day-to-day operations of the University are administered by the president and executive officers for advancement, public service and agriculture, student affairs, and research and economic development.

The provost and vice president for academic affairs is the chief academic officer of the University. The provost is responsible directly to the president for all academic matters and has administrative jurisdiction over teaching and computing services. Vice provosts assist in administering and performing duties in coordinating graduate and undergraduate curricula; supervising computer information services, the libraries, scholarship and award programs; and other duties assigned by the provost.

Academic deans are the chief administrative officers of their individual colleges and report directly to the provost. They provide leadership in formulating and carrying out educational policy; review and make recommendations on personnel matters; and carry out and administer the academic and financial affairs of their colleges.

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# GENERAL INFORMATION

## PURPOSE OF CATALOG

This catalog gives a general description of Clemson University and provides prospective students with detailed information regarding the various colleges and departments within the University and curricula offered by the University. Inasmuch as the educational process necessitates change, the information and educational requirements in this catalog represent a flexible program that may be altered where such alterations are thought to be in the mutual interest of the University and its students.

The provisions of this catalog do not constitute a contract that may be accepted by students through registration and enrollment in the University. The University reserves the right to change without notice any fee, provision, offering, or requirement in this catalog and to determine whether a student has satisfactorily met its requirements for admission or graduation. The University further reserves the right to require a student to withdraw from the University for cause at any time.

Each curriculum shall be governed by the requirements in effect on the date of enrollment. If a student withdraws from the University and subsequently returns or does not remain continuously enrolled (summers excluded), the requirements in effect at the time of return will normally prevail.

## STUDENT RESPONSIBILITY

All colleges and departments establish certain academic requirements that must be met before a degree is granted. Advisors, department chairs, and deans are available to help the student understand and meet these requirements; but the student is responsible for fulfilling them. If, at the end of a student's course of study, the requirements for graduation have not been satisfied, the degree will not be granted. For this reason, it is important for students to acquaint themselves with all academic requirements throughout their college careers and to be responsible for completing all requirements within prescribed deadlines and time limits.

## VISION STATEMENT

Clemson University will be one of the nation's top-20 public universities.

## MISSION STATEMENT

Clemson University was established to fulfill our founder's vision of a "high seminary of learning" to develop "the material resources of the State" for the people of South Carolina. Nurtured by an abiding land grant commitment, Clemson has emerged as a research university with a global vision. Our primary purpose is educating undergraduate and graduate students to think deeply about and engage in social, scientific, economic, and professional challenges of our times. The foundation of this mission is the generation, preservation, communication, and application of knowledge. The University also is committed to the personal growth of the individual and promotes an environment of good decision making, healthy and ethical lifestyles, and tolerance and respect for others. Our distinctive character is shaped by a legacy of service, collaboration, and fellowship forged from and renewed by the spirit of Thomas Green Clemson's covenant.

## UNIVERSITY DESCRIPTION

Clemson University is a selective, public, research university in a college-town setting. Clemson's desire is to attract a capable, dedicated and diverse student body of approximately 20,000 undergraduate and graduate students, with priority to students from South Carolina. The University offers a wide array of high quality baccalaureate programs built around a distinctive core curriculum. Graduate, continuing education, doctoral and research programs contribute to the state of knowledge and to the economic future of the state, nation and world. The University provides bachelor's, master's and doctoral degrees in more than 100 majors.

Clemson combines the benefits of a major research university with a strong commitment to undergraduate teaching and individual student success. Students, both undergraduate and graduate, have opportunities for unique educational experiences throughout South Carolina, as well as in other countries. Experiential learning is a valued component of the Clemson experience, and students are encouraged through Creative Inquiry, internships, and study abroad, to apply their learning beyond the classroom. Electronic delivery of courses and degree programs also provide a variety of learning opportunities. Clemson's extended campus includes teaching sites in Greenville and Charleston, five research campuses, and five public service centers throughout the state of South Carolina, as well as four international sites.

The University is committed to exemplary teaching, research and public service in the context of general education, student engagement and development, and continuing education. In all areas, the goal is to develop students' communication and critical-thinking skills, ethical judgment, global awareness, and scientific and technological knowledge. The distinctive character of Clemson is reflected in the culture of collegiality and collaboration among faculty, students, staff, the administration, and the university board.

## HISTORY

When one man of wisdom and foresight can look beyond the despair of troubled times and imagine what could be, great things can happen. That is what the University's founder, Thomas Green Clemson, was able to do in the post-Civil War days. He looked upon a South that lay in economic ruin, once remarking that "conditions are wretched in the extreme" and that "people are quitting the land." Still, among the ashes he saw hope. Joined by his wife, Anna Calhoun Clemson, Mr. Clemson envisioned what could be possible if the South's youth were given an opportunity to receive instruction in scientific agriculture and the mechanical arts. He once wrote, "The only hope we have for the advancement of agriculture (in the U.S.) is through the sciences, and yet there is not one single institution on this continent where a proper scientific education can be obtained." When he was president of the Pendleton Farmers Society in 1866, Mr. Clemson served on a committee whose purpose was to promote the idea of founding an institution for "educating the people in the sciences" and "which will in time secure permanent prosperity."

When he died on April 6, 1888, a series of events began that marked the start of a new era in higher education in the state of South Carolina, especially in the study of science, agriculture, and engineering. Mr. Clemson's passing set the stage for the founding of the university that bears his name—the beginning of a true "people's university," which opened the doors of higher education to all South Carolinians, rich and poor alike. In his will, which he signed November 6, 1886, Mr. Clemson bequeathed the Fort Hill plantation and a considerable sum from his personal assets for the establishment of an educational institution of the kind he envisioned. He left a cash endowment of approximately \$80,000, as well as the 814-acre Fort Hill estate, to South Carolina for such a college. The biggest obstacle in the creation of an agricultural college—the initial expense—was removed by Mr. Clemson's bequest.

On November 27, 1889, Governor John Richardson signed the bill accepting Thomas Clemson's gift. Soon after, a measure was introduced to establish the Clemson Agricultural College, with its trustees becoming custodians of Morrill Act and Hatch Act funds made available for agricultural education and research by federal legislative acts. The founding of Clemson Agricultural College supplanted the South Carolina College of Agriculture and Mechanics in Columbia, which had been designated in 1880.

Thomas Green Clemson came to South Carolina when he married Anna Maria Calhoun, daughter of South Carolina's famous statesman John C. Calhoun. Born in Philadelphia, Mr. Clemson was educated at schools both in the United States and France, where he attended lectures at the Royal School of Mines, studied with prominent scientists in the private laboratories of the Sorbonne Royal College of France, and received his diploma as an assayer from the Royal Mint in Paris. Mr. Clemson, then in his mid-20s, returned to America greatly influenced by his European studies. He became a great advocate of the natural sciences, achieving a considerable reputation as a mining engineer and a theorist in agricultural chemistry. He also was a gifted writer whose articles were published in the leading scientific journals of his day, an artist and a diplomat who represented the U.S. government as *chargé d'affaires* to Belgium for almost seven years.

Mr. Clemson had a lifelong interest in farming and agricultural affairs. He served as the nation's first superintendent of agricultural affairs (predecessor to the present secretary of agriculture position) and actively promoted the establishment and endowment of the Maryland Agricultural College in the 1850s. Though remembered today for these accomplishments, Thomas Clemson made his greatest historical contribution when, as a champion of formal scientific education, his life became intertwined with the destiny of educational and economic development in South Carolina. Although he never lived to see it, his dedicated efforts culminated in the founding of Clemson Agricultural College.

At the time of his death, Mr. Clemson was living at the Fort Hill homeplace, which today is a national historic landmark and provides a historic centerpiece for the Clemson University campus. He had inherited the house and plantation lands upon the death of Mrs. Clemson in 1875.

Clemson College formally opened in July 1893, with an enrollment of 446. From the beginning, the college was an all-male military school. It remained this way until 1955, when the change was made to "civilian" status for students and Clemson became a coeducational institution. In 1964, the college was renamed Clemson University as the state legislature and the state courts formally recognized the school's expanded academic offerings, Ph.D. granting status and research pursuits. On November 27, 1989, the University observed the 100<sup>th</sup> anniversary of the state's acceptance of the terms and conditions of Mr. Clemson's bequest.

The enrollment of Clemson has grown from 446 students at the opening of the University to 21,857 for the first semester 2014-2015. Since the opening of the University, 125,568 students have been awarded bachelor's degrees. During this same period, 426 associate degrees, 35,130 master's, 460 education specialist, and 4,292 doctor's degrees have been awarded, a total of 165,876 degrees.

Today, more than a century later, the University is much more than its founder ever could have imagined. With its diverse learning and research facilities, the University provides an educational opportunity not only for the people of the state, as Mr. Clemson dreamed, but for thousands of young men and women throughout the country and the world.

## THE CAMPUS

The 1,400-acre Clemson University campus is sited on the former homestead of statesman John C. Calhoun. Nestled in the foothills of the Blue Ridge Mountains and adjacent to Lake Hartwell, the campus commands an excellent view of the mountains to the north and west, some of which attain an altitude of over 5,000 feet above mean sea level.

The Norfolk and Southern Railway and U.S. highways 76 and 123 provide easy access to the city of Clemson and to the University. Oconee County Airport is four miles from the library. Both Atlanta and Charlotte are two hours driving time away.

Campus architecture is a pleasing blend of traditional and modern facilities enhanced by a beautiful landscape of towering trees, grassy expanses, and flowering plants. Academic, administrative, and student service buildings on campus represent an insured value of \$627 million. Clemson University's real estate holdings include more than 32,000 acres of forestry and agricultural lands throughout the state, the majority of which are dedicated to Clemson's research and public-service missions.

Fort Hill, the former home of John C. Calhoun inherited by Thomas Clemson, and the Hanover House are both listed on the National Register of Historic Places and are open to the public. The campus also has two recognized historic districts.

The Strom Thurmond Institute houses the institute offices, Senator Thurmond's papers and memorabilia, and the special collections of the Cooper Library, including papers of John C. Calhoun and James Byrnes, two of the most important South Carolinians since 1787. The institute is a part of an instructional and public-service district that includes the Brooks Center for the Performing Arts and the Madren Center for Continuing Education. Clemson offers limited graduate and undergraduate coursework in Greenville, SC. Also located in

Greenville is the Clemson University International Center for Automotive Research (CU-ICAR), a 250-acre advanced-technology research campus where university, industry and government organizations collaborate.

## ACCREDITATION

Clemson University is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award bachelor's, master's, education specialist, and doctoral degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Clemson University.

Curricula are accredited by the Association to Advance Collegiate Schools of Business (AACSB), Accrediting Board for Engineering and Technology (ABET), American Council for Construction Education, Accreditation Council for Education in Nutrition and Dietetics (ACEND), American Society of Landscape Architects, Commission on Collegiate Nursing Education (CCNE), Council for Accreditation of Counseling and Related Education Programs (CACREP), National Architectural Accrediting Board (NAAB), National Association of Schools of Art and Design, National Council for Accreditation of Teacher Education (NCATE, CAEP), National Recreation and Park Association Council on Accreditation (NRPA), Planning Accreditation Board, and Society of American Foresters. Documentation of accreditation is available in the college deans' offices.

## ADVISING POLICY

Academic advising is an on-going educational process that connects the student to the University. Academic advising supports the University's mission of preparing the student for learning beyond the confines of the academy. Academic advisors represent and interpret University policies and procedures to the student and help the student navigate the academic and organizational paths of the institution.

To ensure that students receive both personal and professional assistance in navigating through curricula and University requirements toward degree completion and graduation, each student is assigned to an academic advisor (either professional or faculty advisor). Advisors are available to assist students with issues related to degree planning, course selection, withdrawals, degree requirements, academic policies, academic difficulty, campus resources, internships/practicum opportunities, and career/graduate school planning. Students are responsible for adhering to academic policies, preparing for advising meetings and taking ownership for their educational experience. Students receive academic advising materials from their advisors during pre-registration advising meetings. Students uncertain of their assigned advisor are encouraged to seek assistance from the departmental office/advising center for their major. For more information, visit <http://www.clemson.edu/academics/advising/>.

## LIBRARIES

The Libraries' website at [www.clemson.edu/library](http://www.clemson.edu/library) provides access to a multitude of information resources, including the library catalog, hundreds of databases, more than 40,000 electronic journals, and information regarding library services.

The Libraries' services include circulation, reference, interlibrary loan, class instruction, and tours. Cooper Library houses a computer lab (maintained by CCIT), Java City Cyber Café, Snax & Stax convenience store, and a popular reading and audiobooks collection. Equipment available includes photocopiers, scanners, fax machines, and wireless laptops in Cooper Library and a color laser printer, engineering plotter, and large-format photocopier in the Gunnin Architecture Library.

The Clemson University Libraries consist of a main library and two branches. R.M. Cooper Library, Clemson's main library, is a six-floor building located at the center of campus. Most of the books and journals are located there, as well as government publications, microforms, and media. The Gunnin Architecture Library in Lee Hall contains collections that focus on architecture, city and regional planning, construction science, landscape architecture, and visual arts. Special Collections, on the lower level of the Strom Thurmond Institute, houses the rare book collection, University Archives, and many manuscript collections, including the papers of John C. Calhoun and Thomas Green Clemson.

Total holdings for the library system include more than 1.8 million items, including books, periodicals, electronic resources, government publications and patents, musical recordings, DVDs and videos, audiobooks, maps, and microforms.

## COMPUTING RESOURCES

Clemson Computing and Information Technology (CCIT) provides comprehensive services to students and employees, including laptop support, training, printing and plotting, computer repair, software licenses, wireless access points, network and information security, course management system and more.

Public access computer labs across campus contain high-end Windows PCs or Macs, and black and white laser printing equipment. Students receive a specified quota of pages and plots per semester in these labs. Any printing and plotting beyond the limit is charged to the student. Lab computers provide the same access as personal student laptops using the Clemson software image. Software and access available in the labs include Internet, e-mail, Google Apps for Education, and the Microsoft Office Suite with Word, Excel, Access, Outlook, and PowerPoint applications, as well as other software. Clemson provides site licenses for several software packages, including Trend Micro virus protection, Microsoft Office and Adobe Creative Cloud. Visit the CCIT website for more details before purchasing expensive software that may be provided for all students.

### Getting Help

The Customer Support Center, located on the second floor of Cooper Library, serves as a central point of contact for general computing assistance, laptop support and repair, and consulting services. Students may call 864-656-3494, e-mail [ITHELP@clemson.edu](mailto:ITHELP@clemson.edu), or walk in during hours of operation (check the CCIT website at <http://www.clemson.edu/ccit>). CCIT help is also available in the Cooper Library Learning Commons on Level 4.

### E-mail and Accessing Your Account

Each student's e-mail address is [username@clemson.edu](mailto:username@clemson.edu). CCIT automatically creates a Google Apps for Education account at <http://g.clemson.edu> for all incoming students. Google Apps offers full e-mail

functionality and large data storage, plus Google Calendar, Google Docs and Google Sites. Google Mail is the recommended student e-mail system, and it allows students to use Google's e-mail with their Clemson e-mail address while at Clemson and following graduation. Student e-mail accounts (*username@clemson.edu*) are automatically forwarded to their Google Mail accounts (*username@g.clemson.edu*). Students can change and verify their e-mail forwarding preferences at [http://www.clemson.edu/email\\_forwarding](http://www.clemson.edu/email_forwarding).

#### Computer Training

CCIT provides computer training and support to faculty, staff and students in the use of the MyCLE portal and the Web-based course management system (Blackboard), the Clemson computer network and many desktop applications. Training is offered as part of regular University courses, short courses, special training programs and e-learning courses. Distance-learning processes and technologies are also supported. A part-time trainer is available in the Cooper Library Learning Commons for individual and group assistance. Visit the CCIT website for a complete list of training resources.

#### Wired and Wireless Access

The university computer network is accessible through wired network connections in all on-campus residences or through the University's extensive wireless network, which provides coverage to most areas of campus. Eduroam is Clemson's primary wireless network, allowing students to connect securely with their Clemson user name and password. Visit the CCIT website for more information and complete coverage details, including a list of compatible wireless cards.

#### Security

Clemson University requires all users to run virus protection and install the latest operating system patches on their computers for the security of all network users. Clemson has a site license for the Trend Micro virus protection products. These and other licensed software options are available on the CCIT website.

#### Laptop Program

Laptops are required for all undergraduate and MBA graduate students. While students may bring any laptop that meets the minimum specifications, recommended laptops are posted on the CCIT website. Clemson University works with vendors to offer recommended laptops with custom warranties at special prices. Students with recommended laptops receive priority support on campus for both software and hardware issues as a part of their purchase package. Repair technicians on campus can complete warranty repairs on these laptops. Students with recommended laptops kept in Hardware Repair for an extended period of time may be able to check out a loaner laptop if available. CCIT also services and repairs many other brands of computers for a fee, or under manufacturer's warranty, if applicable.

#### Additional Information

Additional information—including information about Google Apps for Education (GAE); computing and research, software licensing; IT e-mail alerts; ClemsonGuest wireless access service; the Acceptable Use Policy for Students; and the Campus Computer Store—is available at <http://www.clemson.edu/ccit> or by e-mailing [ITHelp@clemson.edu](mailto:ITHelp@clemson.edu).

## CALHOUN HONORS COLLEGE

Established in 1962, the Calhoun Honors College strives to enrich the educational experience of highly motivated, academically talented students by providing opportunities for scholarship and research not always available to undergraduates. Honors students become part of a dynamic academic community dedicated to the study of ideas and the life of the mind.

Calhoun Honors students are offered the opportunity to take a wide variety of specialized honors courses. These include a series of intensive honors seminars emphasizing multidisciplinary approaches and contemporary issues; and numerous courses satisfying general education, major or minor requirements. Honors students are also encouraged to pursue research-based programs leading to departmental honors.

Freshman admission to Calhoun Honors College requires the submission of an application separate from and in addition to the application for undergraduate admission to Clemson University. In addition to the student's application, the Honors College requires a copy of the student's high school transcript and two letters of recommendation, one from a high school guidance counselor and one from a teacher. Admission is highly selective and is based, in part, on the quality of the applicant pool and the availability of space for freshmen in the Honors College.

Currently-enrolled Clemson students may apply for membership if they are full-time, degree-seeking undergraduates and have earned a cumulative grade-point average of 3.50 or higher. In general, students must have at least four semesters remaining to complete their degree requirements.

Additional special opportunities for honors students include study programs in Brussels, Belgium, Strasbourg, France, and Berlin, Germany; EUREKA!, a summer research program for entering freshmen, and the Dixon Fellows Program, which promotes cultural and intellectual engagement with leading faculty members. Each of these programs is competitive and requires a separate application.

The Calhoun Honors College is institutionally responsible for nationally competitive fellowships and awards, including Rhodes, Marshall, Truman, Goldwater and Fulbright.

In addition to the intellectual challenge of Honors, advantages of membership include priority course scheduling, honors housing (on a space-available basis), extended library loan privileges, a series of discussion programs, and special lectures and cultural events. Visit [www.clemson.edu/cuhonors](http://www.clemson.edu/cuhonors) for more information.

## COOPERATIVE EDUCATION PROGRAM

The Cooperative Education Program (Co-op) is an academic engaged-learning program and is one of three units which comprise the Center for Career and Professional Development. The program provides students with an opportunity to alternate semesters of academic study with semesters of paid, discipline-specific experience as they work and learn under mentors in their fields of study. Co-op assignments add a contextual dimension to the curriculum and challenge students to think critically and creatively

as they engage in problem-solving activities and projects within the work setting. Through this program, companies serve as teaching partners of the University and the co-op experience becomes an integral part of the student's education. The student's experience is closely monitored/evaluated by the program's academic staff throughout his/her participation. Cooperative Education, as the term implies, represents a collaborative effort between the University and participating companies.

Students may qualify for the Cooperative Education Program after satisfactorily completing 30 credit hours of academic coursework and declaring a major. Transfer students may qualify after one semester of coursework at the University. Students normally enter the program as sophomores or juniors and complete from two to five rotations in a co-op assignment. Engineering majors must do a minimum of three rotations to complete the program. Participation in the program is a curricular requirement for some majors, such as Packaging Science. Packaging Science students normally complete two back-to-back co-op rotations during a six-month period.

Students enrolled in the program register for the appropriate co-op course number (e.g. COOP 1010, 1020, etc.) for each rotation and receive a grade of Pass or No Pass. Students receive academic recognition on the transcript for each co-op course, although no credit hours are awarded. Students pay a program participation fee each academic term that coincides with a co-op rotation/course. In responding to questions about student status related to health insurance, taxes, loans, etc., the University classifies a student on a co-op rotation as a full-time continuing student.

Additional information is available at [http://career.clemson.edu/cooperative\\_education/](http://career.clemson.edu/cooperative_education/) or by calling 864-656-3150. The program shares space with its partner, the Michelin Career Center, located on the third floor of the Hendrix Student Center.

## INTERNSHIP PROGRAMS

An internship is a form of experiential learning that integrates classroom knowledge with career-related work experience. Internships can be a vital link between college majors and the exploration of professional opportunities. Students are able to participate in on-campus internships, domestic internships, and international internships. Specific requirements vary depending on the type of internship and a student's major. Internships are typically offered for a specific period of time during the spring or fall semesters (14-16 weeks) or during the summer (10-14 weeks). Depending on the type of internship, students are strongly advised to begin their searches at least four to eight months in advance. Students are also advised to contact their departments, visit with a career counselor, or attend a workshop at the beginning of each semester in order to determine all available internship opportunities.

#### Departments/Majors

Internships typically involve a structured project with a professional mentor that relates to a student's major or career interests. Credit bearing internship courses may be available through a student's academic college or department. Some majors may also require students to complete an internship as part of the curriculum. Further inquiries about departmental internship requirements should be directed to the specific department.

**Center for Career and Professional Development**

The Center for Career and Professional Development offers a variety of services to help students identify internship experiences. In addition to providing counseling and resources that aid in the internship search process, the Center also offers part-time and full-time, zero-credit-hour internship courses (which are denoted on students' academic transcripts). The full-time INT courses allow students to maintain their University enrollment status while interning. Students enrolled in off-campus internships must register for the appropriate course and section number (e.g. INT 2010-001) for each rotation to receive a grade of Pass or No Pass. Students pay a participation fee each academic term that coincides with an internship rotation. Additional information is available at <http://career.clemson.edu> or by calling 864-656-6000.

**UPIC**

The University Professional Internship and Co-op (UPIC) Program offers students on-campus professional learning experiences. Students have the opportunity to work with Clemson faculty and staff on Clemson's main campus, as well as other sites across the state, while receiving an academic internship notation on their transcripts. Enrollment in the appropriate INT course and payment of the corresponding fee is a requirement of the program (e.g. INT 1010-005). In order to be eligible for the program, a student must have completed at least one full semester at Clemson University and be an enrolled and matriculating undergraduate student in good standing. Available internships are typically listed in ClemsonJobLink halfway through the semester prior to the experience. Additional information is available at <http://career.clemson.edu> or by calling the program office at 864-656-0282.

**CLEMSON ABROAD PROGRAMS**

Through the Clemson Abroad Office, students may choose from a variety of study abroad programs, Clemson faculty-directed programs, and Clemson sponsored exchange programs. Program length ranges from short-term, such as during spring break, to a summer session, to a full semester or year abroad. Programs vary to fulfill the academic and discipline-specific needs of students. There are programs for every academic major at Clemson. Exchange programs are available with top institutions around the world, such as The University of Aberdeen in Scotland; Bond University and University of Newcastle in Australia; and University of Strathclyde in United Kingdom. Programs are available in virtually every country in the world: Argentina, Australia, Belgium, China, Costa Rica, Dominican Republic, France, Germany, Italy, Spain, United Kingdom, and many more.

Both Clemson sponsored programs and exchange programs allow students to enroll and pay fees directly to Clemson while they study abroad. Transfer credit normally applies within the major with prior academic department approval. Financial aid and scholarships also transfer for many of the programs abroad.

International internships and co-op programs are also available. Students should plan early for their study abroad experience. First priority application deadlines are usually in September/October for spring programs, in February/March for fall, academic year, and summer programs. Interested students

should contact the Clemson Abroad Office, E-301 Martin Hall, at the beginning of each semester and throughout the academic year to explore opportunities abroad. Additional information is available at [www.clemson.edu/studyabroad](http://www.clemson.edu/studyabroad) or by e-mailing [abroad1@clemson.edu](mailto:abroad1@clemson.edu).

**RESERVE OFFICERS TRAINING CORPS****Air Force and Army**

The departments of the Air Force and the Army maintain ROTC units at Clemson University. Their mission is to produce officers of high quality for technical and nontechnical careers in the U.S. Air Force and Army. Two-, three-, and four-year programs are available. The four-year program consists of the basic course for freshmen and sophomores and the advanced course for juniors and seniors.

Scholarships, available to selected ROTC students, pay for tuition, books, and laboratory expenses, in addition to a variable stipend ranging from \$300-\$500 (depending on their group) per month during the school year. Nonscholarship advanced Cadets also receive a stipend. Basic course credit may be awarded to students having prior military service. Reserve or National Guard duty can be guaranteed by the U.S. Army.

Cadets who complete the Advanced or Professional Course and satisfy commissioning requirements are appointed Second Lieutenants. Ample opportunity exists for graduate study in both services, with temporary deferments possible.

**HONOR ORGANIZATIONS**

Clemson University has a number of academic honorary societies that recognize outstanding scholarship by students, faculty, and staff:

- Alpha Epsilon Delta (Premedical)
- Alpha Epsilon Lambda (Graduate Students)
- Alpha Kappa Delta (Sociology)
- Alpha Lambda Delta (Freshmen)
- Alpha Pi Mu (Industrial Engineering)
- Alpha Zeta (Agriculture)
- Beta Alpha Psi (Accounting and Financial Management)
- Beta Gamma Sigma (Business)
- Blue Key (Juniors and Seniors)
- Calhoun Honors Society (Honors College)
- Chi Epsilon (Civil Engineering)
- Eta Kappa Nu (Electrical and Computer Engineering)
- Eta Sigma Gamma (Health Education)
- Gamma Epsilon Tau (Graphic Communications)
- Golden Key National Honor Society (Juniors/Seniors)
- Kappa Delta Pi (Education)
- Keramos (Ceramic and Materials Engineering)
- Lambda Pi Eta (Communication Studies)
- Mortar Board (Seniors)
- Mu Beta Psi (Music)
- Mu Kappa Tau (Marketing)
- Omicron Delta Epsilon (Economics)
- Omicron Delta Kappa (Leadership)
- Order of Omega (Seniors)
- Phi Beta Kappa
- Phi Kappa Phi
- Phi Psi (Textiles)
- Phi Sigma Pi (Honorary)
- Pi Delta Phi (French)
- Pi Sigma Alpha (Political Science)
- Pi Tau Sigma (Mechanical Engineering)

- Psi Chi (Psychology)
- Sigma Tau Delta (English)
- Tau Beta Pi (Engineering)
- Tau Sigma Delta
- Upsilon Pi Epsilon (Computer Science)
- Xi Sigma Pi (Forestry)

**CLEMSON UNIVERSITY EXPERIMENT STATION**

The Clemson University Experiment Station is part of a nationwide system of scientists working to improve the quality of life for people in their home states, the nation, and the world.

Both undergraduate and graduate students work with researchers to develop science-based information needed to address issues such as agricultural productivity and profitability, economic and community development, environmental conservation, food safety and nutrition and youth development. Clemson scientists have been involved in agricultural and forestry research since the University was founded in 1889. Today research is conducted in state-of-the-art laboratories, on farms and forests on Clemson's campus, and at five research and education centers strategically located in the state's distinct soil and climate regions.

Clemson researchers collaborate with colleagues on studies that span the globe. These include the genetic structure and functions for plants and animals, the impact of urban sprawl on the environment, techniques to reduce bullying in schools, the active ingredients in medicinal plants, and the use of nanotechnology in food packaging to detect contamination. Their work has produced more than 100 new varieties of food and fiber crops and more than 40 patents. Each year work is conducted on more than 150 projects funded through federal, state and private sources, including the U.S. Department of Agriculture, the U.S. Forest Service, the National Science Foundation, the South Carolina General Assembly, and corporate partners.

**CLEMSON UNIVERSITY FOUNDATION**

The Clemson University Foundation is a nonprofit organization that solicits, manages, and administers gifts from private sources for academic programs at Clemson University.

Chartered in 1933, the foundation is a primary component of the Advancement Division of the University. There are 41 elected members of the Board of Directors. Currently, 40 of those are Clemson alumni. The board also includes seven automatic directors; 16 ex officio directors, including a graduate and an undergraduate student representative; and 11 honorary directors.

The foundation operates through committees that report via an executive committee to the full board. These include the Audit, Finance, Development, Human Resources, Investment, Nominations, and Policy and Constitution Committees. Fund raising is in concert with the University and through the Development Committee and, as is currently the case, a Campaign Executive Committee. This includes solicitation of annual, major, planned, corporate and foundation gifts in support of University priorities and coordination of college-based fund-raising initiatives. Organizations affiliated with the Foundation include the Clemson University Continuing Education/Conference Complex Corporation, the Clemson University Land Stewardship Foundation, the

Clemson University Real Estate Foundation, and the Wallace F. Pate Foundation for Environmental Research and Education. As of June 30, 2014, the Clemson University foundation managed over 1,700 endowments. As of December 31, 2014, the combined CUF-CU Endowment totaled approximately \$616 million.

## CLEMSON ALUMNI ASSOCIATION

The Clemson Alumni Association's action phrase is "Your Lifelong Connection to Clemson." Its mission is to serve, to inform, to involve. The Alumni Association works for the more than 112,000 alumni located around the world, sponsoring programs to provide a link between students of yesterday, today, and tomorrow.

In conjunction with volunteers and traveling University staff, Clemson Clubs and Clemson activities are conducted around the world. Alumni are kept informed through the award-winning *Clemson World* magazine and at [alumni.clemson.edu](http://alumni.clemson.edu). Students, alumni, and constituency programs, as well as publications and electronic resources, form the basis for an array of services offered to alumni, students, parents, and friends of the University.

All services of the Alumni Association are coordinated out of the Alumni Center, a campus focal point built, furnished, and equipped entirely by gifts from alumni specifically for that purpose. The University Visitors Center, a gift of the Class of 1944, is adjacent to the Alumni Center and is an excellent stop for anyone visiting or returning to campus.

Alumni-sponsored awards programs, such as the Distinguished Service Award, Alumni Fellows, professorships, scholarships, and awards for outstanding teaching, research, and public service, are among the prestigious awards given by the Clemson Alumni Association.

Alumni employees coordinate the Alumni Career Services program and the activities of the open-membership student organization, Student Alumni Association. From the Welcome Back Festival held each August to the Senior Picnic held each April, the Alumni Association provides a lifelong connection to Clemson.

## CAMPUS VISITS AND TOURS

One of the best ways to discover all Clemson has to offer is through a visit to the campus. The Class of 1944 Visitors Center helps host the Clemson experience of prospective students. Information, audio-visuals, and tours are all easily accessible. The Visitors Center is located just off of Highway 93 adjacent to the Alumni Center. Regular hours of operation are Monday-Friday, 8:00 a.m.-4:30 p.m.; Saturday, 9:00 a.m.-4:30 p.m.; and Sunday, 1:00-4:30 p.m. Hours vary according to the academic calendar, university holidays, and the home football schedule.

Walking tours, guided by volunteer student members of the University Guide Association, are available at 9:45 a.m. and 1:45 p.m. Monday-Saturday and 1:45 p.m. on Sundays. Tour schedules also vary based on the academic calendar, university

holidays, and the home football schedule. Tours are conducted rain or shine, last about two hours, and include an information segment at the beginning. Reservations are required and can be arranged on-line at [www.clemson.edu/visitors/index.html](http://www.clemson.edu/visitors/index.html) or by calling 864- 656-4789.

## ADMISSION

Complete Admission information is available at [www.clemson.edu/admission](http://www.clemson.edu/admission).

## APPLICATION INFORMATION

Applicants should apply online at [www.clemson.edu](http://www.clemson.edu). Freshman candidates are especially encouraged to sit for the SAT or ACT, including the writing test, during the spring semester of their junior year.

Applicants should understand that admission is closed when all classroom space has been committed. The majority of freshman admission decisions are communicated during the middle of February. Transfer students seeking entrance in August are usually notified between February and July. Applicants must pay a nonrefundable application fee. This fee is not applicable toward tuition and/or other University fees.

### Application Deadlines

#### For Freshman Applicants

Spring semester	December 15
Fall semester	
Priority deadline	December 1
Final deadline	May 1

#### For Transfer Applicants

Spring semester	December 1
Fall semester	July 1

## FRESHMEN

Admission to the University is competitive and is based primarily upon high school curriculum, grades, class standing, and SAT or ACT scores. An applicant's intended major and state residency also receive consideration. To apply for admission, a candidate must submit an official high school transcript through his/her counselor and have results of the SAT or ACT sent directly from the testing agency. In addition, all applicants for freshman admission should complete the following courses in high school:

#### English—4 credits

All four courses must have strong grammar and composition components, with at least one in English literature and at least one in American literature. College preparatory English I, II, III, and IV will meet these requirements.

#### Mathematics—3 credits

These include algebra I (for which applied mathematics I and II may count together as a substitute if a student successfully completes algebra II), algebra II, and geometry.

#### Laboratory Science—3 credits

Two must be selected from biology I, chemistry I, or physics I.

#### Foreign Language—3 credits

All three must be earned in the same language.

#### Social Sciences—3 credits

American history is required. One-half credit of government and one-half credit of economics are also recommended.

#### Fine Arts—1 credit

#### Physical Education/ROTC—1 credit

#### Other—2 credits

One of these must be a fourth year of mathematics, laboratory science, or foreign language. Students interested in engineering are strongly encouraged to take a fourth year of mathematics. This course should be selected from precalculus, calculus, statistics, or discrete mathematics. The second credit must be in advanced mathematics, computer science, or a combination of these; or one unit of world history, world geography, or western civilization.

The SAT or ACT examination scores, rank in class, and academic preparation will be weighed carefully in the decision-making process. The applicant's acceptance will be confirmed upon presentation of a final high school transcript indicating continued academic progress and graduation.

## TRANSFER STUDENTS

Students should have official transcript(s) sent directly to Clemson's Admissions Office from the registrar of each college or university where credit was earned. A transcript that states "Issued to Student" is considered unofficial. Unless so stated on the transcript, the applicant should also present statements of honorable dismissal and of eligibility to return to the institution last attended. Transfer admission is moderately competitive. To increase their chances for admission, applicants should have the following qualifications:

- Completion of a year of college study after high school graduation with 30 semester hours (or 45 quarter hours) of transferable credit
- A minimum 2.5 grade-point average (3.0 preferred). Note: Majors such as Communication Studies; Construction Science and Management; General Engineering; Health Science; Landscape Architecture; Nursing; Parks, Recreation, and Tourism Management; Production Studies in Performing Arts; Visual Arts; Early Childhood Education; Elementary Education; Special Education; and some of the Secondary Education majors may have more selective admission standards. Students interested in these majors are encouraged to apply early and contact the Office of Admissions for current admission requirements.
- Freshman-level math, science, and English requirements for the intended major at Clemson
- Applicant must be in good standing and eligible to return to the institution last attended

Application deadlines are December 1 for consideration for the spring semester and July 1 for consideration for the fall semester. In most cases, admission decisions will be made once the year of college study is completed. Summer school applicants should have all credentials sent at least two weeks prior to the beginning of the term. Admission is closed when all classroom space has been committed.

Information regarding transfer from a South Carolina technical college is contained in the brochure *Advanced Standing*, available through the Office of Admissions at the address below. Prospective transfer students are also encouraged to refer to the University's website at [www.clemson.edu](http://www.clemson.edu) or the South Carolina Commission on Higher Education's website at [www.che400.state.sc.us](http://www.che400.state.sc.us).

Students who are unsure to which South Carolina college or university they would like to transfer after their initial coursework at a South Carolina technical college may follow the transfer block system. These transfer blocks are posted at [www.clemson.edu/admissions/undergraduate/transferring-credits/equivalency.html](http://www.clemson.edu/admissions/undergraduate/transferring-credits/equivalency.html). Depending on the student's chosen major, some courses may not be applicable toward a Clemson degree. Contact the Office of Admissions for information.

#### Transfer Admissions Officers

Becky D. Pearson, Associate Director of Admissions  
Kathryn Rice, Assistant Director of Admissions  
Lisi C. Campbell, Transfer Credit Coordinator  
105 Sikes Hall  
Clemson University  
Box 345124  
Clemson, SC 29634-5124  
Phone: 864-656-2287  
FAX: 864-656-2464

## Transfer Credit

Coursework completed with a grade of C or better at other regionally accredited institutions, including correspondence courses, telecourses, on-line courses, and exempted courses, will be evaluated for transfer credit. This does not guarantee that all courses taken at other institutions will be accepted for transfer. The acceptability of each course or exemption will be determined through an evaluation by the Office of Admissions, and will be based on content, level, comparability to Clemson courses, and applicability to Clemson degree requirements. Transfer courses are evaluated as a direct Clemson equivalent, elective credit, or not college transferable credit. Subject area electives are listed on the transfer course summary as 1999, 2999, 3999 or 4999. Courses that do not have direct Clemson equivalencies may possibly be substituted for required courses in a degree program with approval of the student's major advisor. Questions about how a course has been evaluated should be directed to the department responsible for teaching the course. If a course does not have a direct Clemson equivalency, the following abbreviations are used: NCT 0001 (Not College Transferable), ELEC 0001 (free elective credit), and 1999, 2999, 3999 or 4999 (subject area elective). To view a listing of how courses have been evaluated previously, visit the Transfer Course Equivalency List at <http://virtual.clemson.edu/groups/tcel>. Coursework earned at different institutions will not be joined to equate with one Clemson course. No course taken at a nonbaccalaureate-degree granting institution may be used as an equivalent or substitute for any 3000- or 4000-level Clemson course. Students must submit a registrar's explanation stating that a grade of P or S is equivalent to a C or better before transfer credit may be awarded.

Learning experiences including, but not limited to, military service schools, non-collegiate sponsored instruction, work-related experiences, etc. will not be evaluated for transfer; however, enrolled students may request credit by examination from the appropriate department for any non-transferable learning experience. For additional information, see *Advanced Placement and Credit by Examination* on page 27.

Students transferring may select the curriculum that was outlined in the Clemson University *Undergraduate Announcements* at the time they entered the sending institution, provided they have been in continuous enrollment. Further, transfer students may select any curriculum adopted subsequent to that initial curriculum. After enrolling at Clemson, if a transfer student changes from one major to another, the student will complete all of the requirements included in the new curriculum that are in effect at the time of the change. If all coursework toward a degree is not completed within six years after the initial enrollment at the sending institution, the student may be required to complete additional courses.

## GENERAL INFORMATION

### Entrance Examinations

All freshman candidates and some transfer students must submit scores from either the SAT or ACT. For August enrollment, it is recommended that students complete the SAT or ACT no later than the preceding December. Registration materials for these tests are readily available at high schools or by contacting the College Board at 609-771-7600 or 1-800-SAT-SCOR or [www.collegeboard.com](http://www.collegeboard.com) or the American College Testing Service at 319-337-1313 or [www.act.org](http://www.act.org). The College Board's institutional code for Clemson is 5111. The ACT code for Clemson is 3842. All candidates must

have their scores reported directly to Clemson by contacting the appropriate testing agency. Photocopies of student test reports or those submitted by third parties, such as high schools and colleges, are not accepted.

### International Baccalaureate (IB)

#### Credit Policy

Clemson University endorses the International Baccalaureate (IB) Program and awards credit for IB Higher Level scores as indicated below.

#### College Board Advanced Placement Program

The College Board Advanced Placement Program (AP) gives highly motivated high school students an opportunity to begin their college careers during the last year or two of high school. AP participants take college-level courses in high school, sit for nationally administered examinations in the subjects concerned, and submit test grades to Clemson for credit. Credit is awarded to those earning grades of 3, 4, or 5 on AP exams.

Applicants should be sure to include their social security numbers when registering for AP examinations; this will save time and ensure that credit is automatically awarded to their Clemson academic records.

#### Dual Enrollment

Dual enrollment courses enable high school students to take college-level courses and earn college credit before graduating from high school. Students should have official transcript(s) sent directly to Clemson's Admissions Office from the registrar of each college or university where credit was earned. A transcript that states "Issued to Student" is considered unofficial. Courses that have previously been evaluated are listed on the Transfer Course Equivalency List (TCEL) at [virtual.clemson.edu/groups/tcel](http://virtual.clemson.edu/groups/tcel). If a student has taken a course not listed on the TCEL, the course will be evaluated by the Office of Admissions once the student has been accepted by Clemson. Students will be notified by letter of the credit they will receive at Clemson before they enroll in the fall.

### South Carolina Governor's School for Science and Mathematics

Clemson awards college credit for selected biology, chemistry, and mathematics courses taken at the South Carolina Governor's School for Science and Mathematics. Credit is awarded to students enrolled at Clemson University who earn A or B in the SC-GSSM course(s).

### Placement Tests

**Mathematics Placement**—All new freshman and transfer students are required to complete the Clemson Mathematics Placement Test (CMPT). Placement in a mathematics course is determined by each student's CMPT score. Failure to complete the CMPT satisfactorily will result in placement in preparatory work that, in most cases, will not apply toward the general education mathematics requirement. Placement will be adjusted as appropriate after AP and IB scores or credits for previous mathematics courses have been received by Clemson.

IB Higher Level Examination	Score	Clemson Course(s) for Which Credit is Awarded	Credit Hours
Biology	4, 5, 6, 7	BIOL 1030/1050, 1040/1060	8
Business and Management	4, 5, 6, 7	MGT 2010	3
Chemistry	4, 5, 6, 7	CH 1010 (for majors requiring organic chemistry)	4
	4, 5	CH 1010 (for majors not requiring organic chemistry)	4
	6, 7	CH 1010, 1020 (for majors not requiring organic chemistry)	8
Computer Science	4	CPSC 1110	3
	5, 6	CPSC 1010	4
	7	CPSC 1010, 1020	8
Dance	4, 5, 6, 7	ELEC 0001 <sup>4</sup>	3
Design Technology	4, 5, 6, 7	ELEC 0001 <sup>4</sup>	3
Economics	4, 5, 6, 7	ECON 2110, 2120	3
English (Language A: Literature or Language and Literature)	4	ENGL 1999 <sup>5</sup>	3
	5, 6	ENGL 1999 <sup>5</sup> , 2120	6
	7	ENGL 1999 <sup>5</sup> , 1030, 2120	9
Film	4, 5, 6, 7	ELEC 0001 <sup>4</sup>	3
Foreign Language (Language B)	4	ARAB 1010, CHIN 1010, FR 1010, GER 1010, ITAL 1010, JAPN 1010, LATN 1010, PORT 1010, RUSS 1010, or SPAN 1010 (dependent upon language)	4
	5, 6, 7	ARAB 1010, 1020, CHIN 1010, 1020, FR 1010, 1020, GER 1010, 1020, ITAL 1010, 1020, JAPN 1010, 1020, LATN 1010, 1020, PORT 1010, 1020, RUSS 1010, 1020, or SPAN 1010, 1020 (dependent upon language)	8
Geography	4, 5, 6, 7	GEOG 1010	3
History			
Route 1: Higher Level Option—Europe and the Islamic World	4, 5, 6, 7	ELEC 0001 <sup>4</sup>	3
Route 2: Higher Level Option—Asia and Oceania	4, 5, 6, 7	HIST 1930	3
Africa		ELEC 0001 <sup>4</sup>	3
Europe and the Middle East		ELEC 0001 <sup>4</sup>	3
The Americas		ELEC 0001 <sup>4</sup>	3
Information Technology in a Global Society	4, 5, 6, 7	STS 1200	3
Islamic History	4, 5, 6, 7	ELEC 0001 <sup>4</sup>	3
Mathematics	4, 5	MATH 1060 or MATH 1020 <sup>1</sup>	4
	6, 7	MATH 1060 or MATH 1020 <sup>2</sup>	8
Music	4, 5, 6, 7	ELEC 0001 <sup>3,4</sup>	3
Philosophy	4, 5, 6, 7	PHIL 1010	3
Physics	4	PHYS 2070/2090	4
	5, 6, 7	PHYS 2070/2090, 2080/2100	8
Psychology	4, 5, 6, 7	PSYC 2010	3
Social and Cultural Anthropology	4, 5, 6, 7	ELEC 0001 <sup>4</sup>	3
Theatre Arts	4, 5, 6, 7	ELEC 0001 <sup>3,4</sup>	3
Visual Arts	4, 5, 6, 7	ART 1030	3

<sup>1</sup>For students taking the calculus sequence, MATH 1060 and 1080, a score of 4 or 5 on the HL Mathematics examination earns placement in MATH 1080. Upon completion of MATH 1080 with a grade of C or better, credit will be given for MATH 1060. For students taking the MATH 1020 and 2070 calculus sequence, a score of 4 or 5 on the HL Mathematics examination earns placement in MATH 2070. Upon completion of MATH 2070 with a grade of C or better, credit will be given for MATH 1020. If the student does not enroll in MATH 1080 or 2070, or does not pass the sequential class (MATH 2070 or 1080) with a grade of C or higher, three credits of elective (ELEC 0001) will be awarded for a score of 4 or 5 on the Mathematics HL exam.

<sup>2</sup>A score of 6 or 7 on the HL Mathematics examination earns credit for either MATH 1020 or 1060 but not both. Elective credit is awarded for a score of 4 or 5 on the Mathematics IB exam if the student does not enroll in MATH 1080 or 2070 or does not pass the sequential class (MATH 2070 or 1080) with a C or higher.

<sup>3</sup>Courses determined on an individual basis. See department.

<sup>4</sup>ELEC 0001 is a transfer elective credit.

<sup>5</sup>ENGL 1999 is an English elective credit.

**Foreign Language Placement**—The Department of Languages offers placement tests that students are required to take during summer orientation. Any student who has had at least one year of a foreign language and who decides to continue with the same language at Clemson, must take one of these tests. Applicants desiring advanced placement in a foreign language may take the College Board's SAT Subject Test, Advanced Placement (AP) Examinations, or the International Baccalaureate (IB) Higher Level Examination. SAT Subject Test scores of 450

or higher enable students to exempt one or more language courses. These students will receive credit following the successful completion (grade of C or better) of a qualifying course at Clemson.

### GED

Candidates submitting General Educational Development (GED) credentials in lieu of a high school diploma must be 19 years of age or older. Official GED score results must be received directly from the General Educational Development Testing Service

along with an official copy of the high school transcript and SAT or ACT scores. Applicants presenting the GED will be reviewed by the Undergraduate Admissions Committee.

### Appeals

Any freshman or transfer candidate who is denied admission may appeal for reconsideration provided the student (1) presents new information, such as improved grades and/or class rank, improved SAT or ACT scores; and (2) submits an on-line appeal form outlining the rationale for the appeal. All appeals will be reviewed by the Office of Admissions and referred to the Undergraduate Admissions Committee.

Freshman students who are accepted to and enrolled in Clemson University in a conditional admissions program through the appeals process must meet the conditions of their admission or be subject to disenrollment.

### Admission Exceptions

If it is not possible to make a positive decision on the basis of previous academic performance and SAT or ACT scores, other factors, such as special talents or high school profile, may be considered. Where appropriate, the Office of Admissions will refer such cases to the Undergraduate Admissions Committee. Student athletes who do not meet regular admissions standards may be admitted if they meet Atlantic Coast Conference (ACC) and National Collegiate Athletic Association (NCAA) eligibility requirements.

### College Board College-Level Examination Program (CLEP)

CLEP is designed primarily for adults with nontraditional learning experiences. This program has very limited recognition at Clemson. A few departments accept credit for CLEP subject-matter examinations; however, CLEP General Examinations are not recognized. Credit is awarded for introductory-level courses according to criteria established by the following departments: Chemistry, English (composition only). Numerical scores plus essays, required when offered as part of a CLEP examination, will be evaluated by the appropriate department.

### ADMISSION DEPOSIT

All accepted freshman and transfer candidates for fall semester are required to submit a nonrefundable \$200 admission deposit. This deposit is applicable toward tuition and other University fees and may be paid by credit card.

### HOUSING

All freshmen who are under the age of 21 at the time of enrollment, who do not live with parent/guardian(s) [within a 50-mile radius of campus], are required to live in University housing for the fall and spring semesters.

For the purpose of this agreement, transfer students are not considered freshmen. Transfer students are housed on a space available basis.

## ADVANCED PLACEMENT CREDIT CHART

Discipline	AP Exam	Score	Clemson Course(s) for which credit is awarded	Credit Hours
CAPSTONE	Research Seminar	3, 4, 5	ELEC 0001 <sup>4</sup>	3
ECONOMICS	Microeconomics	3, 4, 5	ELEC 0001 <sup>4</sup>	3
	Macroeconomics	3, 4, 5	ECON 2110	3
ENGLISH	Literature and Composition <sup>1</sup>	3, 4	ECON 2120	3
	Language and Composition <sup>1</sup>	5	ENGL 1999 <sup>5</sup>	3
GEOGRAPHY	Both Tests	3, 4, 5	ENGL 1999 <sup>5</sup> , 1030	6
	Human Geography	3, 4, 5	ENGL 1999 <sup>5</sup>	3
GOVERNMENT	Government & Politics: United States	3, 4, 5	ENGL 1999 <sup>5</sup> , 1030	6
	Government & Politics: Comparative	3, 4, 5	GEOG 1010	3
HISTORY	United States History	3	POSC 1010	3
	European History	4, 5	POSC 1040	3
HUMANITIES	World History	3, 4, 5	HIST 1010	3
	Music Theory	3, 4, 5	HIST 1010, 1020	6
LANGUAGES	Art History	3, 4, 5	HIST 1730	3
	Studio Art: Drawing	3	HIST 1930	3
LANGUAGES	Studio Art: 2-D Drawing	4	MUSC 1420, 1430	4
	Studio Art: 3-D Drawing	5	ART 2100	3
LANGUAGES	Chinese Language and Culture	3, 4	ELEC 0001 <sup>4</sup>	3
	French Language and Culture	5	ART 1030	3
LANGUAGES	German Language and Culture	3, 4, 5	ART 1050	3
	Italian Language and Culture	4, 5	ELEC 0001 <sup>4</sup>	3
LANGUAGES	Japanese Language and Culture	3, 4	ART 1030	3
	Latin	5	CHIN 1010, 1020, 2010	11
LANGUAGES	Spanish Language	3, 4, 5	CHIN 1010, 1020, 2010, 2020	14
	Spanish Literature and Culture	3	FR 1010, 1020	8
MATHMATICS	Calculus AB	3, 4, 5	GER 1010, 1020	8
	Calculus BC <sup>2</sup>	3, 4, 5	ITAL 1010, 1020, 2010	11
PSYCHOLOGY SCIENCES	Statistics	3, 4, 5	ITAL 1010, 1020, 2010, 2020	14
	Psychology	3, 4, 5	JAPN 1010, 1020, 2010	11
PSYCHOLOGY SCIENCES	Biology	3	JAPN 1010, 1020, 2010, 2020	14
	Chemistry	4, 5	LATN 1010, 1020, 2010	11
PSYCHOLOGY SCIENCES	Computer Science A	3, 4, 5	LATN 1010, 1020, 2010, 2020	14
	Environmental Science	3, 4, 5	LATN 1010, 1020, 2010, 2020	14
PSYCHOLOGY SCIENCES	Physics 1	3, 4, 5	SPAN 1010, 1020	8
	Physics 2	3, 4, 5	SPAN 1010, 1020, 2010	11
PSYCHOLOGY SCIENCES	Physics C (Mechanics)	3, 4, 5	SPAN 1010, 1020, 2010, 2020	14
	Physics C (E and M)	3, 4, 5	MATH 1060	4
PSYCHOLOGY SCIENCES	Physics C (E and M)	3, 4, 5	MATH 1060, 1080	8
	Physics C (E and M)	3, 4, 5	STAT 2300	3
PSYCHOLOGY SCIENCES	Physics C (E and M)	3, 4, 5	PSYC 2010	3
	Physics C (E and M)	3, 4, 5	BIOL 1030/1050, 1040/1060	8
PSYCHOLOGY SCIENCES	Physics C (E and M)	3, 4, 5	BIOL 1100, 1110	10
	Physics C (E and M)	3, 4, 5	CH 1010	4
PSYCHOLOGY SCIENCES	Physics C (E and M)	3, 4, 5	CH 1010, 1020	8
	Physics C (E and M)	3, 4, 5	CPSC 1010	4
PSYCHOLOGY SCIENCES	Physics C (E and M)	3, 4, 5	ENSP 2000	3
	Physics C (E and M)	3, 4, 5	PHYS 2070/2090	4
PSYCHOLOGY SCIENCES	Physics C (E and M)	3, 4, 5	PHYS 2080/2100	4
	Physics C (E and M)	3, 4, 5	PHYS 1220/1240	4
PSYCHOLOGY SCIENCES	Physics C (E and M)	3, 4, 5	PHYS 2210/2230	4
	Physics C (E and M)	3, 4, 5	PHYS 2210/2230	4

<sup>1</sup>Students who earn a score of 3 or 4 should register for ENGL 1030.

<sup>2</sup>Students who earn a score of 2 on the Calculus BC examination, but earns a score of 3 (or better) on the AB subscore of the BC examination, may receive credit for MATH 1060.

<sup>3</sup>Students enrolling in a degree program requiring calculus-based physics (PHYS 1220, 1240, 2210, 2220, 2230, 2240), who earns a grade of 5 on Physics B, will be asked to meet with a departmental representative for further evaluation and placement counseling.

<sup>4</sup>ELEC 0001 is a transfer elective credit

<sup>5</sup>ENGL 1999 is English elective credit



## ORIENTATION PROGRAMS

The University offers a series of orientation programs during the summer for freshmen and transfer students and their parents/guests. All accepted students are required to attend one of the sessions. During orientation, students will have an opportunity to discuss their educational objectives with an advisor, to register for the fall semester, and to learn about student life and other co-curricular activities. All new students will register for their first semester at Clemson during orientation. For more information about the orientation programs fee structure, visit [www.clemson.edu/orientation](http://www.clemson.edu/orientation).

### 2015 Summer Orientation Dates

Freshmen	New Transfer
June 15-16	June 17 (Bridge and Veterans Only)
June 18-19	
June 22-23	June 24
June 25-26	July 1
June 29-30	July 15
July 7-8	
July 9-10	
July 13-14	
July 16-17	

International students are expected to attend an additional session, which is conducted by the International Services office. Additional information is available at [www.clemson.edu/administration/ia/services](http://www.clemson.edu/administration/ia/services) or by emailing [is@clemson.edu](mailto:is@clemson.edu).

## INTERNATIONAL UNDERGRADUATES

Admission services for undergraduate international students are provided by the Office of Admissions. International students who come from abroad or transfer from another school must meet academic, language, and financial qualifications as determined by Clemson University. Transcripts, mark sheets, and academic records must be verified by a certified U.S. educational consultant agency. Prospective transfer students must provide translated course descriptions for coursework to be evaluated for Clemson academic credit. The SAT or ACT is required of all international applicants (freshman or transfer). The Test of English as a Foreign Language (TOEFL) is required of applicants from countries where English is not the native language. Financial qualifications are determined by the submission of a financial certification form and bank statements verifying adequate funding. The International Services office provides visa enabling documents and advising services. For more information, visit <http://www.clemson.edu/admissions/undergraduate/index.html>. For International Student Procedures and Requirements, visit <http://www.clemson.edu/admissions/undergraduate/requirements/international.html>.

## SPECIAL STUDENT STATUS

Special students can enroll in a limited number of undergraduate credit hours and are classified with a non-degree status. Examples of special students include: high school students wishing to dual enroll

in preapproved courses, individuals wishing to take courses for personal enjoyment and professional development, and individuals needing prerequisites for professional schools. Students interested in graduate studies at Clemson who need undergraduate prerequisite courses should apply non-degree through the Clemson Graduate School.

The special student status is not a "trial admission" status and students who have been denied regular admission are not eligible.

The number of undergraduate credit hours taken in this status may vary by program, but no more than 18 semester hours will be allowed. Once the credit hour limit has been reached, the student must apply to a degree seeking program if he wishes to take additional courses. Applicants should apply online at [www.clemson.edu](http://www.clemson.edu) and supporting documents may be requested if needed. Financial aid is not available.

## READMISSION OF FORMER UNDERGRADUATES

Undergraduate students (not special or transient students) who have previously attended Clemson, and are not currently enrolled in the current term and wish to return, must apply online at <http://www.registrar.clemson.edu/html/formerStu.htm>. The Undergraduate Application for Re-Admission fee is \$25.00 and online instructions for payment are provided in the application. Acceptance letters and registration materials are e-mailed to returning students at the e-mail address provided on the application once the student has been re-accepted. Students who have graduated from Clemson applying as former students returning are assigned a program of "Non-Degree Seeking Undergraduate." These students must complete a Change of Program form through the Office of Enrolled Student Services located in 104 Sikes Hall. Students who have not graduated from Clemson applying as former students returning to continue their undergraduate studies are readmitted into their previous major, but under the catalog year during which they are readmitted. Students with senior status—90+ hours—are readmitted into their previous major and the catalog year during which they last attended the University. If a student's previous major has been discontinued, the student is assigned a program of "Non-Degree Seeking Undergraduate" and must complete a Change of Program form and select a degree-granting program. Students are required to satisfy the University's general education requirements in addition to curricular requirements. Any variations in curricular requirements will be considered under the substitution procedures. If all work toward a degree is not completed within six years after entrance, the student may be required to take additional courses. Other information can be obtained from the Registrar's Office.

Any student who is classified as an in-state student for tuition and fees purposes must reaffirm his or her resident status upon application for readmission to the University. If the resident status of an individual changes, that student will be classified as out-of-state for tuition and fees purposes upon readmission to the University. If the resident status is not immediately clear, the student may be required to submit an application for resident status to the Office of Residency Classification.

## ILLEGAL IMMIGRATION REFORM ACT PROCESS

Section 59-101-430 of the South Carolina Code of Laws states:

"(A) An alien unlawfully present in the United States is not eligible to attend a public institution of higher learning in this State, as defined in Section 59-103-5. The trustees of a public institution of higher learning in this State shall develop and institute a process by which lawful presence in the United States is verified. In doing so, institution personnel shall not attempt to independently verify the immigration status of any alien, but shall verify any alien's immigration status with the federal government pursuant to 8 U.S.C. Section 1373 (c).

(B) An alien unlawfully present in the United States is not eligible on the basis of residence for a public higher education benefit including, but not limited to, scholarships, financial aid, grants, or resident tuition."

In accordance with section 59-101-430 of the SC Code of Laws, also known as the South Carolina Illegal Immigration Reform Act, the Clemson University Board of Trustees hereby institutes the following process:

### I. PROCESS

All applicants to Clemson University are required to verify on their application whether they are a U.S. citizen, Permanent Legal Resident or will be lawfully present in the United States at the time of enrollment on some other grounds. Enrollment at Clemson University for both undergraduate and graduate students is conditioned upon verification of lawful presence in the United States.

South Carolina Code of Law section 59-101-430 prohibits Clemson University from independently verifying the status of any legal alien. An alien's status must be verified with the federal government. Therefore, Clemson University will use either the Student and Exchange Visitor Program (SEVIS), a Web-based technology that tracks and monitors schools and programs, students, exchange visitors and their dependents throughout the duration of approved participation with the U.S. education system, or the Systematic Alien Verification for Entitlements (SAVE) program, Homeland Security's online system of alien status determination or any federal source of information about lawful alien presence that becomes available to Clemson University.

The Board of Trustees delegates responsibility for administering the details of this process to the Provost and the Office of Academic Affairs.

## FINANCIAL INFORMATION

The annual State Appropriation Act imposes the general requirement that student fees be fixed by the University Board of Trustees. The act imposes two specific requirements on the board: (1) In fixing fees applicable to academic and general maintenance and operation costs, the board must maintain a minimum student fee not less than the fee charged the previous year. (2) In fixing fees applicable to residence hall rental, dining halls, laundry, infirmary, and all other personal subsistence expenses, the Board must charge students an amount sufficient to cover fully the cost of providing such facilities and services.

The tuition and fees for all students—full or part time and auditing—are available at [www.clemson.edu/cfo/student-financials/](http://www.clemson.edu/cfo/student-financials/). Satisfactory settlement of all expenses is a requirement for completing each semester's class registration, and no student is officially enrolled until all past due accounts have been satisfied. Financial aid cannot be used to satisfy balances forward from a prior academic year.

Currently enrolled students who expect to continue enrollment may make housing reservations by preregistering on-line during the spring semester at a time designated by the Housing Office.

New students who are offered on-campus housing accommodations must pay a nonrefundable \$100 housing application fee and a \$200 admission deposit. The admissions deposit is deducted from the amount otherwise due for the first semester expenses. (Note: Policies regarding priority to/offering of on-campus housing are subject to change.)

All College of Business and Behavioral Science majors, and other non-majors taking 3000- and 4000-level courses offered by the college, are required to pay a differential fee to fund significant infrastructure and program enhancements. Additional information about this fee is available at [business.clemson.edu/special/enhanced/enhanced\\_fees.htm](http://business.clemson.edu/special/enhanced/enhanced_fees.htm).

### TUITION AND FEES

Detailed tuition and fee information is available at [www.clemson.edu/cfo/student-financials/](http://www.clemson.edu/cfo/student-financials/). Note: A late payment fee will be assessed if fees are not satisfied by published deadlines.

#### Full-Time Fees

Students must be enrolled in 12 semester hours to pay full-time fees. Students enrolled in less than 12 hours or who drop below 12 hours may become ineligible for some student services, financial aid, or other programs.

#### Part-Time Fees

Students taking less than 12 semester credit hours will be charged according to the schedule at [www.clemson.edu/cfo/student-financials/](http://www.clemson.edu/cfo/student-financials/). These fees do not provide for admission to athletic events, concert series, and other such activities.

### Notice to Customers Making Payment by Check

If a check is mailed for payment, it may be converted into an electronic funds transfer (EFT). This means a copy of the check will be made and the account information will be used to debit the bank account electronically for the amount of the check. The debit from the bank account will usually occur within 24 hours and will be shown on the drawer's bank account statement. The original check will not be returned to the drawer. It will be destroyed, but Student Financial Services will retain a copy of it. If the EFT cannot be processed for technical reasons, the drawer authorizes the University to process the copy in place of the original check. If the EFT cannot be completed due to insufficient funds, the University may try twice more to make the transfer. A returned item fee of \$30 will be charged and collected by EFT.

### Returned Checks, EFTs, and Credit Card Payments

A check, EFT, or credit card given in payment of University expenses that is returned unpaid by the bank creates an indebtedness to the University.

Student Financial Services will re-present returned items for payment of academic fees. A \$30 fee will be charged for each returned item. If a check is returned or dishonored for any reason, the student's account may be debited electronically for the amount of the check plus the \$30 returned item fee.

If the item is returned to the University in a timely manner with no response from the student or drawer, a written request to disenroll the student will be made to the Registrar. If the request is approved, the percentage of refund will be applied to the debt. If the item is returned after the mid-point of the semester with no response, a decision will be made by the Director of Student Financial Services and the Registrar as to the effect of disenrollment. The University may restrict subsequent payment for academic and other fees by accepting only cash, certified checks, or money orders.

Any individual who uses a two-party check for payment of University expenses will be held responsible for that check if it is returned unpaid by the bank. Items used as payment for various University services such as meal plans, housing, etc., that are later returned unpaid by the bank, give the University the right to cancel such services and cause forfeiture of any refund.

Any returned items not collected by the above procedures may be turned over to a collection agency, the indebtedness reported to a credit bureau and collection fees will be added to the account. Transcripts and diplomas will be withheld pending payment, and the debt may be deducted from state income tax refunds.

Abuse of check payment privileges may result in the restriction of such privileges for an indefinite period of time based on the frequency and/or dollar amount, as determined by Student Financial Services.

### Past Due Accounts

Any indebtedness to the University that becomes past due, immediately jeopardizes the student's enrollment, and no such student will be permitted to re-enroll for an ensuing semester or summer term. Billing fees and/or collection fees may be added to the indebtedness. Further, any student who fails to pay all indebtedness, including collection fees, to the University may not be issued a transcript or diploma. Unresolved debts may be turned over to a collection agency, reported to a credit bureau, and deducted from state income tax refunds. Debts include, but are not limited to, parking violations, library fines, rent, and academic fees.

### Refund of Academic Fees

**(Tuition, University Fee, and Health Fee) for Students Withdrawing, Dropping to Part Time, or Part-Time Students Dropping Credit Hours**

No refunds will be made on a semester's tuition and fees after four weeks from the last day to register. In the case of a withdrawal from the University, refunds will be based on the effective date of the withdrawal. In the case of a withdrawal from a course, refunds will be based on the date the student drops the course using the on-line registration system. To be eligible for a refund, the student's request must be received by Student Financial Services prior to the beginning of the next fall/spring semester or subsequent summer term. Beginning with the day following the last day to register, refunds for periods of four weeks or less during fall/spring semester shall be made on the following basis. Students receiving Title IV Financial Aid follow a different policy.

#### Fall/Spring Semester

Period of Enrollment	Percent Refund
Registration day(s) in published calendar	100%
After last day to register:	
One week or less	80%
More than 1 but not more than 2 weeks	60%
More than 2 but not more than 3 weeks	40%
More than 3 but not more than 4 weeks	20%
More than 4 weeks	0%

#### Summer Sessions

Period of Enrollment	Length of Session Percent Refund			
	Less Than 3 wks.	3 wks.	5 or 6 wks.	More Than 6 wks.
Registration day(s) in published calendar	100%	100%	100%	100%
After last day to register:				
One week or less	0%	40%	60%	60%
More than 1 but not more than 2 weeks	0%	0%	20%	40%
More than 2 but not more than 3 weeks	0%	0%	0%	20%
More than 3 weeks	0%	0%	0%	0%

### Refund of Dining Hall Fees

See the section on Dining on page 23.

## Cancellations of the Housing Contract for All New Students

### Cancellation of the Contract Prior to May 15, 2015

Students who sign contracts after May 15, 2015 are subject to all cancellation procedures and charges outlined below.

New freshman may only use this option if commuting from home [living with parent/guardian(s)] and only within a 50-mile radius of campus.

### Cancellation of the Contract After May 15, 2015

The contract may be terminated after May 15, 2015 for the following reasons: withdrawal from school; marriage (no more than four weeks prior to the wedding date); or, circumstances determined by the University to be sufficiently extenuating as to warrant cancellation (documentary evidence will be required).

### Appeals Committee

Please visit the Housing & Dining website and follow the navigation to the Appeals Process for forms and instructions.

Continuing students have the option to cancel their electronically signed contract within 72 hours of receiving their assignment notification.

### Appeals Committee

Students are encouraged first to contact the Assignments Office with concerns regarding the contract cancellation process. If the concerns are not resolved satisfactorily, the student is encouraged to submit such concerns to the Appeals Committee.

### Proper Notice of Cancellation Request

Students who desire to request cancellation of this contract must contact University Housing at 864-656-2295 or [clemsonghome@clemsong.edu](mailto:clemsonghome@clemsong.edu) for instructions.

## Refunds of Financial Aid for Students Withdrawing from the University

Refunds of academic fees are made in accordance with semester and summer session refund policies. University housing refunds are made according to the policy above. Meal plan refunds are made on a pro rata basis.

Since financial aid is expected to meet or help meet educational costs, any academic fee, housing, or meal plan fee for students withdrawing from the University up to the amount of financial aid received for that semester or summer session, will be refunded to the Financial Aid Program(s) from which the student received assistance.

Students receiving Title IV Funds (Federal Pell Grant, Federal SEOG, Federal Perkins, Federal Direct Loans-unsub or sub) or Federal PLUS Loans who withdraw from the University are subject to the Return of Title IV Funds regulations. Students with funds from any of these programs earn their financial aid dollars while enrolled. If a student withdraws prior to completing more than 60% of a term, a prorated portion of the federal financial aid dollars must be considered unearned and returned to the federal programs and could cause students to owe the University a significant amount upon withdrawal.

In addition to the amount of federal aid that Clemson must return, students who received financial aid for other educational costs, including off-campus living expenses, may be required to repay a portion of those funds to the federal programs. Failure to return aid owed to the federal aid programs may result in loss of eligibility for federal aid assistance.

Federal aid funds to be returned are distributed to the programs in the following order:

- Unsubsidized Federal Direct Loan
- Subsidized Federal Direct Loan
- Federal Perkins Loan
- Federal PLUS Loan
- Federal Pell Grant
- Federal SEOG
- Other Title IV Programs
- Non-Title IV Programs

After the refund has been applied to the Title IV and non-Title IV programs, any refund balance will be refunded to the student.

If debts were incurred before withdrawing, such as bad checks, unpaid traffic or library fines, etc., the refund will cover these obligations first. Academic fees, housing, and meal plan refunds for students withdrawing will be paid to the student.

## RESIDENT TUITION AND FEES

### Application for Resident Status

Any undergraduate student or prospective student whose status concerning entitlement to payment of in-state tuition and fees is uncertain has the responsibility of securing a ruling from the University by providing all relevant information on special application forms. These forms can be obtained online, and are to be completed and returned to that office prior to the first day of class for any semester or summer term for which the student is attempting to qualify for payment of the in-state tuition and fee rate. For more information, visit [clemsong.edu/financial-aid/residency/index.html](http://clemsong.edu/financial-aid/residency/index.html).

### Entitlement

Eligibility for payment of in-state tuition and fees shall be determined under the provisions of Sections 59-112-10 through 59-112-100, South Carolina Code of Laws, 1976, as amended. This law is set forth in its entirety as follows (subject to further amendment by the General Assembly).

### Statutes

**59-112-10—Definitions.** As used in this chapter:

A. The words "State Institution" shall mean those post-secondary educational institutions under the jurisdiction of the following: (1) Board of Trustees, Clemson University; (2) Board of Trustees, Medical University of South Carolina; (3) Board of Trustees, South Carolina State College; (4) State College Board of Trustees; (5) Board of Visitors, The Citadel; (6) Board of Trustees, University of South Carolina; (7) Board of Trustees, Winthrop University; and (8) State Board of Technical and Comprehensive Education.

B. The word "student" shall mean any person enrolled for studies in any state institution.

C. The word "residence" or "reside" shall mean continuous and permanent physical presence within this State, provided, that temporary absences for short periods of time shall not affect the establishment of a residence.

D. The word "domicile" shall mean a person's true, fixed, principal residence and place of habitation; it shall indicate the place where such person intends to remain, and to which such person expects to return upon leaving without establishing a new domicile in another state. For purposes of this section one may have only one legal domicile; one is presumed to abandon automatically an old domicile upon establishing a new one. Housing provided on an academic session basis for students at State institutions shall be presumed not to be a place of principal residence, as residency in such housing is by nature temporary.

E. The words "in-state rates" shall mean charges for tuition and fees established by State Institutions for persons who are domiciled in South Carolina in accordance with this act; the words "out-of-state rates" shall mean charges for tuition and fees established by State Institutions for persons who are not domiciled in South Carolina in accordance with this act.

F. The words "independent person" shall mean a person in his majority, or an emancipated minor, whose predominant source of income is his own earnings or income from employment, investments, or payments from trusts, grants, scholarships, loans, or payments of alimony or separate maintenance made pursuant to court order.

G. The words "dependent" or "dependent person" mean: (1) one whose financial support is provided not through his own earnings or entitlements, but whose predominant source of income or support is payments from a parent, spouse, or guardian, and who qualifies as a dependent or an exemption on the federal tax return of the parent, spouse, or guardian; or (2) one for whom payments are made, under court order, for child support and the cost of his college education by an independent person meeting the provisions of Section 59-112-20 A or B. However, the words "dependent" or "dependent person" do not include a spouse or former spouse who is the recipient of alimony or separate maintenance payments made pursuant to court order.

H. The word "minor" shall mean a person who has not attained the age of eighteen years; and the words "emancipated minor" shall mean a minor whose parents have entirely surrendered the right to the care, custody and earnings of such minor and are no longer under any legal obligation to support or maintain such minor.

I. The word "parent" shall mean a person's natural or adoptive father or mother; or if one parent has custody of the child, the parent having custody; or if there is a guardian or other legal custodian of such person, then such guardian or legal custodian; provided, however, that where circumstances indicate that such guardianship or custodianship was created primarily for the purpose of conferring South Carolina domicile for tuition and fee purposes on such child or dependent person, it shall not be given such effect.

J. The word "spouse" shall mean the husband or wife of a married person.

**59-112-20—South Carolina Domicile Defined for Purposes of Rates of Tuition and Fees.** South Carolina domicile for tuition and fee purposes shall be established as follows in determinations of rates of tuition and fees to be paid by students entering or attending State Institutions:

A. Independent persons who reside in and have been domiciled in South Carolina for a period of no less than twelve months with an intention of making a permanent home herein, and their dependents, may be considered eligible for in-state rates.

B. Independent persons who reside in and have been domiciled in South Carolina for fewer than twelve months but who have full-time employment in the State, and their dependents, may be considered eligible for in-state rates for as long as such independent person is employed on a full-time basis in the State.

C. Where an independent person meeting the provisions of Section 59-112-20 B above, is living apart from his spouse, or where such person and his spouse are separated or divorced, the spouse and dependents of such independent person shall have domiciliary status for tuition and fee purposes only under the following circumstances: (1) if the spouse requesting domiciliary status for tuition and fee purposes remains domiciled in South Carolina although living apart or separated from his or her employed spouse, (2) if the dependent requesting domiciliary status for tuition and fee purposes is under the legal custody or guardianship, as defined in Section 59-112-10I above, of an independent person who is domiciled in this State; or if such dependent is claimed as an income tax exemption by the parent not having legal custody but paying child-support, so long as either parent remains domiciled in South Carolina.

D. The residence and domicile of a dependent minor shall be presumed to be that of the parent of such dependent minor.

**59-112-30—Effect of Change of Residency.** When the domicile of a student or of the person upon whom a student is financially dependent changes after enrollment at a State Institution, tuition charges shall be adjusted as follows:

A. Except as provided in Section 59-112-20B above, when domicile is taken in South Carolina, a student shall not become eligible for in-state rates until the beginning of the next academic session after expiration of twelve months from date of domicile in this State.

B. When South Carolina domicile is lost, eligibility for in-state rates shall end on the last day of the academic session in which the loss occurs; however, application of this subsection shall be at the discretion of the institution involved.

C. Notwithstanding the other provisions of this section, any dependent person who has been domiciled with his family in South Carolina for a period of not less than three years immediately prior to his enrollment may enroll in a state-supported institution of higher learning at the in-state rate and may continue to be enrolled at such rate even if the parent, spouse, or guardian upon whom he is dependent moves his domicile from this State.

**59-112-40—Effect of Marriage.** Except as provided in Section 59-112-20 above, marriage shall affect determinations of domicile for tuition and fee purposes only insofar as it operates to evince an intention by the parties to make a permanent home in South Carolina.

**59-112-50—Military Personnel and Their Dependents.** Notwithstanding other provisions of this act, during the period of their assignment to duty in South Carolina members of the armed services of the United States stationed in South Carolina and their dependents may be considered eligible for in-state rates. When such armed service personnel are ordered away from the State, their dependents may continue for an additional twelve months to have this eligibility at the State Institutions where they are enrolled at the time such assignment ends. Such persons and their dependents may be considered eligible for in-state rates for a period of twelve months after their discharge from the armed services even though they were not enrolled at a State Institution at the time of their discharge, if they have evinced an intent to establish domicile in South Carolina and if they have resided in South Carolina for a period of at least twelve months immediately preceding their discharge.

**59-112-60—Faculty, Administrative Employees and Dependents Thereof.** Full-time faculty and administrative employees of State Institutions, and the spouses and children of such persons, shall be excluded from the provision of this act.

**59-112-70—Abatement of Rates for Nonresidents on Scholarship.** Notwithstanding other provisions of this act, the governing boards listed in Section 59-112-10A above, are authorized to adopt policies for the abatement of any part or all of the out-of-state rates for students who are recipients of scholarship aid.

**59-112-80—Administration of Chapter; Burden of Proving Eligibility of Students.** Each State Institution shall designate an official to administer the provisions of this act. Students making application to pay tuition and fees at in-state rates shall have the burden of proving to the satisfaction of the aforesaid officials of State Institutions that they have fulfilled the requirements of this act before they shall be permitted to pay tuition and fees at such rate.

**59-112-90—Penalties for Willful Misrepresentation.** Where it appears to the satisfaction of officials charged with administration of these provisions that a person has gained domiciliary status improperly by making or presenting willful misrepresentations of fact, such persons should be charged tuition and fees past due and unpaid at the out-of-state rate, plus interest at a rate of eight percent per annum, plus a penalty amounting to twenty-five percent of the out-of-state rate for one semester; and until these charges have been paid no such student shall be allowed to receive transcripts or graduate from any State Institution.

**59-112-100—Regulations.** The Commission on Higher Education may prescribe uniform regulations for application of the provisions of this act and may provide for annual review of such regulations.

## ARTICLE V

### Determination of Rates of Tuition and Fees

(Statutory Authority: 1976 Code Sections 59-112-10 to 59-112-100)

#### 62-600. Rates of Tuition and Fees.

A. Resident classification is an essential part of tuition and fee determination, admission regulations, scholarship eligibility, and other relevant policies of the state. It is important that institutions have fair and equitable regulations that can be administered consistently and are sensitive to the interests of both students and the state. The Commission on Higher Education hereby establishes regulations for the Statute Governing Residency for Tuition and Fee Purposes to be applied consistently by all South Carolina institutions of higher education. These regulations do not address residency matters relating to in county categories used within the State's technical colleges.

B. Institutions of higher education are required by the Statute to determine the residence classification of applicants. The initial determination of one's resident status is made at the time of admission. The determination made at that time, and any determination made thereafter, prevails for each subsequent semester until information becomes available that would impact the existing residency status and the determination is successfully challenged. The burden of proof rests with the students to show evidence as deemed necessary to establish and maintain their residency status.

#### 62-601. Code of Laws Governing Residence.

Rules regarding the establishment of legal residence for tuition and fee purposes for institutions of higher education are governed by Title 59, Chapter 112 of the 1976 South Carolina Code of Laws, as amended.

#### 62-602. Definitions.

A. "Academic Session" is defined as a term or semester of enrollment. (62-607.B)

B. "Continue to be Enrolled" is defined as continuous enrollment without an interruption that would require the student to pursue a formal process of readmission to that institution. Formal petitions or applications for change of degree level shall be considered readmissions. (62-607.A)

C. "Dependent Person" is defined as one whose predominant source of income or support is from payments from a parent, spouse, or guardian, who claims the dependent person on his/her federal income tax return. In the case of those individuals who are supported by family members who do not earn enough reportable income for taxation purposes, a dependent person can be defined as one who qualifies as a dependent or exemption on the federal income tax return of the parent, spouse, or guardian. A dependent person is also one for whom payments are made, under court order, for child support and the cost of the dependent person's college education. A dependent person's residency is based upon the residency of the person upon whom they are dependent. (62-602.G) (62-602.N) (62-603.B) (62-605.C) (62-607.A)

D. "Domicile" is defined as the true, fixed, principal residence and place of habitation. It shall indicate the place where a person intends to remain, or to where one expects to return upon leaving without establishing a new domicile in another state. For purposes of this section, one may have only one legal domicile. One is presumed to abandon automatically an old domicile upon establishing a new one. Housing provided on an academic session basis for student at institutions shall be presumed not to be a place of principal residence, as residency in such housing is by its nature temporary. (62-602.E) (62-602.K) (62-602.M) (62-602.N) (62-603.A) (62-603.B) (62-605.B) (62-605.C) (62-607.A) (62-607.B) (62-608.A) (62-608.C) (62-608.D) (62-609.A.3) (62-609.A.4)

E. "Family's Domicile in this State is Terminated" is defined as an employer directed transfer of the person upon whom the student is dependent and is not construed to mean a voluntary change in domicile. Also included is a relocation of the person upon whom the student is dependent who is laid off through no fault of their own, e.g., plant closure, downsizing, etc., who accepts employment in another state prior to relocating. (62-607.A)

F. "Full time employment" is defined as employment that consists of at least thirty seven and one half hours a week on a single job in a full time status, with gross earnings of at least minimum wage. However, a person who works less than thirty seven and one half hours a week but receives or is entitled to receive full time employee benefits shall be considered to be employed full time if such status is verified by the employer. A person who meets the eligibility requirements of the Americans with Disabilities Act must present acceptable evidence that they satisfy their prescribed employment specifications in order to qualify as having full time employment. (62-605.C.1) (62-609.A.2) (62-609.A.3)

G. "Guardian" is defined as one legally responsible for the care and management of the person or property of a minor child based upon the five tests for dependency prescribed by the Internal Revenue Service; provided, however, that where circumstances indicate that such guardianship or custodianship was created primarily for the purpose of conferring South Carolina domicile for tuition and fee purposes on such child or dependent person, it shall not be given such effect. (62-602.C) (62-602.E) (62-602.I) (62-602.M) (62-603.B) (62-605.C)

H. "Immediately Prior" is defined as the period of time between the offer of admission and the first day of class of the term for which the offer was made, not to exceed one calendar year. (62-607.A)

I. "Independent Person" is defined as one in his/her majority (eighteen years of age or older) or an emancipated minor, whose predominant source of income is his/her own earnings or income from employment, investments, or payments from trusts, grants, scholarships, commercial loans, or payments made in accordance with court order. An independent person must provide more than half of his or her support during the twelve months immediately prior to the date that classes begin for the semester for which resident status is requested. An independent person cannot claim the domicile of another individual as their own for the purposes of establishing intent to become a South Carolina resident. An independent person must have established his/her own domicile for twelve months prior

to receiving instate tuition and fees. An independent person cannot be claimed as a dependent or exemption on the federal tax return of his or her parent, spouse, or guardian for the year in which resident status is requested. (62-602.N) (62-603.A) (62-605.C) (62-607.B) (62-608.B)

J. "Minor" is defined as a person who has not attained the age of eighteen years. An "emancipated minor" shall mean a minor whose parents have entirely surrendered the right to the care, custody and earnings of such minor and are no longer under any legal obligation to support or maintain such minor. (62-602.G)

K. "Non-resident Alien" is defined as a person who is not a citizen or permanent resident of the United States. By virtue of their non-resident status "non-resident aliens" generally do not have the capacity to establish domicile in South Carolina. (62-602.M) (62-604.A)

L. "Parent" is defined as the father, mother, stepfather, stepmother, foster parent or parent of a legally adopted child. (62-602.C) (62-602.E) (62-602.I) (62-602.J) (62-602.M) (62-603.B) (62-603.C) (62-605.C)

M. "Reside" is defined as continuous and permanent physical presence within the State, provided that absences for short periods of time shall not affect the establishment of residence. Excluded are absences associated with requirements to complete a degree, absences for military training service, and like absences, provided South Carolina domicile is maintained. (62-603.A) (62-606.B) (62-609.A) (62-609.A.3) (62-609.A.4) (62-609.B)

N. "Resident" for tuition and fee purposes is defined as an independent person who has abandoned all prior domiciles and has been domiciled in South Carolina continuously for at least twelve months immediately preceding the first day of class of the term for which resident classification is sought and for whom there is an absence of domiciliary evidence in other states or countries, notwithstanding other provisions of the Statute. (62-600.A) (62-600.B) (62-602.I) (62-602.K) (62-602.M) (62-603.A) (62-603.B) (62-603.C) (62-604.A) (62-605.A) (62-605.C) (62-605.C.7) (62-606.A) (62-606.A.5) (62-606.B) (62-607.A) (62-608.B) (62-609.A.3) (62-610.A) (62-610.B) (62-611.A) (62-611.B)

O. "Spouse" is defined as the husband or wife of a married person in accordance with Title 20, Chapter 1 of the 1976 South Carolina Code of Laws, as amended. (62-602.C) (62-602.E) (62-602.I) (62-602.M) (62-603.B) (62-605.C)

P. "Temporary Absence" is defined as a break in enrollment during a fall or spring semester (or its equivalent) during which a student is not registered for class. (62-606.A)

Q. "Terminal Leave" is defined as a transition period following active employment and immediately preceding retirement (with a pension or annuity), during which the individual may use accumulated leave. (62-609.A.4)

R. "United States Armed Forces" is defined as the United States Air Force, Army, Marine Corps, Navy, and Coast Guard. (62-606.B) (62-609.A.1)

S. "Trust" is defined as a legal entity created by a grantor for the benefit of designated beneficiaries under the laws of the state and the valid trust instrument. However, that where circumstances indicate that such trust was created primarily for the purpose

of conferring South Carolina domicile for tuition and fee purposes on such child or independent person, it shall not be given such effect.

#### 62-603. Citizens and Permanent Residents.

A. Independent persons who have physically resided and been domiciled in South Carolina for twelve continuous months immediately preceding the date the classes begin for the semester for which resident status is claimed may qualify to pay in state tuition and fees. The twelve month residency period starts when the independent person establishes the intent to become a South Carolina resident per Section 62-605 entitled "Establishing the Requisite Intent to Become a South Carolina Domiciliary." The twelve month residency period cannot start until the absence of indicia in other states is proven. Absences from the State during the twelve month period may affect the establishment of permanent residence for tuition and fee purposes.

B. The resident status of a dependent person is based on the resident status of the person who provides more than half of the dependent person's support and claims or, only in the case of those individuals who are supported by family members who do not earn enough reportable income for taxation purposes, qualifies to claim the dependent person as a dependent for federal income tax purposes. Thus, the residence and domicile of a dependent person shall be presumed to be that of their parent, spouse, or guardian.

C. In the case of divorced or separated parents, the resident status of the dependent person may be based on the resident status of the parent who claims the dependent person as a dependent for tax purposes; or based on the resident status of the parent who has legal custody or legal joint custody of the dependent person; or based on the resident status of the person who makes payments under a court order for child support and at least the cost of his/her college tuition and fees.

#### 62-604. Non-Resident Aliens, Non-Citizens, and Non-Permanent Residents.

A. Except as otherwise specified in this section or as provided in Section 62-609 (1) & (2), independent non-citizens and non-permanent residents of the United States will be assessed tuition and fees at the non-resident, out of state rate. Independent non-resident aliens, including refugees, asylees, and parolees may be entitled to resident, in state classification once they have been awarded permanent resident status by the U.S. Department of Justice and meet all the statutory residency requirements provided that all other domiciliary requirements are met. Time spent living in South Carolina immediately prior to the awarding of permanent resident status does not count toward the twelve month residency period. Certain non resident aliens present in the United States in specified visa classifications are eligible to receive in state residency status for tuition and fee purposes as prescribed by the Commission on Higher Education. They are not, however, eligible to receive state sponsored tuition assistance/scholarships.

B. Title 8 of the Code of Federal Regulations (CFR) serves as the primary resource for defining visa categories.

**62-605. Establishing the Requisite Intent to Become a South Carolina Domiciliary.**

A. Resident status may not be acquired by an applicant or student while residing in South Carolina for the primary purpose of enrollment in an institution or for access to state supported programs designed to serve South Carolina residents. An applicant or student from another state who comes to South Carolina usually does so for the purpose of attending school. Therefore, an applicant or student who enrolls as a non-resident in an institution is presumed to remain a non-resident throughout his or her attendance and does not qualify under any of the residency provisions.

B. If a person asserts that his/her domicile has been established in this State, the individual has the burden of proof. Such persons should provide to the designated residency official of the institution to which they are applying any and all evidence the person believes satisfies the burden of proof. The residency official will consider any and all evidence provided concerning such claim of domicile, but will not necessarily regard any single item of evidence as conclusive evidence that domicile has been established.

C. For independent persons or the parent, spouse, or guardian of dependent persons, examples of intent to become a South Carolina resident may include, although any single indicator may not be conclusive, the following indicia:

- (1) Statement of full time employment;
- (2) Designating South Carolina as state of legal residence on military record;
- (3) Possession of a valid South Carolina driver's license, or if a non-driver, a South Carolina identification card. Failure to obtain this within 90 days of the establishment of the intent to become a South Carolina resident will delay the beginning date of residency eligibility until a South Carolina driver's license is obtained;
- (4) Possession of a valid South Carolina vehicle registration card. Failure to obtain this within 45 days of the establishment of the intent to become a South Carolina resident will delay the beginning date of residency eligibility until the applicant obtains a South Carolina vehicle registrations card;
- (5) Maintenance of domicile in South Carolina;
- (6) Paying South Carolina income taxes as a resident during the past tax year, including income earned outside of South Carolina from the date South Carolina domicile was claimed;
- (7) Ownership of principal residence in South Carolina; and
- (8) Licensing for professional practice (if applicable) in South Carolina.

D. The absence of indicia in other states or countries is required before the student is eligible to pay in state rates.

**62-606. Maintaining Residence.**

A. A person's temporary absence from the State does not necessarily constitute loss of South Carolina residence unless the person has acted inconsistently with the claim of continued South Carolina residence during the person's absence from the State. The burden is on the person to show retention of South Carolina residence during the person's absence from the State. Steps a person should take to retain South Carolina resident status for tuition and fee purposes include:

- (1) Continuing to use a South Carolina permanent address on all records;
- (2) Maintaining South Carolina driver's license;
- (3) Maintaining South Carolina vehicle registration;
- (4) Satisfying South Carolina resident income tax obligation. Individuals claiming permanent residence in South Carolina are liable for payment of income taxes on their total income from the date that they established South Carolina residence. This includes income earned in another state or country.

B. Active duty members of the United States Armed Forces and their dependents are eligible to pay in state tuition and fees as long as they continuously claim South Carolina as their state of legal residence during their military service. Documentation will be required in all cases to support this claim. South Carolina residents who change their state of legal residence while in the military lose their South Carolina resident status for tuition and fee purposes.

**62-607. Effect of Change of Residency.**

A. Notwithstanding other provisions of this section, any dependent person of a legal resident of this state who has been domiciled with his/her family in South Carolina for a period of not less than three years and whose family's domicile in this state is terminated immediately prior to his/her enrollment may enroll at the in state rate. Any dependent person of a legal resident of this state who has been domiciled with his/her family in South Carolina for a period of not less than three years and whose family's domicile in this state is terminated after his/her enrollment may continue to receive in state rates, however, a student must continue to be enrolled and registered for classes (excluding summers) in order to maintain eligibility to pay in state rates in subsequent semesters. Transfers within or between South Carolina colleges and universities of a student seeking a certificate, diploma, associate, baccalaureate, or graduate level degree does not constitute a break in enrollment.

B. If a dependent or independent person voluntarily leaves the state, and information becomes available that would impact the existing residency status, eligibility for in state rates shall end on the last day of the academic session during which domicile is lost. Application of this provision shall be at the discretion of the institution involved. However, a student must continue to be enrolled and registered for classes (excluding summers) in order to maintain eligibility to pay in state rates in subsequent semesters.

**62-608. Effect of Marriage.**

A. In ascertaining domicile of a married person, irrespective of gender, such a review shall be determined just as for an unmarried person by reference to all relevant evidence of domiciliary intent.

B. If a non-resident marries a South Carolina resident, the non-resident does not automatically acquire South Carolina resident status. The non-resident may acquire South Carolina resident status if the South Carolina resident is an independent person and the non-resident is a dependent of the South Carolina resident.

C. Marriage to a person domiciled outside South Carolina shall not be solely the reason for precluding a person from establishing or maintaining domicile in South Carolina and subsequently becoming eligible or continuing to be eligible for residency.

D. No person shall be deemed solely by reason of marriage to a person domiciled in South Carolina to have established or maintained domicile in South Carolina and consequently to be eligible for or to retain eligibility for South Carolina residency.

**62-609. Exceptions.**

A. Persons in the following categories qualify to pay in state tuition and fees without having to establish a permanent home in the state for twelve months. Persons who qualify under any of these categories must meet the conditions of the specific category on or before the first day of class of the term for which payment of in state tuition and fees is requested. The following categories apply only to in state tuition and do not apply to State supported scholarships and grants. Individuals who qualify for in state tuition and fees under the following exceptions do not automatically qualify for LIFE, SC HOPE or Palmetto Fellows Scholarships.

(1) "Military Personnel and their Dependents": Members of the United States Armed Forces who are permanently assigned in South Carolina on active duty and their dependents are eligible to pay in state tuition and fees. When such personnel are transferred from the State, their dependents may continue to pay in state tuition and fees as long as they are continuously enrolled. Such persons (and their dependents) may also be eligible to pay in state tuition and fees as long as they are continuously enrolled after their discharge from the military, provided they have demonstrated an intent to establish a permanent home in South Carolina and they have resided in South Carolina for a period of at least twelve months immediately preceding their discharge. Military personnel who are not stationed in South Carolina and/or former military personnel who intend to establish South Carolina residency must fulfill the twelve month "physical presence" requirement for them or their dependents to qualify to pay in state tuition and fees.

(2) "Faculty and Administrative Employees with Full Time Employment and their Dependents": Full time faculty and administrative employees of South Carolina state supported colleges and universities and their dependents are eligible to pay in state tuition and fees.

(3) "Residents with Full Time Employment and their Dependents": Persons who reside, are domiciled, and are full time employed in the State and who continue to work full time until they meet the twelve month requirement and their dependents are eligible to pay in state tuition and fees, provided that they have taken steps to establish a permanent home in the State. Steps an independent person must take to establish residency in South Carolina are listed in Section 62-605 entitled ("Establishing the Requisite Intent to Become a South Carolina Domiciliary").

(4) "Retired Persons and their Dependents": Retired persons who are receiving a pension or annuity who reside in South Carolina and have been domiciled in South Carolina as prescribed in the Statute for less than a year may be eligible for in state rates if they maintain residence and domicile in this State. Persons on terminal leave who have established residency in South Carolina may be eligible for in state rates even if domiciled in the State for less than one year if they present documentary evidence from their employer showing they are on terminal leave. The evidence should show beginning and ending dates

for the terminal leave period and that the person will receive a pension or annuity when he/she retires.

B. South Carolina residents who wish to participate in the Contract for Services program sponsored by the Southern Regional Education Board must have continuously resided in the State for other than educational purposes for at least two years immediately preceding application for consideration and must meet all other residency requirements during this two year period.

#### 62-610. Application for Change of Resident Status.

A. Persons applying for a change of resident classification must complete a residency application/petition and provide supporting documentation prior to a reclassification deadline as established by the institution.

B. The burden of proof rests with those persons applying for a change of resident classification who must show required evidence to document the change in resident status.

#### 62-611. Incorrect classification.

A. Persons incorrectly classified as residents are subject to reclassification and to payment of all nonresident tuition and fees not paid. If incorrect classification results from false or concealed facts, such persons may be charged tuition and fees past due and unpaid at the out of state rate. The violator may also be subject to administrative, civil, and financial penalties. Until these charges are paid, such persons will not be allowed to receive transcripts or graduate from a South Carolina institution.

B. Residents whose resident status changes are responsible for notifying the Residency Official of the institution attended of such changes.

#### 62-612. Inquiries and Appeals.

A. Inquiries regarding residency requirements and determinations should be directed to the institutional residency official.

B. Each institution will develop an appeals process to accommodate persons wishing to appeal residency determinations made by the institution's residency official. Each institutions appeal process should be directed by that institutions primary residency officer, in conjunction with those individuals who practice the application of State residency regulations on a daily basis. The professional judgment of the residency officer and administrators will constitute the institutional appeal process. Neither the primary residency official nor appellate official(s) may waive the provisions of the Statute or regulation governing residency for tuition and fee purposes.

## DINING

The University provides a variety of meal plans to meet student needs. The meal plan dining halls, Harcombe, Schilleter, and Clemson House, are located in different areas of the campus and feature an all-you-care-to-eat policy per meal. Meals may also be purchased on a cash basis or by using a debit/credit card, Paw Points, or TigerStripe account. Meal Plans become effective when University Housing is opened for occupancy at the beginning of each semester. Meal Plans expire after the evening meal on the day of graduation at the end of each semester. Meal Plans are not effective during official University breaks.

Eastside Food Court, Canteen, Fernow Street Café, Einstein Bros. Bagels, and Java City provide a wide assortment of dining selections on an a la carte basis. Nationally branded concepts are available in dining locations on campus: Papa John's and Subway in the Eastside Food Court, Chick-fil-a in the Canteen, Pizza Hut Express in Fernow Street Café, Wendy's adjacent to Schilleter Dining Hall, and Chili's Too and Starbucks in the Johnstone Complex next to Harcombe Dining Hall. All retail dining facilities and dining halls accept cash, credit/debit, Paw Points, and TigerStripe.

All first-year students who live in University Housing, excluding apartments with kitchens (Clemson House does not fulfill the apartment exception), are required to subscribe to a first-year resident meal plan for their first two semesters. All other students may choose a meal plan on a semester basis or pay for individual meals. First-year students living in University Housing (excluding the aforementioned housing) may terminate their meal plan for one of the following reasons ONLY:

- withdrawal from the University
- change in housing assignment to an apartment with kitchen facilities
- medical condition with dietary requirements that cannot be met by Dining. Documentation from a medical doctor must be provided along with specific dietary requirements. This documentation will be reviewed by the Student Disability Services and the Health and Wellness director
- other circumstances determined by the University to be beyond the student's control

First-year students must provide the necessary documentation for any of the above reasons before cancellation of their meal plan will be considered. Upperclassmen may terminate their meal plans for any reason on the prescribed dates listed on Housing & Dining's website. Failure to participate in a meal plan does not automatically release a student from the first-year student requirements listed above, all first-year students who live on campus are required to participate in one of the three meal plans that meet the first-year requirement.

If a first-year student living on campus does not sign up for one of the required resident choices, a meal plan will be assigned. All meal plans for all meal plan participants will automatically rollover to the spring semester. If an upperclassmen chooses to not to subscribe to a meal plan for the spring semester they must opt out before payment of the spring tuition statement.

Students may change meal plans during certain periods. Visit the University Housing & Dining website for applicable dates and locations. All adjustments will be prorated. Students may upgrade meal plans at anytime.

The meals available charge applies to the meals that have been prepared, not those that have been eaten by the individual student. Paw Points are not refundable; however, they do carry forward to the next semester. Students will be responsible for all service charges related to changes or termination of a meal plan. *Note:* Meal plans may not be shared with other students. Only the meal plan purchaser may utilize his/her meal plan.

Information is available at [www.clemson.edu/housing-dining](http://www.clemson.edu/housing-dining) or by calling 864-656-1237. More information is available at [www.clemson.edu/tigerone](http://www.clemson.edu/tigerone), by calling 864-656-0763, or e-mailing [tigerone-card@lists.clemson.edu](mailto:tigerone-card@lists.clemson.edu).

## TIGERSTRIPE ACCOUNT

The TigerStripe account is a declining balance account students access using a TigerOne card and is accepted at more than 200 participating locations on and off campus. Participating merchants are listed at [www.clemson.edu/tigerone](http://www.clemson.edu/tigerone). There is no daily limit on the number of purchases that may be made; however, no charges shall exceed the amount of deposited funds.

Funds may be added to a TigerStripe account via iROAR under the optional fees option, and are limited to \$2500 per semester. In addition, deposits can be made online using the TigerOne Card Services website at [t1online.clemson.edu](http://t1online.clemson.edu), at the TigerOne Card Services office, or with cash at one of the Value Port Stations. Students can easily manage their accounts and view their balances and history using the online card office.

TigerStripe accounts are non-transferrable and non-refundable and remain open until a student graduates, transfers or withdraws from the university and notifies TigerOne Card Services. Any indebtedness to the University will be deducted from the balance remaining.

For more information about the TigerOne card and Terms and conditions, visit [www.clemson.edu/tigerone](http://www.clemson.edu/tigerone). TigerOne Card Services office is located at 111 Hendrix Center, Clemson, SC 29634. Office hours are Monday-Friday 8:00am-4:30pm.

## FINANCIAL AID

The Office of Student Financial Aid administers and coordinates various types of undergraduate financial aid administered by Clemson University: scholarships, loans, grants, and work-study employment. The office works jointly with the University Scholarships and Awards Committee.

Students may apply after January 1 for financial assistance for the next academic year. Financial aid requests, based on financial need, must be supported by a processed Free Application for Federal Student Aid (FAFSA) and renewed annually. No application is required for the LIFE Scholarship.

The FAFSA must be submitted by April 1 for continuing students for need-based scholarships, Federal Supplemental Educational Opportunity Grant (FSEOG), Federal Work-Study, Federal Perkins Loan, and South Carolina State Need-Based Grant. April 1 is the suggested deadline for application for the Federal Pell Grant and the Federal Direct Loan. June 15 is the suggested deadline for application for private/alternative loans and the Federal PLUS Loan. PLUS and private loans require a separate online application.

Transfer students applying for student loans will be considered as entering freshmen in determining maximum loan limits. Following enrollment, after the credit evaluation process has been completed, students may submit a request for additional funds due to changes in class standing.

Information regarding financial aid programs at Clemson University is available at [www.clemson.edu/finaid](http://www.clemson.edu/finaid) or from the Office of Student Financial Aid, G-01 Sikes Hall, Box 345123, Clemson, SC 29634-5123.

to 102 Sikes Hall each semester. The waiver application must be submitted prior to the first day of class and is not retroactive to prior terms. Questions may be directed to the Office of Student Financial Aid at 864-656-2280.

### **Satisfactory Academic Progress for Financial Aid Eligibility**

Students must maintain satisfactory academic progress to be eligible for financial aid. This policy contains both qualitative (grade-point average) and quantitative (credit hours completed) requirements. Students must meet the grade-point average requirement as stated under the Academic Eligibility Policy, and must complete their degrees within 150% of the published time frame. Details are available at [www.clemson.edu/finaid](http://www.clemson.edu/finaid). Students wishing to appeal their academic progress status may submit a letter to the Office of Student Financial Aid. This appeals process is separate from the Appeals Committee on Academic Eligibility.

### **Institutional Aid Policy for Suspended Students**

An undergraduate student who has been suspended from the University for a violation of the Academic Integrity Policy, or suspended from the University due to a violation of any Student Regulation as defined and enforced by the Office of Community and Ethical Standards, becomes immediately ineligible for University merit or need-based scholarship or grant aid for the remainder of the student's undergraduate enrollment at Clemson.

### **Educational Benefits for Veterans, War Orphans, and Children of Deceased or Disabled Law Enforcement Officers or Fire Fighters**

The Veterans Administration provides educational assistance for veterans and children of deceased or totally disabled veterans who meet requirements of applicable laws and regulations. Any veteran or child of a deceased or totally disabled veteran should communicate with the nearest Veterans Administration Office to determine whether he/she is entitled to any educational benefits. Free tuition is available to children of South Carolina law enforcement officers or fire fighters who were totally disabled or killed in the line of duty. Certification is required from the agency of the parent's employment. Upon presentation of proof of eligibility, a student shall not become eligible for educational assistance until the beginning of the next academic term.

### **Educational Benefits for Senior Citizens**

South Carolina residents who are at least 60 year of age may qualify for free tuition. Applicants may obtain a waiver application and an audit card (if auditing courses) from the Registrar's Office in 102 Sikes Hall. Seniors submit the waiver application and a photocopy of their SC driver's license to the Office of Student Financial Aid in G-01 Sikes Hall. Seniors who are auditing courses must submit an audit card



# STUDENT SERVICES

## HOUSING

### Single Student Housing

University housing is equipped to meet the needs of today's college student and provides a "home away from home" for approximately 6,300 single students in 24 residence halls, and three apartment communities. Most rooms are double occupancy and most two-bedroom apartments accommodate four students. After acceptance to the University, housing information is mailed to the students. Incoming freshmen should sign up for on-campus housing at [www.clemson.edu/housingdining](http://www.clemson.edu/housingdining). Transfer students and former students returning are offered on-campus housing if space is available.

## REDFERN HEALTH CENTER

Redfern Health Center (RHC) is an integrated outpatient facility comprised of three divisions: Medical Services, Counseling and Psychological Services (CAPS), and Healthy Campus. Hours of operation are Monday-Friday 8:00 a.m.-5:00 p.m., except Wednesday 9:00 a.m.-5:00 p.m. (summer and break hours, Monday-Friday 8:00 a.m.-4:30 p.m., except Wednesday 9:00 a.m.-4:30 p.m.)

### Medical Services

The student health center offers outpatient ambulatory care for illnesses and injury, pharmacy, lab, x-ray, and specialty clinics, including women's health, orthopedic injury and allergy/immunization clinics. Students are seen on an appointment basis. Appointments can be made by calling the appointment line. Students without an appointment are seen in the Nurses Clinic.

Medical clearance is required for all students enrolled at the University. For information regarding immunization requirements, visit the Redfern Health Center website at [www.clemson.edu/redfern](http://www.clemson.edu/redfern) and click on "Immunization Requirements." Students not in compliance with immunization requirements will not be allowed to complete registration for the next semester and may be subject to a late fee.

### After Hours

Emergency 911 services are available after hours. Students with questions about their health care needs should call the NurseLine at 656-2233, option 2. A registered nurse is available by telephone to answer questions and offer advice about health care needs. Students requiring the care of a physician after hours can choose from area emergency rooms and urgent care facilities, including CareConnect Clemson (an urgent care facility), Oconee Memorial Hospital, AnMed Health, Baptist Easley Hospital, and Greenville Memorial Hospital. Medical costs incurred are the student's responsibility. Students should contact Redfern the next business day for follow-up care.

The University ambulance transports on-campus medical emergencies to the closest community medical resource. The University ambulance is staffed with licensed emergency medical personnel 24 hours a day. Students are required to pay for off-campus ambulance transportation.

## Counseling and Psychological Services (CAPS)

CAPS provides comprehensive mental health services from a holistic perspective. Students are seen within their context and developmental stages as psychotherapy/counseling is delivered in individual, group, or couples format. Specialized services are delivered by a psychiatrist and addictions counselors. All services are confidential.

CAPS offers a walk-in clinic Monday through Friday, from 10:00 a.m.-2:30 p.m. for the initial access to services. Students complete paperwork and are seen for this initial brief evaluation on a first-come, first-served basis. Students who cannot meet the walk-in clinic times may call 656-2451 for an appointment during the 8:00 a.m.-5:00 p.m. hours of operation.

The Assessment, Choices, Transitions and Training (ACTT) Program assists students with substance misuse/abuse concerns. CAPS also provides counseling, advocacy, referral, education, and support services for students with concerns about relationship and sexual violence. Students with eating concerns/disorders are treated from a multidisciplinary approach that involves psychological, medical and nutritional perspectives.

In case of emergency, assistance and consultation are available by calling 656-2451 during regular business hours. After hours and on weekends, the on-call counselor can be reached through the University Police Department at 656-2222.

## Healthy Campus

Healthy Campus seeks to create a culture and environment that fosters health, wellness, safety and sustainability and enables our campus community members to achieve, learn and serve. Healthy Campus achieves this by providing exemplary

- leadership and advocacy for public health policies and structures intended to improve health;
- engaged learning activities - creative inquiry teams, internships, class projects;
- partnerships and networks of collaborators to achieve Healthy Campus objectives; and
- population-level interventions.

Healthy Campus coordinates *Aspire to Be Well*, a peer-led health and safety focused dialogue presented by Healthy Campus facilitators. This 70-minute dialogue covers three areas key to maintaining a safe campus, including mental health and wellness, alcohol and other drug misuse, and interpersonal violence prevention, while focusing on bystander intervention.

Presentations, individual counseling and information focused on the following areas are available as requested: alcohol and other drugs, building social connections, nutrition, tobacco cessation, sexual health, stress management and other health-related issues.

## Health Fee

University policy requires that all students registered for six or more credit hours on campus during the fall or spring semester or three or more on-campus credit hours during a summer session pay the University health fee. The health fee provides access to the professional service of physicians, nurse practitioners, psychologists, counselors, and health educators at no additional cost; reduced costs for medical diagnostics; and an after-hours urgent care excess insurance benefit for injuries. Students pay for pharmaceuticals, orthopedic equipment, specialty clinics, and the psychiatrist. Payment is expected at the time of service and may be made by cash, check, most credit cards, or TigerStripe.

## Health Insurance

The University offers a student health insurance plan to help cover major medical expenses. Information is available at [www.studentinsurance.com/schools/sc/clemson](http://www.studentinsurance.com/schools/sc/clemson). Students are strongly encouraged to have comprehensive health insurance coverage during their tenure at the University. Call the Student Insurance Office at 864-656-3561 or email [redfern@clemson.edu](mailto:redfern@clemson.edu) with questions.

## ACADEMIC SUCCESS CENTER

The Academic Success Center (ASC) supports undergraduate student success by delivering a diverse array of services designed to foster the skills and mindset students need to enhance their learning and achieve their educational goals. Through the delivery of its programs, the ASC strives to enhance student learning and development, meet the needs of students, and promote student success, continued enrollment and timely graduation. ASC programs include

- Supplemental Instruction (SI) – SI is offered for historically difficult courses and provides students the opportunity to engage in peer-based learning sessions facilitated by trained upper-class SI leaders who have successfully completed the course.
- Tutoring – Course-specific tutoring is delivered on a drop-in basis Sunday through Friday, and allows students to meet with trained upper-class tutors who assist them with questions about course content and provide helpful learning and study strategies.
- Educational workshops – Workshops on a variety of topics are presented throughout the academic year. Participating in workshops gives students the opportunity to learn new skills, strategies and approaches that enhance their learning and academic success.
- Academic counseling – Academic counseling is available by individual appointment, and equips students with tools and strategies for improving their study and learning habits and behaviors.
- Academic coaching – Academic coaching is available by appointment, and provides students the opportunity to meet with a coach on an ongoing basis to enhance self-management and life skills.

- Cross-college advising – Cross-college advising is available by appointment, and provides students in transition with guidance to develop an individualized academic plan compatible with their educational and career goals, and facilitates intentional academic decision making and planning, successful completion of degree requirements, and timely graduation.
- Academic recovery program – This program is delivered to students on academic probation, and is designed to assist students with developing a plan for returning to good academic standing.

For additional information about the Academic Success Center, visit [www.clemson.edu/asc](http://www.clemson.edu/asc) or call 864-656-6452.

## CENTER FOR CAREER AND PROFESSIONAL DEVELOPMENT

The Michelin® Career Center, in the Center for Career and Professional Development, assists undergraduate and graduate students in selecting appropriate fields of study, furthering their education, learning effective job searching strategies, and making connections with employers.

Career counselors are available to meet one-on-one with students to explore career or educational options, devise résumés and cover letters, hone interviewing techniques, conduct searches for internships and full-time jobs, and ready themselves for interviewing with employers. In addition, students may utilize ClemsonJobLink, the Career Center's on-line recruiting system, to view part-time jobs, internships, and full-time job postings and to sign up for on-campus interviews.

Experiential learning opportunities are designed to provide students with an experience in which they are required to be active and intentional learners. The goal is for students to transfer their knowledge and experiences from the classroom and apply them in work environments outside the classroom. The Michelin® Career Center's Internship Program is geared to bringing students and employers together to facilitate an academically viable and mutually beneficial work experience. This program offers zero-credit-hour internship courses (INT 1010 and INT 2010) for students in majors that do not offer internship credit. Students may participate in either part-time or full-time internships.

The Center's goal is to empower students with the skills and tools to find part-time jobs and off-campus internships while in school, as well as full-time jobs following graduation. More than 6,000 employers use the Center to connect with students through job postings, on campus interviews, information sessions and career events via our on-line recruiting system ClemsonJobLink. The Center hosts a number of events throughout the year to further connect students and employers, including an all-majors career fair each spring and fall, and several fairs for specific fields such as education and construction.

Other information can be obtained from the Career Center's website at [career.clemson.edu](http://career.clemson.edu) or by calling 864-656-6000.

## DISABILITY SERVICES

Student Disability Services (SDS) coordinates the provision of reasonable accommodations for students with physical, psychological, attentional, or learning disabilities. Accommodations are individualized, flexible, and confidential based on the nature of the disability and the academic environment in compliance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990.

Students are encouraged to consult with the Student Disability Services staff as early as possible, preferably prior to the first day of classes. Current documentation of a specific disability from a licensed professional is needed. For additional information or to schedule an appointment, contact Student Disability Services at 864-656-6848 or [sds-l@clemson.edu](mailto:sds-l@clemson.edu). Details on policies and procedures are available at [www.clemson.edu/sds](http://www.clemson.edu/sds).

# ACADEMIC REGULATIONS

Proper discharge of all duties is required at Clemson University, and a student's first duty is his/her scholastic work. All students should be thoroughly acquainted with these basic requirements.

## CREDIT SYSTEM

The semester hour is the basis of all credits. Generally, one recitation hour or two–three laboratory hours a week for a semester constitute a semester hour. Thus, in HIST 1930 Modern World History 3(3), as this subject is listed in the *Courses of Instruction* section of this catalog, the student takes three semester hours. When the course is completed satisfactorily, three credit hours are entered on the student's record. The notation "3(3)" means that the course carries three credits and has three clock hours of class time per week. CH 1010 General Chemistry 4(3) carries four semester hours, and has three clock hours of class time per week. However, CH 1010 has a required lab course associated with it (CH 1011), which carries no additional credit, but has three clock hours associated with it. CH 1011 would therefore read 0(3), and the three clock hours associated with CH 1011 account for the fourth credit CH 1010 carries.

## Credit Load

Except for an entering freshman, who is restricted to the curriculum requirements of his/her major, the credit load for an undergraduate must be approved by the academic advisor. The class advisor will approve a credit load deemed in the best interest of the student based on such factors as course requirements, grade-point average, participation in other activities, and expected date of graduation.

For fall and spring semesters, the maximum number of hours in which a student may enroll is 19, and 16 hours is the maximum credit load for those on probation. Permission of the student's academic advisor is required for all registration in more than 19 hours, or 16 hours for those on probation. Undergraduate students may register for a total of 19 credits during the summer sessions. Enrollment in additional credit hours must be approved by the student's academic advisor.

Students are not permitted to enroll in courses with overlapping class times.

## Full-Time Enrollment

In fall and spring semesters, enrollment in 12 or more credit hours is considered full time, and combined enrollment in 12 or more hours in summer terms is considered full time for the summer. Enrollment in fewer than 12 credit hours is part time.

## Advanced Placement and Credit by Examination

In addition to earning credit by the usual method involving classroom attendance, a student may receive credit toward his/her degree by completing a course successfully by examination only. Freshmen

interested in exempting some elementary courses in this manner should participate in the College Board Advanced Placement or International Baccalaureate program and have the results of these tests sent to Clemson.

Certain departments will also grant credit for successful completion of College-Level Examination Program (CLEP) subject examinations, which are administered by the College Board.

Enrolled students may earn credit by means of a special examination without the necessity of class attendance subject to the following requirements:

1. The applicant must present evidence that he/she has received training or taken work which is approximately equivalent to that given in the course at Clemson for which an examination is requested.
2. The applicant must not have previously failed or audited the course at Clemson.
3. The applicant must apply in writing for the examination; the request must be approved by the instructor, chair of the department in which the course is taught, and the Enrolled Student Services Office. Application forms are available in the Enrolled Student Services Office, 104 Sikes Hall.

Credit (CR) will be awarded for acceptable work in lieu of letter grades in recognition of college-level achievement as determined by College Board Advanced Placement Examination, International Baccalaureate Program, College-Level Examination Program subject examination, institutional special examinations, and similar instruments.

## Transfer Credit

Coursework completed with a grade of C or better by currently enrolled Clemson students at other regionally accredited institutions, including correspondence courses, telecourses, online courses, and exempted courses, will be evaluated for transfer in terms of equivalent courses included in the Clemson curriculum of the student's choice. This does not guarantee that all courses taken at other institutions will be accepted for transfer. The acceptability of each course or exemption will be based on an evaluation by the Office of Admissions. Students should obtain approval from the academic advisor for a course prior to enrolling in the course. By obtaining advance approval, the student is assured of receiving proper credit at Clemson upon satisfactory completion of the course. Information and forms relative to this approval may be obtained in the Enrolled Student Services Office, 104 Sikes Hall. Coursework earned at different institutions will not be joined to equate with one Clemson course. No course taken at a nonbaccalaureate-degree granting institution may be used as an equivalent or substitute for any 3000- or 4000-level Clemson course. Relative to academic eligibility, graduation, and transcripts, only grades earned at Clemson are used in computing the student's grade-point average. Grades earned in qualifying (i.e., non-remedial) transfer courses will be used in calculating the student's grade-point average for South Carolina LIFE Scholarship awards. Non-remedial college classes completed while in high school are also included in this calculation.

Learning experiences including, but not limited to, military service schools, non-collegiate sponsored instruction, work-related experiences, etc., will not be evaluated for transfer; however, enrolled students may request credit by examination for any non-transferable learning experience. For additional information, see *Advanced Placement and Credit by Examination* above.

## Learning Experiences

All "for credit" learning experiences conducted with organizations other than accredited higher education institutions must be regularly supervised by appropriate members of the Clemson University faculty or staff. The student must be enrolled at the time the credit is generated, and the level of credit (grade) is the responsibility of the faculty member(s) in the discipline from which the grade originates.

## External Education Experiences

In all "for credit" external educational programs that Clemson University may have with professional, vocational, technical, clinical, and foreign study, the agreements are to be agreed to through signature of the provost and the president. In such cases, learning experiences for which credit is awarded must be under the ultimate control and supervision of Clemson University.

## GRADING SYSTEM

The grading system is as follows:

*A–Excellent* indicates work of a very high character, the highest grade given.

*B–Good* indicates work that is definitely above average, though not of the highest quality.

*C–Fair* indicates work of average or medium character.

*D–Pass* indicates work below average and unsatisfactory, the lowest passing grade.

*F–Failed* indicates that the student knows so little of the subject that it must be repeated in order that credit can be received.

*I–Incomplete* indicates that a relatively small part of the semester's work remains undone. Grade *I* is not given a student who made a grade *F* on his/her daily work. The incomplete grade is calculated as an *F* in the student's grade-point average until the work is made up and a final grade is assigned. Instructors and students will resolve the Incomplete grade as soon as possible, but not to exceed thirty days from the first day of classes in the next scheduled session (excluding summer sessions and regardless of the student's enrollment status). Students will contact instructors in a timely manner so that instructors can provide a reasonable opportunity to complete remaining work. Normally, only one extension for each *I* may be granted, and this under unusual circumstances. The extension must be submitted by the instructor of the course and will indicate the time limit. (Students under this policy are prohibited from removing the *I* by repeating the course.) A letter grade of *I* converts to *F* unless the incomplete is removed within the time specified.

*W-Withdrawn* indicates that the student withdrew from the course or was withdrawn by the instructor after the first two weeks of classwork and prior to the last five weeks of classes, not including the examination period. Proportionate time periods apply during summer and other shortened sessions. For financial aid purposes, enrollment is defined and satisfactory academic progress levels are established as of midnight on the last day to drop without a *W* grade. Withdrawal can negatively impact financial aid eligibility if a student does not complete a sufficient number of hours. Details are available at [www.clemson.edu/finaid](http://www.clemson.edu/finaid).

### Grade-Point Average

In calculating a student's grade-point average, the total number of quality points accumulated by the student is divided by the total number of GPA hours at Clemson during the semester, session, or other period for which the grade-point average is calculated. For each credit hour, the student receives quality points as follows: A-4, B-3, C-2, D-1. No quality points are assigned for grades F, I, P, NP or W.

### Pass/No Pass Option

Only courses to be used as electives may be taken optionally as Pass/No Pass. If a degree program includes elective credit(s), a student may apply up to 12 elective credits earned using the Pass/No Pass option. If a degree program does not include elective credits, a student may take courses using the Pass/No Pass option but the credits will not apply to the degree.

Registration in Pass/No Pass courses will be handled in the same manner as letter-graded courses. Departmental approval must be obtained for the Pass/No Pass option via approval form and returned to the Registration Services Office in E206 Martin Hall by the last day to register or add a class, as stipulated in the Academic Calendar.

Instructors will submit letter grades to the Registration Services Office. These grades will be converted as follows: A, B, C to *P* (Pass); D, F to *NP* (No Pass). Only *P* (minimum letter grade of C) or *NP* will be shown on a student's permanent record and will not affect the grade-point average.

If a student changes to a major that requires a previously passed course and this course has been taken Pass/No Pass, he/she may request either to take the course on a letter grade basis, that the *P* be changed to a *C*, or that another course be substituted.

### Dropping Classwork

A subject dropped after the first two weeks of classwork and prior to the last five weeks during the fall and spring semesters is recorded as *W-Withdrawn*. Proportionate time periods apply during summer sessions and other shortened sessions.

### Mid-Term Evaluation

Once, near mid-term, but no later than ten days before the last day students can drop courses without receiving final grades, instructors of every undergraduate course shall make available for each student (a) that student's numerical course grade or (b) that student's letter ranking to date in that course (A-F or P/ NP). More frequent feedback is strongly encouraged.

Both student and instructor are to recognize that this feedback reflects the student's performance up to that point in time, and as such, that student's final course grade may change based upon subsequent coursework performance(s).

The policy includes all undergraduate courses and applies to all terms, including summer sessions.

### Final Examinations

The standing of a student in his/her work at the end of a semester is based upon daily class work, tests or other work, and final examinations. Faculty members may excuse from final examinations all students having the grade of A on the coursework prior to the final examination. For all other students, examinations are required in all subjects at the end of each semester, except in courses in which final examinations are not deemed necessary as approved by the department faculty.

Final examinations must be given or due on the dates and at the times designated in the final examination schedule, except in laboratory and one-credit-hour courses for which the final exam will be given at the last class meeting.

All courses (including online courses) that specify a standard day of the week and standard meeting time are assigned a final exam date and time during exam week. All courses in regular terms that do not specify a standard day of the week and standard meeting time are not assigned a final exam date and time, and the final exam must be given during examination week at a date and time determined by the instructor. This date and time must be stipulated in the syllabus.

### Grade Reports

Students may access their end-of-term grades online.

### Academic Eligibility Policy

All students are expected to study and perform to the best of their abilities. The academic eligibility standards listed below represent minimum levels to remain enrolled at the University. A student who fails to meet these standards is not making satisfactory academic progress and should seek additional assistance from an academic advisor, the Academic Recovery Program, or other appropriate University resources.

### Academic Eligibility Definitions

The following terms identify levels of academic difficulty pertinent to a student's academic eligibility.

**Academic Alert:** A student who earns a semester grade-point average below 1.5, regardless of cumulative grade-point average, is placed on academic alert. No notation concerning academic alert will appear on the student's permanent record.

**Academic Probation:** A student who fails to maintain a cumulative grade-point average of 2.0 or higher is placed on academic probation. No notation concerning probation will appear on the student's permanent record. A student on academic probation may enroll in a maximum of 16 credit hours, unless permission for a higher course load is granted by the academic advisor. Students on academic probation are expected to participate in the Academic Recovery Program.

**Academic Suspension:** A suspended student is ineligible to enroll in classes for the fall or spring semester immediately following the suspension notification. Suspension is for one semester only, and the student is eligible to reenroll the following semester.

**Academic Dismissal:** A student who enrolls after a suspension is subject to dismissal at the end of the next semester in which he/she does not meet the academic eligibility criteria listed below. The period of dismissal is for one calendar year and readmission is by appeal only. A dismissed student who is readmitted and again fails to meet academic eligibility standards will be permanently dismissed. Permanent dismissal may not be appealed, and a student permanently dismissed may not apply for Academic Renewal.

A student on academic probation for two consecutively enrolled semesters is evaluated to determine academic eligibility. Eligibility for continued enrollment is evaluated at the end of each semester unless otherwise indicated in this policy. Students with only one complete semester will not be evaluated.

The evaluation for academic eligibility is separate from the evaluation for satisfactory academic progress required for Student Financial Aid. Further information on satisfactory academic progress for financial aid purposes is available in the Financial Information section of this catalog and at [www.clemson.edu/finaid](http://www.clemson.edu/finaid).

### Academic Eligibility Standards

A student on academic probation (cumulative grade-point average below 2.0) will remain academically eligible if one of the following conditions is met.

1. The student passes at least 12 credit hours and earns a 2.4 or higher semester grade-point average. Duplicate credits do not count as credits passed unless otherwise required to meet an alternative departmental standard.
2. The student achieves the Minimum Cumulative Grade-Point Average (MCGPA) listed below.

Total Attempted Hours*	MCGPA
16-29	1.75
30-59	1.85
60-89	1.95
90+	2.00

\*Total Attempted Hours includes all credit hours attempted at Clemson, plus any advanced standing received from transfer credits and credits based on approved examination programs. Only grade points earned at Clemson are used to calculate the MCGPA.

3. The student achieves a cumulative grade-point average of 2.0 or higher.

### Academic Eligibility Evaluation

Academic eligibility criteria are different for students who have completed fewer than three semesters, students who have completed at least three semesters, students who have been suspended, and students returning on appeal, as described below. Conditions of academic eligibility standards are described in the previous section.

1. A student who has completed fewer than three fall and spring semesters will be evaluated at the end of his/her first spring semester, unless he/she entered the university that semester. If the student has two consecutive semesters on academic probation, he/she is eligible to enroll in the subsequent summer and fall semester, but must meet academic eligibility standards at the end of fall semester to avoid suspension for the following spring semester. This term of suspension is not appealable.

2. After a student has completed three regular (fall and spring) semesters, he/she will be evaluated at the end of each fall and spring semester. If the student has two consecutive semesters on academic probation and fails to meet academic eligibility standards, he/she will be suspended for the next regular (fall or spring) semester. A student subject to suspension at the end of spring semester may enroll in summer school and will avoid suspension if he/she meets academic eligibility standards.

3. A student enrolled after being suspended is evaluated at the end of each fall and spring semester until a cumulative grade-point average of 2.0 or higher is achieved. A previously suspended student on academic probation who fails to meet academic eligibility standards will be dismissed at the end of the following fall or spring term for one calendar year and permitted to enroll only as a result of a successful appeal.

4. A student permitted to reenroll due to a successful appeal of suspension or dismissal is evaluated at the end of each fall and spring semester until a cumulative grade-point average of 2.0 or higher is achieved. A student who fails to meet academic eligibility standards will be suspended or dismissed, according to his/her academic situation.

### Appealing Suspension or Dismissal

In the event a student subject to suspension or dismissal is unable to achieve one of the above outcomes as a result of extenuating circumstances, the student may file a written appeal with the Appeals Committee on Academic Eligibility. If this appeal is denied, the student may file subsequent appeals for readmission after any subsequent semester.

The Appeals Committee on Academic Eligibility meets approximately one week after final examinations in May and August. The committee meets in early January to read the appeals of students wishing to enroll for the spring semester. Students should contact the Office of Undergraduate Studies for further information on the appeals process. Appeals will be granted only in the most exceptional cases and may require the student to adhere to additional criteria in order to remain enrolled at the University.

### Grade Protests

A student wishing to protest a final course grade must first try to resolve any disagreement with the instructor. If unable to reach a resolution, the student may follow the procedures listed under *Academic Grievance Policy*. Grievances must be filed within 30 calendar days (exclusive of summer vacation) of the date of the last exam for the term involved.

### Repeating Courses Passed

A student may repeat a course passed with a grade lower than *B*. Repeating a course graded *D* or *C* does not erase the original *D* or *C* grade. If a student elects to apply Academic Forgiveness to a course graded *D*, the Academic Forgiveness Policy below will apply.

Otherwise, both grades appear on the record and are computed in the cumulative grade-point average. A course graded *C* cannot be forgiven. Credit for the same course will be counted only once toward the number of hours required for graduation. For academic eligibility purposes, duplicate credits do not count as credits passed. For financial aid purposes, duplicate credits do not count as credits completed for satisfactory progress. If a student repeats a course passed with grade of *B* or better, the credits and grade points earned in the repeat attempt will be removed from the cumulative summary.

### Repeating Courses Failed

A student who has failed a course cannot receive credit for that course until it has been satisfactorily repeated hour for hour in a class; except that in the case of co-related laboratory work, the number of hours to be taken shall be determined by the instructor.

Where separate grades for class and laboratory work are given, that part of the subject shall be repeated in which the failure occurs. Successfully repeating a course previously graded *F* does not erase the original *F* grade from the student's record. If a student elects to apply Academic Forgiveness to a failed course, the Academic Forgiveness Policy below will apply. Otherwise, both grades appear on the record and are computed in the cumulative grade-point average.

### Academic Forgiveness Policy

The Academic Forgiveness Policy (AFP) allows a student enrolled beginning Fall 2013 or after to eliminate from the GPA calculation up to three courses in which a *D* or *F* was earned. Students enrolled prior to Fall 2013 who were under the former Academic Redemption Policy will be allowed academic forgiveness on a modified scale. Detailed information is available at [www.registrar.clemson.edu](http://www.registrar.clemson.edu).

The following conditions apply:

Courses taken prior to fall semester 2003 may not be considered for academic forgiveness.

While *D* or *F* grades in required courses may be eliminated before the course is repeated, any course used to meet a graduation requirement must be repeated satisfactorily at Clemson University. Both grades will remain on the transcript, degree progress report, and other official documents. For financial aid purposes, courses repeated under this policy resulting in duplicate credit do not count for satisfactory academic progress.

The AFP shall apply only to courses taken at Clemson University. Course substitutions are not permitted. Students may not invoke the AFP after they have graduated. After graduation, students may repeat coursework, but both grades will be calculated in the grade-point average.

The AFP may not be applied to a course taken on a Pass/No Pass basis or to any course in which the student was previously found in violation of the academic integrity policy.

Further information on specific questions related to the use of Academic Forgiveness can be found at <http://www.registrar.clemson.edu/html/acadForgiveness.htm>.

## CLASSWORK

### Academic Advising

Each student is assigned an academic advisor in his/her major area. It is the responsibility of the student to consult with his/her advisor during registration. The advisor will assist the student in scheduling courses so as to fulfill the requirements of the degree program; nevertheless, it is the responsibility of the student to fulfill the relevant requirements of the degree. For more information, visit <http://www.clemson.edu/academics/advising/>.

### Course Prerequisites

Prerequisites for each course are enumerated in the *Courses of Instruction* section of this catalog. In addition to these requirements, colleges and departments may also establish other standards as conditions for enrollment. It is the student's responsibility to refer to individual college and curricular information for specific standards.

### Course Substitutions

A student may request substitution of a course, whether Clemson credits or transfer credits, for a curriculum requirement in the major, the minor, or General Education. Course substitutions will be applied toward degree requirements only after approval by all the appropriate academic signatories. Students should initiate the request with their assigned academic advisor using the Form to Request Substitution for an Academic Requirement, available on the Registrar's website, [www.registrar.clemson.edu](http://www.registrar.clemson.edu).

All requests for course/requirement substitutions must be submitted and approved as early as possible and prior to the start of the student's final semester at Clemson University (i.e., the graduation semester). It is the student's responsibility to ensure that the necessary forms have been processed and signed. Failure to follow these guidelines may result in the student's graduation being delayed to at least the following semester.

### Attendance Policy

The academic resources of Clemson University are provided for the intellectual growth and development of students. Class attendance is critical to the educational process; therefore, students should attend scheduled courses regularly if they are to attain their academic goals.

In the event of an emergency, the student should make direct contact with the course instructor, preferably before a class or an exam takes place. Students should speak with their course instructors regarding any scheduled absence as soon as possible and develop a plan for any make-up work. It is the student's responsibility to secure documentation of emergencies, if required. A student with an excessive number of absences may be withdrawn at the discretion of the course instructor.

Course instructors must implement fair grading procedures and provide an opportunity to make up missed assignments and examinations that does not unfairly penalize the student when an excused absence is accepted. Such make-up work shall be at the same level of difficulty with the missed assignment or examination. Course instructors shall hold all students with excused absences to the same stan-

standard for making up missed assignments or examinations. While course instructors should seek to make reasonable accommodation for a student involved in University-sponsored activities, students should understand that not every course can accommodate absences and that absences do not lessen the need to meet all course objectives.

Absence from class is detrimental to the learning process, so course instructors may use reasonable academic penalties which reflect the importance of work missed because of unexcused absences. Course instructors who penalize students for unexcused absences must specify attendance requirements as related to grading in the course syllabus and must keep accurate attendance records. Course instructors are obligated to honor exceptions to the university attendance policy for students covered by the Americans with Disabilities Act, as verified through paperwork issued by Student Disability Services.

### Enrollment

Only students who are officially registered and have paid appropriate fees may attend classes. Students have the responsibility to insure that drop/add transactions are completed in a timely manner. Registered students who cease attending class will be assigned a failing grade.

All students are required to attend the first scheduled day of classes and labs. Students who cannot attend the first class are responsible for contacting the instructor to indicate their intent to remain in that class. If a student does not attend the first class meeting or contact the course instructor by the second meeting or the last day to add, whichever comes first, the course instructor has the option of dropping that student from the roll. Students must not assume that course instructors are obligated to drop them if they fail to attend the first few days of class.

### Anticipated Absences

Students should use the Notification of Absence module in Blackboard, or other reasonable means, to notify the course instructor of a future absence from class. This communication is only for information and does not verify the student's reason for absence or impact the course instructor's evaluation of the student's academic work. The student must make personal contact with the course instructor as soon as possible.

If a student realizes in the first two weeks of classes that an anticipated number of absences will exceed the number of excused absences permitted in the course, the student should discuss the situation with the course instructor, the student's adviser, and/or the academic Associate Dean in the college in which the student is enrolled. A suitable resolution should be reached before the end of the second week of the semester.

Students are encouraged to inform course instructors of known conflicts as soon as possible, but no later than one week before the date of any assignment or exam.

### Unanticipated Absences

Students should use the Notification of Absence module in Blackboard to notify the course instructor. This communication is only for information

and does not verify the student's reason for absence or impact the course instructor's evaluation of the student's academic work. If the student is unable to contact course instructors, the student (or representative) should contact the Office of the Dean of Students, who will notify the course instructors of the circumstances, providing a liaison in cases limited by medical confidentiality. A student may be excused from attending class in cases of emergency or other compelling reasons deemed appropriate by the course instructor. Excuses for emergency absences must be reported to the course instructor as soon as possible (for example, through e-mail), but not more than one week after the return to class. In certain cases, the Dean of Undergraduate Studies (or designee) may provide a letter verifying the student's absence as excused. Course instructors are expected to excuse absences for reasons including:

1. A medical complication (pregnancy/childbirth-related, physical injury, illness, etc.) too severe or contagious for the student to attend class, when certified by an attending physician. Physicians and staff at Redfern Health Center do not provide written excuses; however, students should retain paperwork of medical visits affirming date and time. Whenever possible, students should visit Redfern as outpatients without missing class. An absence for a non-acute medical service does not constitute an excused absence. Course instructors may, at their discretion, require documentation of medical absences.

2. Death, serious illness, or emergency in a student's immediate family (course instructors may require documentation).

3. Participation in authorized University-sponsored activities, not to include practice for the activities. Course instructors may require documentation from the course instructors or staff advisor of the sponsored University group.

4. Religious observances and practices which prevent the student from being present during a class period (advanced consultation/approval by the instructor is necessary).

5. Participation in court-imposed legal proceedings (e.g., jury duty or subpoena).

6. Required participation in military obligations as certified by the student's commanding officer.

In the event of a regional or national emergency (e.g., pandemic, hurricane, etc.), students missing classes may not be charged with unexcused absences if the nature and extent of the emergency is defined and disseminated by the Provost (or designee).

### Appeals

Any student who feels that a grade has been affected by a legitimate absence that an instructor did not excuse may appeal the grade through the Academic Grievance process. Students may appeal, in writing, a course instructor's decision not to excuse an absence to the academic Associate Dean of the academic unit offering the course. Before taking action, the Associate Dean should request that the course instructor explain his or her denial in writing.

### Dead Days

During the last two class days of the fall and spring semesters, commonly referred to as *Dead Days*, all regularly scheduled classes are conducted; however, course testing on these days is limited to scheduled

laboratory and one-semester-hour course final exams and make-up tests. Dead Days are observed during fall and spring semesters only. Dead Days do not apply to courses numbered 6000 or above.

### Auditing Policies

Qualified students may audit courses upon written approval of the instructor. Auditors are under no obligation of regular attendance, preparation, recitation, or examination and receive no credit. Participation in classroom discussion and laboratory exercises by auditors is at the discretion of the instructor. A student who has previously audited a course is ineligible for credit by examination.

Undergraduate and graduate students enrolled in 12 or more hours may audit courses at no additional charge. Others interested in auditing should verify their eligibility through the Registrar's Office.

### Combined Bachelor's/Master's Plan

Students may reduce the time necessary to earn both degrees by applying graduate credits to both undergraduate and graduate program requirements. To be eligible, the student must have completed the bachelor's curriculum through the junior year (minimum 90 credits) and have a minimum overall grade-point average of 3.4. A maximum of 12 credit hours of graduate courses in the master's program may be applied to the bachelor's program. The combined bachelor's/master's degree (documented on GS6BS/MS) must have a minimum combined total of 150 credit hours. This total may contain a maximum of six credit hours of master's thesis research and all credit hours taken after receiving the baccalaureate degree must be at the 6000 level or higher. As determined by the participating bachelor's program, graduate courses may be applied to the bachelor's degree as electives or technical requirements or by substitution of 7000- or 8000-level courses for required undergraduate courses. Under no circumstances may 6000-level counterparts of 4000-level courses required for the bachelor's degree be counted toward master's requirements. Combined bachelor's/master's plan students are not eligible for graduate appointments for financial aid until their bachelor's degrees have been awarded.

### Procedure for Students

Since neither all undergraduate nor graduate programs participate in this academic option, seniors should consult both their academic advisor and the graduate program coordinator of the master's program they wish to pursue. Students must officially request participation in the combined bachelor's/master's program by completion of Form GS6BS/MS, "Request for Combined Bachelor's/Master's Education Plan," available online at [www.grad.clemson.edu/forms/GeneralForms.php](http://www.grad.clemson.edu/forms/GeneralForms.php). Endorsements by the program coordinator or department chair of both programs are required.

### Procedure for Departments

Departments and graduate programs desiring to participate in the combined bachelor's/master's program should submit a written notification to the dean of the Graduate School identifying the date on which they intend to make this option available to their students.

## Senior Enrollment in Graduate Courses

Clemson University seniors meeting the accepted academic standard for graduate work (3.0 cumulative grade-point average) are eligible to request enrollment in graduate level courses. Enrollment of seniors in any graduate course is subject to approval by the department offering the course and the Graduate School. The total course workload for the semester must not exceed 18 hours, and the cumulative graduate credits earned by seniors shall not exceed 12 semester hours. The credits and quality points associated with senior enrollment in graduate courses will be part of the undergraduate record. Graduate courses that are not satisfying undergraduate requirements cannot be used to meet enrollment requirements for financial aid.

### Seniors with a 3.4 or Higher GPA

Seniors with 3.4 or higher grade-point averages are eligible for participation in the combined bachelor's/master's plan (see "Combined Bachelor's/Master's Plan").

### Seniors with a 3.0 or Higher GPA

Seniors with 3.0 or higher grade-point averages are eligible to request enrollment in graduate level courses to meet requirements for the bachelor's degree; however, courses used for this purpose cannot be counted later towards an advanced degree. Alternatively, these students may also take courses in excess of the requirements for their undergraduate degrees and may request that these courses be included as a part of their graduate program if they are subsequently admitted to the Graduate School. Courses cannot be taken at the 6000 level if their 4000-level counterparts are required for the undergraduate degree in the same academic major as the proposed graduate degree.

### Procedure for Students

Prior to registration, the Graduate School will approve and register the student in the graduate level courses requested on the GS6 or GS6 BS/MS. Senior enrollment forms, GS6, Request for Senior Enrollment, and GS6BS/MS, are available at [www.grad.clemson.edu/forms/GeneralForms.php](http://www.grad.clemson.edu/forms/GeneralForms.php).

## GRADUATION REQUIREMENTS

A candidate for an undergraduate degree is a student who has submitted a completed diploma application by the deadline prescribed in the University calendar for a particular graduation date. Candidates who do not apply by the deadline will be subject to a late fee.

A student may specify up to two completed majors, two minors, and if applicable, two concentration/emphasis areas per degree when applying for graduation. Second (double) majors and additional fields of study will not be retroactively added to a student's record once the degree is conferred.

Only candidates who have completed all graduation requirements are permitted to participate in the graduation ceremony.

### Residence Requirement

To qualify for an undergraduate degree, a student must complete through instruction from Clemson a minimum of 37 of the last 43 credits presented for

the degree. A waiver may be obtained for approved study abroad experiences through the Undergraduate Studies Office, E-103 Martin Hall.

### Make-up of Incompletes Received in Last Semester

The 30 day makeup period does not apply to candidates who receive an *I* in the semester of graduation. All final grades for candidates must be submitted by the deadline (including all makeup grades for Incompletes) in order for a candidate to graduate on the date of graduation for that semester.

### Special Requirements

A cumulative grade-point average of 2.0 is required for graduation. Candidates for graduation must be officially accepted in the major in which they are applying for a degree no later than the date applications for diplomas are due.

Bachelor of Arts degree programs require completion of a minor and four semesters (through 2020) of a modern foreign language.

### Awarding of Degrees Posthumously

An undergraduate student may be awarded a degree posthumously on the recommendation of the faculty of the college concerned, subject to the following conditions:

1. The student had at least a 2.0 grade-point average at the date of last enrollment;
2. Including credits scheduled in the term of last enrollment, the student (a) had satisfied 75% of the degree requirements and (b) met the residence requirement for a degree, which requires that 37 of the last 43 credits presented for a degree be earned at Clemson University; and
3. The student's death occurred within two years of the end of the term of last enrollment at Clemson University.

### Credit Limitation

If all work toward a degree is not completed within six years after entrance, the student may be required to take additional courses.

### Academic Honors

#### Honor Graduates

To be graduated with honors, a student must have a minimum cumulative grade-point average as follows: Cum Laude—3.70, Magna Cum Laude—3.85, Summa Cum Laude—3.95.

#### Honor Lists

At the end of the fall and spring semesters, the following lists shall be compiled of undergraduate students who have achieved grade-point averages of 3.50–4.00 on a minimum of 12 semester hours, exclusive of Pass/No Pass coursework.

- Dean's List—3.50 to 3.99 grade-point average
- President's List—4.00 grade-point average

#### Honors and Awards

The University offers a number of awards for outstanding achievement in specific fields and endeavors. Recipients are chosen by selection committees and are announced at the annual Honors and Awards Day program or other appropriate ceremonies. Detailed information relating to such awards is available in the offices of the academic deans and department chairs.

## Preprofessional Studies

Clemson University will award the degree of Bachelor of Arts or Bachelor of Science in Preprofessional Studies to a student who is pursuing a degree in a professional school. The student must have also satisfactorily completed three years of undergraduate work in an appropriate curriculum and the first year of work in an accredited medical, dental, veterinary, or other accredited professional school, provided the student fulfills the requirements for the three-year program as follows and the other specified conditions are met.

1. At least two of the three years of preprofessional work, including the third year, must be taken in residence at this University.

2. A minimum of three years of undergraduate work (i.e., preprofessional school credit) must be presented.

3. Normal progress must have been made toward fulfilling the degree requirement of the curriculum in which the student is enrolled at Clemson.

4. The student applying for the Bachelor of Arts or Bachelor of Science in Preprofessional Studies must be recommended by the college at Clemson in which the curriculum that he/she is majoring as a Clemson student is located or by the college in which three years of normal progress toward a degree can be identified.

5. If the combination of preprofessional work taken and the work in the first year of professional school is equivalent to that which is required in some other bachelor's degree program at Clemson, the college concerned may recommend the other bachelor's degree.

The above requirements and conditions became effective July 1, 1974, and will apply to all students who satisfy these requirements and conditions after that date.

A Clemson student having left the University before receiving the bachelor's degree (prior to July 1, 1974) and having enrolled immediately in an accredited professional postgraduate school may apply for a bachelor's degree from Clemson and have his/her application considered on an individual basis. The college(s) at Clemson considering the application is authorized to examine the student's entire record in both preprofessional and professional studies and exercise its own judgment concerning the three-year requirement for Preprofessional Studies.

## Second Baccalaureate Degree

To complete a second baccalaureate degree, a student must complete a minimum of 30 semester hours at Clemson in addition to the greater number of hours required for either degree and satisfy all course and grade requirements for the second degree.

## Double Major

A student in a Bachelor of Arts degree program may be awarded a single baccalaureate degree with a double major. The two majors may be within a single college or may involve two colleges but are limited to Bachelor of Arts degree programs. All major requirements for both programs must be satisfied.

## Graduate Degrees

Graduate degrees are available from all five colleges in addition to several interdisciplinary programs. Clemson University offers more than 100 graduate degree programs. The degrees of Doctor of Philosophy, Education Specialist, Master of Arts, Master of Science, Master of Agricultural Education, Master of Architecture, Master of Arts in Teaching, Master of Business Administration, Master of City and Regional Planning, Master of Construction Science and Management, Master of Education, Master of Engineering, Master of Fine Arts, Master of Forest Resources, Master of Human Resource Development, Master of Landscape Architecture, Master of Parks, Recreation and Tourism Management, Master of Professional Accountancy, Master of Public Administration, and Master of Real Estate Development are awarded to students who complete prescribed graduate programs.

Additional information is available from the Graduate School.

## ACADEMIC RECORDS

The student's permanent academic record is maintained in the Registrar's Office and contains personal identifying information, grades, and credits. Where appropriate, statements of a corrective nature, withdrawals, suspension for failure to meet academic standards, suspension for disciplinary reasons, and graduation data are added. The academic record is a historical record of the student's academic progress.

### Classification

All new students are classified as freshmen unless they have attended another college prior to entrance. Students who have completed college work elsewhere will be classified on the basis of semester hours accepted at Clemson rather than the amount of work presented. To be classified as a member of any class other than freshman, students must meet the credit-hour requirements below:

- Sophomore—minimum 30 credit hours
- Junior—minimum 60 credit hours
- Senior—minimum 90 credit hours

### Change of Major

Any undergraduate student who meets the Academic Eligibility Policy after attempting 12 credit hours at Clemson University (or who is allowed to continue by virtue of a semester 2.4 grade-point average on 12 earned credits or who is allowed to continue through appeal to the Appeals Committee on Academic Eligibility or by other authorization of this committee) may transfer from one major to another. Any college or department that seeks an exception to this policy must have the approval of the collegiate dean and the provost.

### Withdrawal from the University

A student may withdraw from the University subject to the restrictions in the section on *W-Withdrew*. All University withdrawals (including withdrawing from the only course in which a student is enrolled) must be processed by the Associate Dean of Undergraduate Studies. Students should report to E-103 Martin Hall. Students receiving financial aid who withdraw from the University may have to repay significant portions of their financial aid. Students should report to G-01

Sikes Hall to determine the amount. For financial aid purposes, enrollment is defined and satisfactory academic progress levels are established as of midnight on the last day to drop without a *W* grade. Withdrawing from the University can negatively impact financial aid eligibility if a student has not completed a sufficient number of hours. Details are available at [www.clemson.edu/finaid](http://www.clemson.edu/finaid).

### Academic Renewal

The student who has not enrolled at Clemson for a period of two or more academic years may apply to the Appeals Committee on Academic Eligibility for readmission under special conditions known as academic renewal, unless the student has been permanently dismissed. Under the academic renewal conditions, the previous credits attempted and grade-point deficit will not constitute a liability in a new grade-point computation; however, no credits passed or their attending grade points will be available to the student for a degree at Clemson, and any courses previously passed may not be validated by special examination. The previous record will appear on the permanent record as well as the notation of readmission under the policy of academic renewal. Students returning under the academic renewal policy who apply for financial aid should submit written notification of their status to the Office of Student Financial Aid in order to update their academic progress record. For financial aid purposes, terms enrolled in prior to academic renewal are still counted when evaluating satisfactory academic progress.

### Transcripts

Official transcripts are issued only at the authorized, written request of the student. Requests should be directed to Transcripts, 104 Sikes Hall, Box 345125, Clemson, SC 29634-5125. Transcript Request forms may be downloaded at <http://www.registrar.clemson.edu/html/transcript.htm>. Payment in advance is required and may be made by Discover, MasterCard, American Express, VISA and TigerStripe. The following must be included with the transcript request: full name (including any names used while at Clemson), social security number, current address, date of birth, date the student last attended Clemson, where the transcript is to be sent, student signature, and payment of \$12 per transcript. Telephone requests will not be honored. Transcript requests are normally processed within 48 hours, but additional processing time may be required at the end of a semester. Information is available from the Enrolled Student Services Office at the address above or by telephone at 864-656-2173. Official transcripts are not issued for those who are indebted to the University.

## UNDERGRADUATE ACADEMIC INTEGRITY

As members of the Clemson University community, we have inherited Thomas Green Clemson's vision of this institution as a "high seminary of learning." Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.

## I. Academic Integrity Policy

A. Any breach of the principles outlined in the Academic Integrity Statement is considered an act of academic dishonesty.

B. Academic dishonesty is further defined as:

1. Giving, receiving, or using unauthorized aid, including the inappropriate use of electronic devices, on any work submitted to fulfill academic requirements. In examination situations all electronic devices must be off and stowed unless otherwise authorized by the instructor;

2. Plagiarism, which includes the intentional or unintentional copying of language, structure, or ideas of another and attributing the work to one's own efforts;

3. Attempts to copy, edit, or delete computer files that belong to another person or use of computer accounts that belong to another person without the permission of the file owner or account owner;

C. All academic work submitted for grading or to fulfill academic requirements contains an implicit pledge and may contain, at the request of an instructor, an explicit pledge by the student that no unauthorized aid has been received.

D. It is the responsibility of every member of the Clemson University community to enforce the Academic Integrity Policy.

## II. Academic Integrity Committee

The power to hear cases of academic dishonesty is vested in an Academic Integrity Committee.

A. Structure—The Academic Integrity Committee is composed as follows:

1. Two tenured faculty members from each college elected by their respective collegiate faculties. Faculty members will be elected on a staggered term basis, serving for a period of two years after initiation of staggered terms. Terms commence with fall semester late registration.

2. Two undergraduate students from each college. Student members are nominated by the Student Body President, through an application and interview process in the spring semester, approved by the Student Senate, and appointed by the provost for terms of two years. Students must have a 3.0 grade-point average at the time of appointment and must have completed 30 hours by the end of the spring semester. Nominations will be made in the spring semester with terms of service commencing with fall semester late registration.

3. The committee is divided into four standing hearing boards, which will hear the cases of academic dishonesty. Hearing boards convene on a weekly, rotational basis unless there are no cases to be heard. For summer sessions, the Associate Dean of Undergraduate Studies must maintain at least one hearing board to hear cases.

4. Hearing boards are composed of two faculty members, two students, and one chairperson. Quorum, for a hearing board, is one student, one faculty member, and a chairperson. Decisions by the hearing board will be by majority vote.

5. Chairpersons will be elected from within the Committee's membership. Two chairpersons are selected from the faculty membership and two from the student membership.



6. Before hearing any cases, a new member of the committee must undergo a training session(s) with the Associate Dean of Undergraduate Studies.

7. The Associate Dean of Undergraduate Studies is the administrative coordinator of the Academic Integrity Committee.

#### B. Procedures

1. When, in the opinion of a course instructor, there is evidence that a student has committed an act of academic dishonesty, that person must make a formal written charge of academic dishonesty, including a description of the misconduct, to the Associate Dean of Undergraduate Studies. The reporting person may, at his/her discretion, inform each involved student privately of the nature of the alleged charge. In cases of plagiarism (I.B.2.) instructors may use, as an option, the Plagiarism Resolution Form available from the Office of Undergraduate Studies.

2. When, in the opinion of a student, there is evidence that another student has committed an act of academic dishonesty, he/she should contact the instructor for the course to discuss the incident. After being contacted, if, in the opinion of the instructor, there is evidence that a student has committed an act of academic dishonesty, the instructor must make a formal written charge of academic dishonesty, including a description of the misconduct, to the Associate Dean of Undergraduate Studies. The instructor may, at his/her discretion, inform each student involved privately of the nature of the alleged charge.

3. If, for any reason, the person who first discovered an integrity violation is not available to present a charge, the department chair (or designee) or college Associate Dean for the department in which the course is taught may submit the charge to the Associate Dean of Undergraduate Studies.

4. When the Associate Dean of Undergraduate Studies has received a formal charge of an alleged violation, he/she will contact the student involved privately to notify him/her of the charge and will provide the student with a copy of the charge and a copy of the procedures that the Academic Integrity Committee has adopted, pursuant to number 7 below. If a student is charged with academic dishonesty, he/she may not withdraw from the course unless he/she is exonerated of the charge. If a student is found in violation of the academic integrity policy and receives a forgivable grade, he/she will not be allowed to have that grade forgiven under the Academic Forgiveness Policy. If the student fails to respond to the Associate Dean's requests for a meeting within ten university working days, the student is considered to have waived his/her right to a hearing, thus admitting to being in violation of the Academic Integrity Policy.

5. After informing the student involved, the Associate Dean of Undergraduate Studies will convene one of the boards of the Academic Integrity Committee within 14 calendar days (exclusive of University holidays) from the date that the accused student provides a written rebuttal to the charge. The student will provide the rebuttal no later than five university working days following notification of the charge from Undergraduate Studies. (Students charged in the spring term, but not enrolled in summer sessions, may be given a continuance to the next fall term. Should the University schedule be interrupted due to emergency circumstances, academic integrity cases will be resolved as soon as possible once classes resume.) All

students will be presumed not in violation of a charge until found in violation by a hearing board. Each party is responsible for having present at the hearing all witnesses that he/she wishes to speak on his/her behalf. Witnesses must have first-hand knowledge of the events under discussion.

6. A charge of academic dishonesty in a course must be made within thirty days after the beginning of the next term, exclusive of summer vacation. For cases that are not resolved before course grades are due, instructors will assign an Incomplete as a placeholder for the grade. This Incomplete grade will be replaced with the course grade once the case is resolved.

7. The Academic Integrity Committee will adopt its procedures, to be followed by all hearing boards, prior to the first case heard by a hearing board. In addition to providing the student with a copy of the procedures, as stated in number 4 above, the Associate Dean of Undergraduate Studies will provide a copy of the procedures to the involved course instructor and also the hearing board members. The Associate Dean of Undergraduate Studies will also retain copies of these procedures. The procedures must afford both instructors and students the opportunity to present their cases and the opportunity for rebuttal.

8. In cases in which there is a finding of "in violation," the course instructor may consult with the Associate Dean of Undergraduate Studies to consider any past precedent established regarding academic penalties levied in similar cases. Instructors must inform the Associate Dean of Undergraduate Studies of the academic penalty for a student found "in violation" by a hearing board.

9. The Associate Dean of Undergraduate Studies is responsible for notifying the registrar and all other appropriate University personnel of the finding of "in violation" and the academic penalty. The Associate Dean of Undergraduate Studies retains all records of academic dishonesty cases and their findings in accordance with the University's Records Retention Policy.

#### C. Penalties

1. Upon a finding of "not in violation" by a hearing board, the student's record will not reflect the incident.

2. Upon a finding of "in violation" by a hearing board, the Associate Dean of Undergraduate Studies will notify the student and course instructor of the decision immediately. If the offense is the first for the student, then the instructor has the ability to determine the academic penalty, which shall not exceed a grade of F for the course.

3. If the finding of "in violation" is not the student's first offense, the student will receive a grade of F in the instance of coursework, and, in all cases, will be suspended from the University for one or more full semesters, and may be permanently dismissed from the University. The hearing board will determine the period for which the student will be suspended or, if applicable, permanently dismissed. If the accused student waives his/her right to a hearing and the incident is not a first offense, the student will receive a grade of F in the case of coursework and, in all cases, will be suspended from the University for one or more semesters or will be permanently dismissed, at the discretion of the Associate Dean of Undergraduate Studies.

#### D. Appeals

1. Students do not have the option to appeal a decision rendered by the hearing board, whether it is the first, second, or any subsequent offense. Students do not have the option to appeal the penalty determined by the course instructor for first offenses or to appeal the grade of F for the course given for second offenses.

2. For offenses resulting in suspension of two or more semesters or permanent dismissal, students have the option to present written information to the Dean of Undergraduate Studies to appeal the length of the suspension or to appeal a decision of permanent dismissal. Students must present information in their defense, as allowed in this paragraph, to the Dean within five university working days after receipt of written notification of the suspension or dismissal. However, as stated in number 1 above, students cannot appeal a decision rendered by the hearing board.

## ACADEMIC GRIEVANCE POLICY

### I. Purpose

Clemson University is dedicated to the fair and impartial review of grievances by students against faculty and staff. The Academic Grievance Board is responsible for reviewing and adjudicating allegations by undergraduate students of unfairness or inequity in the assigning of final grades. Only grievances that contest a final grade are considered by the Academic Grievance Board.

### II. Structure

The Academic Grievance Board comprises three separate entities: an Academic Grievance Panel, an Academic Grievance Committee, and an Academic Grievance Expedited Committee.

The Academic Grievance Panel is responsible for the initial review of grievances and for determining which grievances will go forward to the Academic Grievance Committee (see section IV.4 below). There are faculty representatives to the Academic Grievance Panel from each college. The faculty members of the Academic Grievance Panel are appointed by the Dean of Undergraduate Studies for three-year terms. In addition, there are two undergraduate student representatives to the panel appointed for two-year terms. Undergraduate student representatives are selected on a rotating basis from each of the colleges. The student representatives are appointed to the Academic Grievance Panel by the President of the Student Senate. The Academic Grievance Panel will elect a chair each year, chosen from among the faculty members on the Academic Grievance Panel.

The Academic Grievance Committee is responsible for hearing student grievances, proposing resolutions to grievances, and, in the case of appeals, forwarding recommendations to the Dean of Undergraduate Studies. Grievances are heard by three-person subcommittees, appointed by the Chair of the Academic Grievance Committee. The Academic Grievance Committee may hear a grievance only if a recommendation for a hearing is made by the Academic Grievance Panel. The Academic Grievance Committee consists of faculty representatives, three from each college, and student representatives, two

from each college. Faculty representatives are elected by their colleges and serve three-year terms. Student representatives are appointed by the President of the Student Senate and serve two-year terms. The Chair of the Academic Grievance Committee is appointed by the Dean of Undergraduate Studies.

Before hearing any cases, a new member of the Academic Grievance Board must undergo a training session(s) with the Associate Dean of Undergraduate Studies.

The Academic Grievance Expedited Committee is responsible for hearing certain grievances for students that are to be graduating in the same semester the contested grade is presented to the committee (see section V). The Academic Grievance Expedited Committee comprises the Dean of Undergraduate Studies, and two available members (one faculty, one student) of the Academic Grievance Committee. The Academic Grievance Expedited Committee will only follow the procedure established under "Supplementary Procedure for Graduating Seniors" (see section V below).

### III. Grounds for Academic Grievances

The Academic Grievance Board provides for hearings on academic grievances that are based on either or both of the following claims:

A. The method used for arriving at a student's final grade was in clear violation of the method described in the instructor's course syllabus.

B. The method used for arriving at a student's final grade was in clear violation of departmental, college or university policy.

The Academic Grievance Board will not attempt to substitute its judgment for an instructor's on such matters as a) quality of the instructor's teaching, b) quality of the student's work, or c) quality of course content.

The Academic Grievance Committee shall not hear any grievances including allegations of discrimination based on age, color, disability, gender, national origin, race, religion, sexual orientation, or veteran's status even if the grievance falls within one of the categories noted above. All such discrimination complaints should be submitted to the Office of Access and Equity in 110 Holtzendorff, 656-3181. The Academic Grievance Committee shall refer any such discrimination complaints it receives to the Office of Access and Equity.

### IV. Rules and Procedures for Academic Grievances

1. Any student filing a grievance must first attempt to resolve it by consulting with the involved faculty member. In the event that the student and faculty member cannot arrive at a resolution, the student shall consult with the department chair of the faculty member and the Dean of the college of the faculty member. The department chair and Dean shall make every effort to help the student and the faculty member arrive at a resolution to the problem. Until a formal complaint is filed, the student may consult with the Undergraduate Student Ombudsman.

2. If the grievance remains unresolved, the student may bring the grievance before the Academic Grievance Board. The student must first meet with the Associate Dean in the Office of Undergraduate Studies. The Associate Dean will describe the grievance

process to the student. If the student wishes to proceed with the grievance, the student will provide a written statement detailing the grievance to the Associate Dean. The written statement must specify the specific syllabus, departmental, college or university policy that the student alleges to have been violated. In addition, the student will secure, from the Office of Undergraduate Studies, a grievance checklist form. On this form, identified by complaint number, the student will document the following: (a) the dates of those consultations described in procedure IV.1 above, (b) the names of those persons consulted, and (c) the signature of the collegiate Dean attesting that no resolution could be reached. The completed checklist form will then be returned to the Associate Dean for signature. Both the written statement and the completed checklist form must be delivered to the Office of Undergraduate Studies within the first 30 calendar days (exclusive of summer vacation) of the term following that in which the student alleges to have been aggrieved. The failure of a student to file a grievance within the 30-day period will cause him/her to forfeit his/her right to file a grievance under this procedure.

3. When all procedures described in item IV.2 have been completed, the Office of Undergraduate Studies will forward a copy of the grievance to the chair of the Academic Grievance Panel. The chair of the Academic Grievance Panel shall, upon receipt of the grievance, convene the Academic Grievance Panel to review the grievance. The Office of Undergraduate Studies shall retain the original documents.

4. The Academic Grievance Panel will review the grievance and ascertain whether the complaint meets the criteria for "Grounds for Academic Grievances" (III above). The Academic Grievance Panel will handle each case in a confidential manner.

5. Following the complaint review, the Academic Grievance Panel, within 14 days of receiving the complaint, will (a) make a written recommendation to the Associate Dean to dismiss the grievance, with the grievance identified by complaint number, or (b) make a written recommendation to the Academic Grievance Committee to hear the grievance and arrive at a recommendation. In the case that the Academic Grievance Panel recommends that the grievance be heard by the Academic Grievance Committee, a copy of the recommendation, identified by complaint number, will be forwarded to the Office of Undergraduate Studies.

6. If the Academic Grievance Panel recommends dismissal of the case, the Associate Dean will notify the student, the involved faculty member, the department chair of the involved faculty member, and the involved collegiate Dean.

7. If the Academic Grievance Panel recommends a hearing, the Chair of the Academic Grievance Committee shall, upon receipt of the recommendation from the Academic Grievance Panel and all relevant documents, appoint a three-person subcommittee to hold a hearing on the grievance. The subcommittee will be selected from among the members of the Academic Grievance Committee. The subcommittee will consist of a faculty member assigned to serve as the subcommittee chairperson, another faculty member, and a student representative to the subcommittee. If possible, the subcommittee shall include members who are not in the same college as the grievant or the faculty member against whom the grievance has been filed.

8. Prior to a hearing (see item 9 below) a representative of Undergraduate Studies will contact the student who has filed the grievance as well as the faculty member against whom the grievance has been filed. Undergraduate Studies will provide copies of the grievance to both parties, answer any procedural questions that the parties have, and also ask each party if they have anything to add to the written record prior to the hearing. If additional written materials are submitted prior to the hearing, copies will be distributed to all subcommittee members and to all parties to the grievance. The subcommittee will, to the extent possible, handle each case in a confidential manner.

9. Academic Grievance hearings shall convene at a standardized location and time, as defined by the Office of Undergraduate Studies. The hearing shall take place during the next available standard meeting time after the subcommittee has received the necessary materials.

10. The hearing of the grievance will be informal and shall be closed to the public. The Associate Dean of Undergraduate Studies shall, as facilitator, take whatever action is necessary to ensure an equitable, orderly and expeditious hearing. All parties to the grievance shall be given an opportunity to be heard. In addition, the chairperson may request the presence of any other person who can supply information pertinent to the grievance. Witnesses shall not be present during the hearing proceedings except when they are called to speak before the committee. The parties shall be permitted to question all individuals who are heard by the committee. If any witness is unable to be present at the hearing, the chairperson may, at his/her discretion, accept a written statement from that witness to be presented at the hearing. The parties shall be accorded the right to assistance of counsel of their own choice; however, counsel shall not be permitted to participate actively in the proceedings.

11. Upon conclusion of the hearing, the subcommittee shall reach, by majority vote, a posed solution to the grievance. The subcommittee chairperson shall then formulate the findings in writing. Copies of the written findings and recommended solution will be forwarded to both parties to the grievance for acceptance. Each party will be asked to indicate acceptance of the posed solution within 14 calendar days of its date. Failure to respond within 14 calendar days will constitute acceptance. In the event that both parties agree to a change in grade, the Associate Dean of Undergraduate Studies will also notify the Office of Records and Registration of the decision.

12. If, after the conclusion of the hearing on the grievance, acceptance of the posed solution cannot be secured, the grievance shall be referred to the Dean of Undergraduate Studies. When grievances are referred in this manner, the Dean of Undergraduate Studies, on behalf of the University, shall make the final decision on the solution to the grievance and will then notify the student, the involved faculty member, the department chair of the involved faculty member, the involved collegiate Dean, and the Associate Dean of Undergraduate Studies of the University's final decision. In the event that the Dean of Undergraduate Studies decides in favor of a change in grade, the Dean of Undergraduate Studies will also notify the Office of Records and Registration of the University's decision.

13. To the extent permitted by law, the Associate Dean of Undergraduate Studies shall keep in confidence all records pertinent to grievances.

14. The Academic Grievance Committee shall make every reasonable effort to resolve each grievance by the end of the semester that follows the semester in which the student received the grade that is being contested (summers not included).

15. These procedures can be changed by the Academic Council. Such changes shall not affect any case under consideration at the time of the change. Notification of any changes to the procedure shall be given to the Dean of Undergraduate Studies of the University via the Academic Council.

## V. Supplementary Procedure for Graduating Seniors

The purpose of this supplementary procedure is to offer an expedited method for graduating students to file an academic grievance that would impact their ability to graduate, as determined by the Dean of Undergraduate Studies. To be eligible for the following procedure, the student must file an academic grievance with the Office of Undergraduate Studies no later than noon the day after final grades are posted. The following procedure shall be made available for Fall, Spring, and Summer graduations.

1. Any student filing an expedited grievance should first attempt to resolve it by consulting with the involved faculty member. Until a formal complaint is filed, the student may consult with the Undergraduate Student Ombudsman.

2. In the event that the student and faculty member cannot arrive at a resolution, the student may bring the grievance before the Academic Grievance Expedited Committee. The student must first meet with the Associate Dean in the Office of Undergraduate Studies. If the student wishes to proceed with the grievance, the student will provide a written statement and grievance checklist form (IV.2 above).

3. The student and involved faculty member shall be notified of the time and place of the hearing by 6:00 pm, two days prior to graduation. Hearings will begin at 2:00 pm, one day prior to graduation. In the case that the involved faculty member cannot attend the hearing, he or she may appoint an appropriate representative.

4. Hearings shall follow the same format as established in IV. 10.

5. Following the hearing, the Academic Grievance Expedited Committee shall vote on a proposed resolution. A majority vote constitutes as a passed resolution. This decision is final, and the student and involved faculty member will be notified of the resolution. In the event that the Academic Grievance Expedited Committee decides in favor of a change in grade, the Dean of Undergraduate Studies will also notify the office of Records and Registration of the university's decision.

## ACADEMIC MISCONDUCT BY FORMER STUDENTS

It is possible that an act of academic misconduct will remain undiscovered until after a degree is awarded. In such a case, Clemson University reserves the right to revoke any degree based on new revelations about scholarly issues including, but not restricted to, admissions credentials, all forms of coursework, research, theses, dissertations, or other final projects.

## I. Submission of Fraudulent Admissions Credentials

The submission of fraudulent admissions credentials in the student's application or any other documents submitted for admission to Clemson University may result in initiation of action under the Policy and Procedure on Revocation of Academic Degrees.

## II. Academic Dishonesty in Coursework

A. In the event that the act is alleged to have occurred within the context of a course and is consistent with the general definition of academic dishonesty presented in Sections I of the Academic Integrity Policy, the same procedures in that policy will apply except for academic misconduct listed in III below.

B. Graduate Students—If the resulting penalty is either the assignment of a grade of *D* or *F* in a required graduate course, or the issuance of any grade that causes the student not to possess a cumulative *B* average in both graduate courses and in all courses, action under the Policy and Procedures on Revocation of Academic Degrees may be initiated.

C. Undergraduate Students—If the resulting penalty causes the student to no longer have the necessary credit hours, coursework, or grade average for receiving a degree, action under the Policy and Procedures on Revocation of Academic Degrees may be initiated.

## III. Falsification of Data and Plagiarism in Theses, Dissertations, or Other Final Projects

Data falsification, plagiarism (as defined in the Academic Integrity Policy) and other acts of academic dishonesty in a thesis, dissertation, or other final project are serious acts of misconduct. Allegations of this type of misconduct may result in initiation of action under the Policy and Procedure on Revocation of Academic Degrees.

## REVOCATION OF ACADEMIC DEGREES

### Preamble

Academic institutions have a critical responsibility to provide an environment that promotes integrity, while at the same time encouraging openness and creativity among scholars. Care must be taken to ensure that honest error and ambiguities of interpretation of scholarly activities are distinguishable from outright misconduct. This policy is applicable to fraudulent or other misconduct in obtaining an academic degree which is so egregious that a mechanism for revoking an academic degree, either graduate or undergraduate, must be undertaken. The Clemson University Board of Trustees has the sole authority to revoke any degree previously awarded.

### Definitions

As used herein, the following terms shall apply:

A. When the degree holder was an undergraduate student:

1. "Dean" shall mean the Dean of the academic college where student was enrolled.

2. "Committee of Investigation and Recommendation" shall be composed of the members of the standing University Undergraduate Academic Eligibility Appeals Committee. An undergraduate

student will be appointed to the Committee of Investigation and Recommendation by the President of the Student Body within ten (10) calendar days of notification by the President of the Faculty Senate. Any member of the Academic Eligibility Appeals Committee who is a faculty member in the department which awarded the degree involved shall not be a member of the Committee of Investigation and Recommendation for that particular investigation. If there are fewer than three (3) non-disqualified faculty members, the President of the Faculty Senate shall appoint additional faculty members to bring the number of faculty committee members up to three (3). If the President of the Faculty Senate is from the same department that awarded the degree involved, the President-Elect of the Faculty Senate shall appoint the additional member.

B. When the degree holder was a graduate student:

1. "Dean" shall mean the Dean of the Graduate School.

2. "Committee of Investigation and Recommendation" shall be composed of the members of the standing University Graduate Admissions and Continuing Enrollment Appeals Committee, except for the Associate Dean of the Graduate School who shall not be a member of the Committee of Investigation and Recommendation. A graduate student will be appointed to the Committee of Investigations and Recommendation by the President of Graduate Student Government within ten (10) calendar days of notification by the President of the Faculty Senate. Any member of the Graduate Admissions and Continuing Enrollment Appeals Committee who is a faculty member in the department which awarded the degree involved shall not be a member of the Committee of Investigation and Recommendation for that particular investigation. If there are fewer than three (3) non-disqualified faculty members, the President of the Faculty Senate shall appoint additional faculty members to bring the number of faculty committee members up to three (3). If the President of the Faculty Senate is from the same department that awarded the degree involved, the President-Elect of the Faculty Senate shall appoint the additional member.

### Complaint

An allegation or complaint involving the possibility of misconduct can be raised by anyone. The allegation should be made in writing to the Dean.

### Initial Review

The Dean will conduct the initial review to determine whether or not the allegation has merit. The Dean may discuss the matter with the former student's advisory committee (if any) and other faculty as appropriate. The Dean may also contact persons outside the University who may be able to provide factual information on the alleged misconduct or who may otherwise have expertise concerning issues involved in the alleged misconduct. If the Dean determines that the allegation has no merit, he/she will terminate the investigation. If the Dean determines that serious academic misconduct is suspected, the Dean will notify the President of the Faculty Senate in writing in a confidential manner. The Dean shall also notify the Executive Vice President for Academic Affairs and Provost of the charge but will not discuss any details of the charge.

## Committee of Inquiry

The President of the Faculty Senate shall, within (10) calendar days of receipt of the notification from the Dean, appoint three (3) faculty members to the Committee of Inquiry and notify the President of Graduate Student Government or the President of the Student Body, as appropriate, who shall appoint a graduate or undergraduate student, as appropriate, to the Committee of Inquiry within ten (10) calendar days of notification. The President of the Faculty Senate shall also notify the degree holder of the formation of a Committee of Inquiry.

If the Faculty Senate President is from the same department that awarded the degree involved, the President-Elect of the Faculty Senate shall appoint the Committee of Inquiry. The faculty members will be appointed from departments which did not award the degree involved. The Committee will elect its chairman from the faculty members on the Committee.

For each allegation, the Committee of Inquiry will review the complaint and any other information provided by the Dean and determine whether there is sufficient evidence to warrant a formal charge of academic misconduct and further investigation under this policy. While the Committee of Inquiry shall not make a recommendation as to whether a degree should be revoked, the purpose is to provide a review to separate frivolous, unjustified or mistaken allegations from those requiring a more detailed and formal investigation. The Committee of Inquiry will review the evidence and must determine that the alleged misconduct more probably than not occurred in order for the committee to recommend a formal charge and further investigation.

Within thirty (30) calendar days of the formation of the Committee of Inquiry, the Committee of Inquiry will submit a written report to the President of the Faculty Senate. If the Committee of Inquiry's report finds that the investigation should not proceed, the President of the Faculty Senate shall terminate the investigation and notify the appropriate persons. If the Committee of Inquiry's report finds that a formal charge and further investigation are warranted, the President of the Faculty Senate shall, within ten (10) calendar days of receipt of the report of the Committee of Inquiry, send a copy of that report to the Dean and to the Committee of Investigation and Recommendation. The President of the Faculty Senate shall also immediately notify the President of Graduate Student Government or President of the Student Body (whichever is appropriate) that a student representative needs to be appointed to the Committee of Investigation and Recommendation. The President of the Faculty Senate shall also notify the Executive Vice President for Academic Affairs and Provost of the Committee of Inquiry's recommendation. No details of the charge will be discussed. *Note:* A majority vote of the Committee of Inquiry is necessary to recommend that a formal charge and further investigation are warranted. A tie vote means that the investigation is terminated as stated herein.

## Notification to Degree Holder

The Dean shall issue in writing, within ten (10) calendar days of receipt of the report of the Committee of Inquiry, a formal charge of academic misconduct to the degree holder. This written notice shall detail

the factual allegations for the charge and the evidence supporting the charge. This written notice shall also inform the degree holder that if the charges are substantiated, the degree holder's degree could be revoked. This written notice shall also inform the degree holder of his/her right to appear at a hearing as stated in this policy. The Dean shall also send with this notice a copy of this Policy and Procedure on Revocation of Academic Degrees to the degree holder. This notice shall be delivered to the accused in person or sent by certified mail, return receipt requested.

## Committee of Investigation and Recommendation

The Committee of Investigation and Recommendation shall extend to the degree holder the following process:

1. Notice of the nature of the complaint
2. Notice of the evidence supporting the complaint
3. Notice of the hearing
4. The opportunity to present evidence, including testimony
5. The opportunity to hear the testimony against the degree holder
6. The opportunity to ask questions of all witnesses
7. The opportunity to have an attorney or advisor present at the hearing; however, the role of the attorney or advisor shall be solely to assist the party, and the attorney or advisor shall not be permitted to participate actively in the proceedings.

The degree holder shall not be entitled to know the identity of the person(s) who originally made the complaint unless that person agrees that his/her identity can be revealed.

The chair of the Committee of Investigation and Recommendation shall inform the degree holder of the time and date of the hearing.

The Dean or his/her designee shall present the accusation against the degree holder at the hearing and may have one additional representative present during the hearing. Under this section the term "Dean" is understood to include the Dean's designee, if such a designation is made.

The degree holder and the Dean may submit written materials to the Committee of Investigation and Recommendation prior to the hearing. The chair of the Committee of Investigation and Recommendation shall make available the materials received to the other party and to all committee members.

The hearing before the Committee of Investigation and Recommendation shall be held no sooner than thirty (30) calendar days and no later than ninety (90) calendar days after receipt of the report of the Committee of Inquiry unless the degree holder and the Dean agree to a different date. All matters pertaining to the hearing shall be kept as confidential as possible and the hearing shall be closed to the public. A verbatim record of the hearing will be made and shall be made a part of the hearing record. The degree holder and the Dean shall be responsible for having any witnesses they wish to testify in attendance at the hearing. Witnesses will be present only while testifying.

The chair of the Committee of Investigation and Recommendation shall take whatever action is necessary during the hearing to ensure a fair, orderly, and

expeditious hearing. No formal rules of evidence will be followed. If any objection is made to any evidence being offered, the decision of the majority of the committee shall govern. Irrelevant, immaterial, or unduly repetitious evidence shall be excluded.

The degree holder and the Dean shall be permitted to offer evidence and witnesses pertinent to the issues.

The Dean shall present the case against the accused first. The accused shall then present his/her response.

The chair will allow each party to ask questions of the other party and will allow each party to ask questions of the other party's witnesses at the appropriate time during the hearing as determined by the chair. Members of the committee may ask questions of any party or any witness at any time during the hearing.

Within fifteen (15) calendar days of the conclusion of the hearing, the Committee of Investigation and Recommendation shall submit a written report to the Executive Vice President for Academic Affairs and Provost. The report shall contain findings and a recommendation as to whether the degree holder's degree should be revoked. The Committee of Investigation and Recommendation must find clear and convincing evidence that serious academic misconduct has been committed in order to recommend the revocation of the degree holder's degree. If the Committee of Investigation and Recommendation does not find clear and convincing evidence of serious academic misconduct, the Committee of Investigation and Recommendation cannot recommend revocation of the degree holder's degree and the matter shall be closed. *Note:* A majority vote of the Committee of Investigation and Recommendation is necessary to recommend the revocation of a degree holder's degree. This means that a tie vote will result in the matter being closed.

At the same time that the report is sent to the Executive Vice President for Academic Affairs and Provost, the chair of the Committee of Investigation and Recommendation shall send a copy of the report to the degree holder, the Dean, and other appropriate persons involved in the process.

If the Committee of Investigation and Recommendation recommends that the degree holder's degree be revoked, the chair shall also send a complete copy of the hearing record to the Executive Vice President for Academic Affairs and Provost. The hearing record shall consist of the transcript of the hearing and all documents that were submitted to the committee. The chair of the Committee of Investigation and Recommendation shall label which documents were submitted by each party when forwarding this information to the Executive Vice President for Academic Affairs and Provost.

If the Committee of Investigation and Recommendation recommends that the degree holder's degree be revoked, the chair shall also send a copy of the transcript of the hearing to the degree holder and the Dean at the same time that it is sent to the Executive Vice President for Academic Affairs and Provost.

### **Executive Vice President for Academic Affairs and Provost**

If the Committee of Investigation and Recommendation recommends that the degree be revoked, the Executive Vice President for Academic Affairs and Provost shall review the hearing record and the report of the Committee of Investigation and Recommendation. If the Executive Vice President for Academic Affairs and Provost decides that the degree holder's degree should not be revoked, he/she shall notify the degree holder, the Dean, the Committee of Investigation and Recommendation and other appropriate persons involved in the process, in writing, within twenty-one (21) calendar days of receipt of the transcript of the hearing, and the matter shall be closed. If the Executive Vice President for Academic Affairs and Provost decides to recommend that the degree holder's degree should be revoked, the Executive Vice President for Academic Affairs and Provost shall send that recommendation in writing to the President of the University within twenty-one (21) calendar days of receipt of the transcript of the hearing. The Executive Vice President for Academic Affairs and Provost shall send to the President, along with his/her recommendation, the Committee of Investigation and Recommendation's report and the hearing record. The Executive Vice President for Academic Affairs and Provost shall send a copy of his/her recommendation to the degree holder, the Dean, the Committee of Investigation and Recommendation, and other appropriate persons involved in the process.

If the Executive Vice President for Academic Affairs and Provost is disqualified from reviewing the case, the Dean of Undergraduate Studies shall be substituted for the Executive Vice President for Academic Affairs and Provost.

### **President**

If the Executive Vice President for Academic Affairs and Provost recommends to the President that the degree holder's degree should be revoked, the President shall transmit that recommendation along with the report of the Committee of Investigation and Recommendation and the hearing record to the Executive Secretary of the Board of Trustees within thirty (30) calendar days of receipt. If the President wishes to make a recommendation, he/she shall review the recommendation of the Executive Vice President for Academic Affairs and Provost, the report of the Committee of Investigation and Recommendation, and the hearing record and forward his recommendation to the Executive Secretary of the Board of Trustees within thirty (30) calendar days of receiving the recommendation of the Executive Vice President for Academic Affairs and Provost.

### **Board of Trustees**

The Executive Secretary of the Board of Trustees shall send to all trustees the hearing record, the recommendation of the Executive Vice President for Academic Affairs and Provost, the report of the Committee of Investigation and Recommendation, and the recommendation of the President, if any. A majority vote by the Board of Trustees, at a duly constituted Board meeting, is required to revoke an academic degree. The decision of the Board of Trustees shall be final.

### **Guiding Principles**

All actions taken by committees shall be effective by a majority vote.

All investigations, hearings, and actions shall be kept as confidential as possible except for notice of any revocation approved by the Board of Trustees.

A decision not to proceed at any stage of the proceedings set forth in this policy does not necessarily mean that the original complaint was groundless.

For good cause shown, at the request of either party and the approval of the other, the Executive Vice President for Academic Affairs and Provost shall extend any time limit set forth in this policy. Any such time extension shall be communicated in writing to all appropriate parties.

### **Administrative Action if Degree is Revoked**

If a degree is revoked by the Board of Trustees, the former student's transcript will be modified to reflect that the degree was revoked, and the former student will be informed of the revocation and requested to return the diploma. If the former student was enrolled in a program requiring a thesis or dissertation, all bound copies will be removed from the Clemson University Library. In addition, for doctoral students, University Microfilms, Inc. will be notified and requested to take appropriate action.

Students whose degrees have been revoked may be eligible to reapply for admission according to normal University procedures and policies in effect at the time of reapplication.

## GENERAL EDUCATION

An undergraduate student whose enrollment in a curriculum occurs after May 15, 2005, must fulfill the general education requirements in effect at that time. If a student withdraws from the University and subsequently returns or does not remain continuously enrolled (summers excluded), the requirements in effect at the time of return will normally prevail. Any variation in curricular or general education requirements shall be considered under the curriculum year change or the substitution procedure.

### MISSION STATEMENT

Academic institutions exist for the transmission of knowledge, the pursuit of truth, the intellectual and ethical development of students, and the general well-being of society. Undergraduate students must be broadly educated and technically skilled to be informed and productive citizens. As citizens, they need to be able to think critically about significant issues. Students also need to be prepared to complete undergraduate work and a major course of study. The mission requires a high level of knowledge about and competence in the following areas:

### General Education Competencies

#### A. Arts and Humanities

Demonstrate an understanding of the arts and humanities in historical and cultural contexts.

#### B. Mathematics

Demonstrate mathematical literacy through solving problems, communicating concepts, reasoning mathematically, and applying mathematical or statistical methods, using multiple representations where applicable.

#### C. Natural Sciences

Demonstrate the process of scientific reasoning by performing an experiment and thoroughly discussing the results with reference to the scientific literature, or by studying a question through critical analysis of the evidence in the scientific literature.

#### D. Social Sciences

Describe and explain human actions using social science concepts and evidence.

#### E. Cross-Cultural Awareness

Demonstrate the ability to critically compare and contrast world cultures in historical and/or contemporary contexts.

#### F. Science and Technology in Society

Demonstrate an understanding of issues created by the complex interactions among science, technology, and society.

#### G. Communication

Effective oral and written communication is the means by which all competencies will be demonstrated.

#### H. Critical Thinking

Demonstrate the ability to assemble information relevant to a significant, complex issue, evaluate the quality and utility of the information, and use the outcome of the analysis to reach a logical conclusion about the issue.

#### I. Ethical Judgment

Demonstrate an ability to identify, comprehend, and deal with ethical problems and their ramifications in a systematic, thorough, and responsible way.

## REQUIREMENTS—33 credit hours

To meet general education competencies, 33 total credit hours are required, distributed as follows: I. General Education Coursework—31 credit hours; II. Distributed Coursework—2 credit hours.

### I. General Education Coursework—31 hours required

General education requirements in some curricula are more restrictive than those shown below. Science and Technology in Society and Cross-Cultural Awareness requirements may be satisfied by other General Education courses, as indicated in the footnotes below, as long as the student completes a total of 31 hours in area I. and satisfies requirements A-F below:

#### A. Communication: at least 6 credits

**English Composition**..... 3 credits  
ENGL 1030 (ENGL 1020 for transfer students)

**Oral Communication** ..... 3 credits  
COMM 1500, 2500, HON 2230, or an approved cluster of courses such as AS 3090, 3100, 4090, 4100; or ML 1010, 1020

\*May be satisfied either by the courses above or by an approved departmental cluster of course, see II. Distributed Coursework. Students taking clusters must still earn at least 31 hours from the General Education Coursework list.

#### B. Mathematical, Scientific, and Technological Literacy: at least 10 credits

**Mathematics** ..... 3 credits  
MATH 1010, 1020, 1060, 1070, 1080, 2070, STAT 2220<sup>1</sup>, 2300, 3090, 3300. For Early Childhood Education, Elementary Education, and Special Education majors only, the approved cluster of MATH 1150, 1160 and 2160 satisfies the requirement.

**Natural Science with Lab**..... 4 credits  
ASTR 1010/1030, 1020/1040, BIOL 1030/1050, 1040/1060, 1090, 1100, 1110, 1200/1220, 1200/1230, CH 1010, 1020, 1050<sup>1</sup>, 1060<sup>1</sup>, GEOL 1010/1030, 1120<sup>1</sup>/1140, 2020, PHSC 1070, 1080, 1170, 1180, PHYS 1220/1240, 2070/2090, 2080/2100, 2210/2230, 2220/2240

**Mathematics or Natural Science** ..... 3 credits  
Any general education Mathematics or Natural Science course listed above or BIOL 2000<sup>1</sup>, 2010<sup>1</sup>, 2030<sup>1</sup>, 2040<sup>1</sup>, 2100<sup>1</sup>, 2200<sup>1</sup>, ENT 2000<sup>1</sup>, ENSP 2000<sup>1</sup>, GEOL 1200, 3000<sup>1</sup>, PES (ENSP) 3150<sup>1</sup>, PHYS 2400, 2450<sup>1</sup>, 2800, PLPA 2130<sup>1</sup>, STS 2160<sup>1</sup>

#### C. Arts and Humanities: at least 6 credits

**Literature** ..... 3 credits  
Any 2000-level ENGL literature course (ENGL 2020, 2120, 2130, 2140, 2150), CHIN 4010, FR 3000, 3040, GER 2600, 3060, 3600, 3610, HON 1900, 2210, ITAL 3010, 3020, JAPN 4010, 4060, RUSS 3600, 3610, SPAN 3110, 3130

**Non-Literature** ..... 3 credits  
AAH 1010, ART 2100<sup>2</sup>, 3750, ASL 3050<sup>2</sup>, CAAH 2010, CHIN (PHIL) 3120, (PHIL) 3130, 4990, COMM 1800, 3030, 3080, 3090, 4020, ENGL (GW) 3010, 3550, 3570, (LANG) 4540, FR 3070, GW (ENGL) 3010, 4050, GER 3400, HON 1910, 2010<sup>1</sup>, 2030, 2100, 2220, HUM 3010, 3020, 3060, 3090<sup>2</sup>, JAPN 3070, 3080, LANG 3400, 3420, 3560, (ENGL) 4540, LARC 1160<sup>1</sup>, MUSC 2100<sup>2</sup>, 3080, 3090, 3110, 3120, 3130, 3140<sup>2</sup>, 3170, 3610, 3620, 3630, 3640, 3690, 3700, 3710, 3720, PHIL 1010, 1020, 1030, 1240<sup>1</sup>, 2100<sup>1</sup>, (CHIN) 3120, (CHIN) 3130, 3160, 3170, 3180, 3230, 3240<sup>1</sup>, 3250, 3260<sup>1</sup>, 3270, 3440, 3450<sup>1</sup>, REL 1010<sup>2</sup>, 1020<sup>2</sup>, 3010, 3020, 3030, 3060, 3070, 3120, 3130, 3150, RUSS 3400, SPAN 3070, 3080, STS 1010<sup>1</sup>, 1020<sup>1</sup>, 2150<sup>1</sup>, 3010<sup>1</sup>, 3030<sup>1</sup>, THEA 2100, 2790, 3080, 3090, 3150, 3160, 3170, WS 3010

**D. Social Sciences: at least 6 credits**

Selected from two different fields..... 6 credits  
 AGRB 2020, 2570, ANTH 2010<sup>2</sup>, ECON 2000, 2110, 2120, GEOG 1010, 1030<sup>2</sup>, 1060, HIST 1010, 1020, 1220<sup>1</sup>, 1240<sup>1</sup>, 1720<sup>2</sup>, 1730<sup>2</sup>, 1930<sup>2</sup>, HON 1920, 2020, 2200, PAS 3010<sup>2</sup>, POSC 1010, 1020<sup>2</sup>, 1030, 1040<sup>2</sup>, PSYC 2010, 2500<sup>2</sup>, 2750<sup>1</sup>, RS 3010, SOC 2010, 2020

Note: AGRB and ECON are considered the same field.

NOTE: Science and Technology in Society and Cross-Cultural Awareness requirements may be satisfied by other General Education courses, as indicated in the footnotes below, as long as the student completes a total of 31 hours in area I.

**E. Cross-Cultural Awareness: at least 3 credits**

AAH 1020, AGRB 2050<sup>1</sup>, ANTH 2010, ART 2100, ASL 3050, CAAH 2010, COMM 1800, GEOG 1030, HIST 1720, 1730, 1930, HON 1930, 2090, HUM 3090, IS 1010, 2100, LANG 2500, 2540, MUSC 2100, 3140, PAS 3010, POSC 1020, 1040, PSYC 2500, REL 1010, 1020, WS 1030, or through a University-approved cross-cultural experience

**F. Science and Technology in Society: at least 3 credits**

AGED (EDF) 4800, AGRB 2050<sup>2</sup>, (ECON) 4570, AVS 3150, 4150, BIOL 2000, 2010, 2030, 2040, 2100, 2110, 2200, 4730, CH 1050, 1060, COMM 1070, 3070, CTE 1150, 2210, ECE 1010, ECON 3190, (AGRB) 4570, EDF (AGED) 4800, ENGL 3490, ENGR 2200, ENR 3120, (FOR) 4160, ENSP (GEOL) 1250, 2000, (PES) 3150, 4000, ENT 2000, FDSC 2140, FOR (ENR) 4160, GEOL 1120, 1200, (ENSP) 1250, 2700, 3000, HCG (NURS) 3330, HIST 1220, 1240, 3210, 3220, 3230, 3920, 4240, 4910, HLTH 4310, HON 1940, 2010, 2060, IE 4880, LARC 1160, MKT 4450, MSE 1010, MUSC 3180, NURS 1400, (HCG) 3330, NUTR 2030, 2100, PES (ENSP) 3150, PHIL 1240, 2100, 3240, 3260, 3280, 3400, 3450, PHYS 2450, PKSC 3680, PLPA 2130, PRTM 2110, PSYC 2750, RS (SOC) 4010, SOC (RS) 4010, 4030, STAT 2220, STS 1010, 1020, 1200, 1710, 2150, 2160, 3010, 3030, 4980, 4990

<sup>1</sup>This course also satisfies the Science and Technology in Society Requirement.

<sup>2</sup>This course also satisfies the Cross-Cultural Awareness Requirement.

**II. Distributed Coursework: 2 credits****A. Academic and Professional Development: at least 2 credits**

Departmental courses approved by the Undergraduate Curriculum Committee addressing the general academic and professional development of the student.

**B. Distributed Competencies Coursework**

Courses in general education and the disciplines incorporate critical thinking, ethical judgment, and both written and oral communication skills into the curriculum. Some curricula use a cluster of courses to meet the oral communication competency.

## MINORS

A minor consists of at least 15 semester hours, with no fewer than nine credits at the 3000 level or higher. A student cannot major and minor in the same field or acquire a minor that is not allowed by the degree program. In programs that require a minor, courses may not be used to fulfill both the major and minor requirements. Courses that count towards a student's major, but are outside the major's course rubric, may also be used to fulfill minor requirements. Students are encouraged to contact the department offering the minor for advising. Specific requirements are detailed below.

*Note:* Some courses in the minors have prerequisite courses. Students should select a minor and take any prerequisites as early as possible in their academic careers.

### Accounting (18 credits)

A minor in Accounting requires ACCT 2010, 3110, 3120, and nine hours selected from 3000- or 4000-level accounting courses. Students planning to pursue the Master of Professional Accountancy degree program should select courses in consultation with the school's graduate coordinator.

### Adult/Extension Education (15 credits)

A minor in Adult/Extension Education requires AGED 4030, 4400, and nine additional credits selected from the following: AGED 4070, 4280, EDF (AGED) 4820, PRTM 3080.

### Aerospace Studies (24 credits)

A minor in Aerospace Studies requires AS 1090, 1100, 2090, 2100, 3090, 3100, 4090, and 4100. Completion of AS Leadership Laboratory and participation in cadet activities are mandatory. Students must compete for an allocation and be accepted into the Professional Officer Course before enrolling in AS 3090.

### Agricultural Business Management (15 credits)

A minor in Agricultural Business Management requires AGRB 3020, 3090, 3190, and at least two courses selected from AGRB 3510, 4020, 4080, 4090, 4520, 4560, 4600.

### Agricultural Mechanization and Business (15 credits)

A minor in Agricultural Mechanization and Business requires six credit hours selected from AGM 2050, 2060, 2210, 3010, 3030, AGED 3030; and nine credit hours from AGM 4020, 4050, 4060, 4100, 4520, 4600, 4720.

### American Sign Language Studies (15 credits)

A minor in American Sign Language Studies requires 15 credit hours in ASL at the 3000 or 4000 level.

### Animal and Veterinary Sciences (15 credits)

A minor in Animal and Veterinary Sciences requires AVS 1500 and 1510; one course selected from AVS 2000, 2010, 2030, 2040, 2060, 2090, 2110, 3020, 3090, 3110, 3230, 4050, or 4550; and nine additional hours selected from any 3000- or 4000-level AVS courses. A maximum of three credits of AVS 3600, 3900, 4410, 4420, 4430 or 4910 may be used.

### Anthropology (18 credits)

A minor in Anthropology requires ANTH 2010 and at least six hours selected from ANTH 3010, 3310, (BIOL) 3510, LANG (ANTH) 3710. Nine additional hours may be selected from any other Anthropology course, but at least three hours must be from a 4000-level course. No more than three credits of ANTH 4960 may be counted toward the minor.

### Architecture (15 credits)

A minor in Architecture requires ARCH 1010, 4710, 4720, and DSGN 3700. ARCH 4710, 4720, and DSGN 3700 are only offered during the summer at study abroad locations.

### Art (18 credits)

A minor in Art requires ART 1030 or Art 1510 or Art 1520; AAH 1010, 1020 or ART 2100; at least nine hours of ART or AAH courses at the 2000 level or above; and at least three hours of ART or AAH courses at the 3000 or 4000 level.

### Athletic Leadership (17 credits)

A minor in Athletic Leadership requires 17 credit hours arranged as follows: AL 3490, 3500, 3530, 3610, 3620, 3760, and one of the following: AL 3710, 3720, 3730, 3740, 3750, 3770. Students must complete a coaching internship or athletic administrative internship (AL 4000) with the approval of the Athletic Leadership Coordinator.

### Biochemistry (16 credits)

A minor in Biochemistry requires three credits of GEN 3000 or 3020, three credits of BCHM 3010 or 3050 and nine credits of 4000 level Biochemistry courses.

### Biological Sciences (20 credits)

A minor in Biological Sciences requires BIOL 1030/1050, 1040/1060, or BIOL 1100 and 1110 and 12 additional credits selected from BIOL courses at the 3000 level or above, BCHM 3050, GEN 3000, or MICR 3050.

### British and Irish Studies (15 credits)

A minor in British and Irish Studies requires 15 credits at the 3000-4000 level, with at least six credits selected from Group I, at least six credits selected from Group II, and the remaining three credits selected from either group at the student's option.

*Group I*— HIST 3610, 3630, 3650, 3670, 4200

*Group II*—ENGL 3960, 3970, 4070, 4080, 4100, 4110, 4140, 4150, 4160, 4170, 4180, 4190, 4330, 4440

### Business Administration (21 credits)

A minor in Business Administration requires ACCT 2010, ECON 2110, 2120, FIN 3060, LAW 3220, MGT 2010, MKT 3010.

### Chemistry (23 credits)

A minor in Chemistry requires CH 1010, 1020, and 15 additional credits in Chemistry, at least nine of which must be at the 3000 or 4000 level, selected in consultation with the Department of Chemistry.

### Cluster (15 credits)

The Cluster minor allows students a somewhat wider choice of course materials than is possible with the conventional subject-matter minor. The general requirement for the Cluster minor is 15 credits in courses numbered higher than 3000, except where noted differently, chosen according to one of the plans below. Courses within the student's major area may not be included in the Cluster minor.

*Group I—Social Sciences:* anthropology, economics, geography, history, political science, psychology, sociology

*Group II—Life Sciences<sup>1</sup>:* biochemistry, biological sciences, genetics, microbiology

*Group III—Physical Sciences<sup>1</sup>:* chemistry, geology, physics

*Group IV—Engineering<sup>1</sup>:* courses in all engineering majors plus engineering mechanics and engineering graphics

<sup>1</sup>No course in the 1000 series is acceptable toward the minor and not more than six hours in the 2000 series are acceptable.

### Communication Studies (16 credits)

A minor in Communication Studies requires completion of one of the following options:

*General*—COMM 2010 (with a C or better) and 12 additional credits in communication studies at the 3000 level or higher.

*Sports Communication*—COMM 2010 (with a C or better) and 12 additional credits in sports communication selected from COMM 3240, 3250, 3260, 3270, 4250, 4260, 4270 or 4280.

### Computer Science (16 credits)

A minor in Computer Science requires CPSC 2120 and 12 additional credits in computer science of which at least nine credits must be at the 3000 level or higher.

### Crop and Soil Environmental Science (16 credits)

A minor in Crop and Soil Environmental Science requires PES 1040, 2020, and nine or more PES credits at the 3000 level or higher.

### Digital Production Arts (15 credits)

A minor in Digital Production Arts requires DPA 3070 and completion of one of the following options:

*Group I (for Architecture or Visual Arts majors)*—DPA 4000, 4010 and six credits selected from CPSC 4040, 4050, 4160, PKSC 2200, 3200, THEA 2880, 4870, 4970.

*Group II (for Computer Science, Computer Engineering, and Computer Information Systems majors)*—DPA 4020, 4030, and six credits selected from ART 2050, 2130, 4210, GC 3400, PKSC 2200, 3200, THEA 2880, 4870, 4970.

*Group III (for all other majors)*—DPA 4000, 4010, 4020, and three credits selected from CPSC 4040, 4050, 4160, PKSC 2200.



**East Asian Studies** (15 credits)

A minor in East Asian Studies requires 15 credits, of which at least six credits must be at the 4000 level, distributed as follows: three credits from Group I, six additional credits selected from Group I or from Group II, and six credits from Group III:

*Group I*—CHIN (ANTH) 4180, HIST 3340, JAPN (ANTH) 4170, POSC 3720

*Group II*—HIST 3300, 3330, PHIL (CHIN) 3120, (CHIN) 3130, POSC 4720, 4770, REL 3140, or any other approved courses selected from department list

*Group III*—EAS 1230, JAPN 4010, 4990, any Chinese or Japanese language course, or any other approved courses selected from department list

Courses in Groups II and III must represent a combination of Chinese and Japanese courses.

**Economics** (15 credits)

A minor in Economics requires ECON 3140, 3150, and nine additional credits from economics courses numbered 3000 or higher.

**Education** (15 credits)

A minor in Education requires EDF 3010, 3020, 3340 or 3350, EDSP 3700, and three hours from any AL, CTE, EDC, NURS, PRTM, PHIL, POSC, PSYC, or SOC course at the 2000 level or higher. This minor does not meet the requirements for teacher certification and is not intended for persons who plan to teach in grades K–12.

**English** (15 credits)

A minor in English requires 15 credits in English above the sophomore level, arranged as follows:

*Shakespeare*—ENGL 4110

*British*—Three credits from ENGL 3960, 3970, 4070, 4080, 4100, 4140, 4150, 4160, 4170, 4180, 4330, 4440

*American*—Three credits from ENGL 3980, 3990, 4200, 4210, 4250, 4260, 4550

*Electives*—Six additional credits above the sophomore level, including at least three credits from the 4000 level

**Entomology** (16 credits)

A minor in Entomology requires ENT (BIOL) 3010 and 12 credits selected from ENT or IPM courses at the 3000 level or higher.

**Entrepreneurship** (15 credits)

A minor in Entrepreneurship consists of 15 credits including the following: ELE 3010 and MGT (ELE) 3150. Nine credit hours from the following courses are also required: ECON (ELE) 3210, ELE 4010, 4990, MGT 4970, MKT (ELE) 3140, MKT 4200, 4250, 4260, 4270, 4280, 4290, 4300, SOC (ELE, PSYC) 3560.

Note: Not open to business majors, except those pursuing a BA in Economics.

**Environmental Science and Policy** (18 credits)

A minor in Environmental Science and Policy requires at least 18 credits including ENSP 2000, 4000, and at least 12 credits from the following:

*Group I—Science and Engineering*: at least six credits selected from BIOL 4100, 4410, 4420, 4430, 4460, CH 4130, EES 4010, 4020, 4300, 4850, ENT 3000, ETOX 4000, 4210, 4300, FOR 2060, PES 2020, (BE) 4080, 4900, WFB 4140

*Group II—Resource Management*: at least two credits selected from AGRB 3570, BE 4640, ECON 3190, EES (BE) 4840, FOR 4060, GEOL 3000, MSE 4330, PES (ENSP) 3150, WFB 3060, (BIOL) 3130, 3500, 4120, 4620

*Group III—Environmental Policy and Social Impacts*: at least two credits selected from ENSP 4720, HIST 3920, HLTH 4310, PHIL 3450, RS (SOC) 4010, WFB 4300

**Equine Industry** (15 credits)

A minor in Equine Industry requires AVS 1500 and 1510; three hours from any 3000- or 4000-level AVS courses; and eight additional hours from AVS 2040, 2050, 2080, 3090, 3850, 4120, 4160, or 4170.

**Film Studies** (15 credits)

A minor in Film Studies requires 15 credits in ENGL at or above the sophomore level, arranged as follows: ENGL 3480, 3570, 4500, (COMM) 4510, 4520; and one of the following: ART 2130, 3130, ENGL (THEA) 4300, ENGL 4530, 4590, 4830, or other course approved by the departmental Director of Undergraduate Studies.

**Financial Management** (15 credits)

A minor in Financial Management requires FIN 3050, 3070, 3080, 3120; and either FIN 3060 or 3110.

**Food Science** (15 credits)

A minor in Food Science requires FDSC 2140, 4010, and nine additional credits in FDSC or NUTR courses numbered 3000 or higher.

**Forest Products** (15 credits)

A minor in Forest Products requires 15 credits, which must include at least four courses selected from FOR 3410, 4410, 4420, 4440, 4470. Other courses at the 3000 level or above may be selected with a Forest Products advisor's approval.

**Forest Resource Management** (15 credits)

A minor in Forest Resource Management requires FOR 2050, 2060, and at least ten additional credits of forestry courses at the 3000 level or higher, excluding FOR 4190 and 4470.

**Gender, Sexuality and Women's Studies** (15 Credits)

A minor in Gender, Sexuality and Women's Studies requires 15 credits with no more than three credits at the 1000 level, selected in consultation with the Gender, Sexuality and Women's Studies Coordinator.

**Genetics** (15 credits)

A minor in Genetics requires three credits of GEN 3000 or 3020, three credits of BCHM 3010 or 3050, and nine credits of 4000 level Genetics courses.

**Geography** (18 credits)

The Geography minor consists of three credits of geography at the 1000 level and 15 credits of geography at the 3000 or 4000 level. At least one 4000-level geography course must be taken. One of the following courses may be taken as part of the 15-credit, upper-level requirements but may not be substituted for the required 4000-level geography course: BIOL 4420, SOC 4710.

**Geology** (20 credits)

A minor in Geology requires GEOL 1010/1030, 2020, and 12 additional credits in geology, at least nine of which must be drawn from 3000–4000-level geology courses.

**Global Politics** (18 credits)

A minor in Global Politics requires POSC 1020 or 1040; 3610; and 12 additional credits chosen from the list below. At least three of these credits must be from Group I and at least three credits must be from Group II:

*Group I—Comparative Politics*: POSC 3710, 3720, 4660, 4710, 4760, 4770, 4780, (LANG) 4850

*Group II—International Relations*: POSC 3620, 3630, 3750, 4280, 4290, 4470, 4480, 4560, 4570, 4590, 4610

With the approval of the Political Science department, a maximum of three credits from POSC 3050, 3110, 3130, or 4100 also may be applied toward a Global Politics minor. Students majoring in Political Science may not minor in Global Politics.

**Great Works** (18 credits)

The Great Works minor requires GW (ENGL) 3010 plus one course from each of the following groups. A minimum of nine credits must be at the 4000 level.

*Group I—Classical Civilization*: Three credits from ENGL 4030, (THEA) 4290, (COMM) 4910, HIST 3540, 3550, 4500, PHIL 3150

*Group II—Post-Classical Literature*: Three credits from ENGL 4080, 4110, 4140, 4160, FR 4000, GW 4030, SPAN 3130, 4010

*Group III—Philosophy, Religion, and Social Thought*: Three credits from ENGL 3500, HIST 4950, PHIL 3160, 3170, POSC 4500, REL 3010, 3020, 4010

*Group IV—The Arts*: Three credits from AAH 4230, 4240, HUM 3010, 3020, MUSC 4150, 4160, THEA 3150, 3160

*Group V—The Sciences*: BIOL 4860, ENGL 4340, GW 4020, 4050

**History** (15 credits)

A minor in History requires 15 credits in history at the 3000 and 4000 level. Three credits at the 4000 level must be included.

**Horticulture** (15 credits)

A minor in Horticulture requires HORT 1010 and 12 additional credits of horticulture courses (excluding HORT 4080 and 4710), nine credits of which must be at the 3000 level or higher. HORT 2710 is highly recommended.

**Human Resource Management**

(15 credits)

A minor in Human Resources Management requires 15 credit hours, including MGT 3070, 4000, 4310 and 4350, and three additional credit hours selected from MGT 4160 or 4250.

**International Engineering and Science**

(15 credits)

The minor in International Engineering and Science, open to students in any major in the College of Engineering and Science, requires

1. Completion of a foreign language through at least 2020 and
2. Either (a) nine credits of engineering or science courses at the 3000 level or higher transferred from a foreign institution during an approved study abroad program of at least three months or (b) an approved international internship or research program in engineering or science of at least three months duration, plus nine credits chosen from the following list: 3000-level or higher foreign language courses; ECON 3100, 4120, 4130; POSC 3610, 3620, 3710, 3750, 4720, 4770, 4780.

The international study, internship, or research program must be approved in advance by the Associate Dean for Undergraduate Studies of the College of Engineering and Science.

**Legal Studies (15 credits)**

A minor in Legal Studies requires 15 credits at the 3000–4000 level selected from any LAW course, or COMM 4300, 4310, ECON 4020, ENR 4280, HIST 3190, 3280, 3290, 4960, HLTH 4780, PHIL 3210, 3430, POSC 4360, 4370, 4380, 4470, SOC 3880, 4680.

**Management (15 credits)**

A minor in Management requires 15 credits as follows: MGT 2010, 3070, 3100, 3180, 3900.

**Management Information Systems**

(15 credits)

A minor in Management Information Systems requires 15 credits as follows: ACCT 3220 or MGT 3180; MGT 4110, 4520, and two of the following: MGT 3120, 4540, 4550, 4560.

**Mathematical Sciences (16 credits)**

A minor in Mathematical Sciences requires MATH 2080 and 12 additional credits in MATH or STAT courses numbered 3000 or higher, excluding MATH 3080, 3150, 3160, 3820, 3990, 4080, 4300, 4320, 4810, 4820, 4910, 4920, and 4990, and STAT 3090. Students may not use both MATH 3650 and MATH 4600.

**Microbiology (15 credits)**

A minor in Microbiology requires MICR 3050 and 11 additional credits selected from 4000-level microbiology courses.

**Military Leadership (19 credits)**

A minor in Military Leadership requires at least 19 credits, including ML 3010, 3020, 4010, 4020, and one of the following: HIST 3900, ML 3900, POSC 4580, or POSC 6580. Completion of Leadership Laboratory and participation in cadet activities are mandatory. (ML 1000 and 2000 levels may be taken concurrently in the sophomore year.)

**Modern Languages (15 credits)**

A minor in Modern Languages requires 15 credits from one modern language (Chinese, French, German, Italian, Japanese, or Spanish) from courses at the 3000 and 4000 levels, including at least one literature course at the 4000 level. In French, one of the 3000-level courses must be FR 3050. FR 4380 and 4390, JAPN 4010, (ANTH) 4170, 4990, and SPAN 4380 and 4390 may not be used to satisfy requirements for the French, Japanese, or Spanish minor.

**Music (18 credits)**

A minor in Music requires MUSC 1420, 1430, 1510, 1520, 2510, 2520; 4150 or 4160; four semesters of ensemble, totaling four credits, selected from MUSC 3230, 3610, 3620, 3630, 3690, 3700, 3710, 3720; and one three-hour MUSC course at the 3000–4000 level. All four semesters of applied music and large ensemble must be on the student's primary instrument.

**Natural Resource Economics (15 credits)**

A minor in Natural Resource Economics requires AGRB 3570, 4570; and three courses selected from AGRB 3520, 4090, 4120, 4210, 4520, 4750, ECON 3190.

**Nonprofit Leadership (18 credits)**

A minor in Nonprofit Leadership requires completion of 18 credits: NPL 3000, 3010, 3020, 3030, 3040, 4900.

**Nuclear Engineering and Radiological Sciences (15 credits)**

A minor in Nuclear Engineering and Radiological Sciences (NERS) requires 15 credits: EES 3100, 4100, 4120, and ME 4260; and one course selected from: EES 4110, 4800, PHYS 4520, or another course approved by a NERS advisor.

**Packaging Science (19 credits)**

A minor in Packaging Science requires PKSC 1020, 2020, 2040, and 2060; and at least nine credits selected from the following: FDSC 4010, 4020, FOR 4410, 4420, GC 4060, PKSC 3200, 3680, 4010, 4040, 4160, 4200, 4300, 4400, 4540, 4640.

**Pan African Studies (18 credits)**

A minor in Pan African Studies requires 18 credits as follows: HIST 3110 or 3120, PAS 3010, and 12 credits arranged as follows:

*Group I*—Three credits from GEOG 3300, HIST 3370, 3380, 3390, 4380, PAS 1010, 4980

*Group II*—Three credits from ENGL 4820, 4830, POSC 3810, SOC 4600, THEA 3170

*Group III*—Three credits in any 3000–4000-level course in the social sciences approved by the Director of the Pan African Studies Program

*Group IV*—Three credits in any 3000–4000-level course in the humanities approved by the Director of the Pan African Studies Program

Courses are to be scheduled in consultation with the appropriate advisors. Pan African Studies advisors will provide all affected advisors with a list of approved courses prior to registration.

**Park and Protected Area Management**

(15 credits)

A minor in Park and Protected Area Management requires PRTM 2700, 4740 and nine additional credits from PRTM 3200, 3210, 3300, 4030, (GEOG) 4300, 4310.

**Philosophy (15 credits)**

A minor in Philosophy requires 15 credits in philosophy, nine of which must be at the 3000 level or above.

**Physics (18 credits)**

A minor in Physics requires PHYS 1220, 2210, 2220, and nine additional credits in physics courses at the 3000 level or higher.

**Plant Pathology (15 credits)**

A minor in Plant Pathology requires PLPA 3100 and 12 credits from the following: BIOL (PLPA) 4250, (PLPA) 4260, IPM 4010, MICR 3050, or any 3000–4000-level PLPA courses.

**Political Science (18 credits)**

A minor in Political Science requires POSC 1010 or 1020 or 1030 or 1040 and 15 additional credits at the 3000–4000 level, nine of which must be selected from three different fields of political science as follows:

*American Politics*—POSC 4030, 4050, 4160, 4360, 4420  
*Comparative Politics*—POSC 3710, 3720, 4660, 4710, 4760, 4770, 4780

*International Relations*—POSC 3610, 3620, 3630, 3750, 4290, 4470, 4480

*Political Theory*—POSC 4490, 4500, 4530, 4550

*Public Policy and Public Administration*—POSC 3020, 3210, 4210, 4230, 4240, 4300

No more than a total of three credits from POSC 3050, 3100, 3110, 3120, 3130, 4090, 4100 may be applied to the requirements for a Political Science minor.

**Precision Agriculture (18 credits)**

A minor in Precision Agriculture requires AGM 2060 and 4100; and FOR 4340 or GEOL 4210; and at least nine credits selected from the following: AGRB 3020 or 4020; ENT 4070; FOR 4330; IPM 4010; or PES 4210, 4220, 4230, 4260, 4330, 4460 or 4520.

**Psychology (18 credits)**

A minor in Psychology requires PSYC 2010 and 15 credits from PSYC 2750 and/or 3000- and 4000-level psychology courses. At least nine hours from courses other than PSYC 4970 and 4980 must be taken.

**Public Policy (18 credits)**

A minor in Public Policy requires POSC 3210, 4210, and 4300, plus nine credit hours in courses dealing with specific policy domains and approved by the Department of Political Science.

**Recreational Therapy (16 credits)**

A minor in Recreational Therapy requires PRTM 2600, 3220, 3240, 3260, and 3270.

**Religion** (15 credits)

A minor in Religion requires 15 credits, nine of which must be at the 3000 level or above. PHIL 3030 and POSC 4070 may be included.

**Russian Area Studies** (15 credits)

A minor in Russian Area Studies requires 15 credit hours of which three credits must be in Russian language courses at the 2000 level or above. The remaining twelve credits are distributed as follows:

*Group I*—Three credits from RUSS 3070, 3400, 3600, 3610, 3980, 4600

*Group II*—Three credits from HIST 3850, 3860, 3870, 4940

*Group III*—Three credits from POSC 4710, 4730

*Group IV*—Three additional credits from any of the courses listed above

**Science and Technology in Society**

(15 credits)

A minor in Science and Technology in Society requires 15 credits, at least six of which must be at the 4000 level. See History Department advisor for list of approved courses.

**Screenwriting** (15 credits)

A minor in Screenwriting requires 15 credits in ENGL above the sophomore level as follows: ENGL 3480, 3570, 4480 (six credits); and one of the following: ENGL 4500, (COMM) 4510, 4520, 4530, THEA (ENGL) 3470, or other course approved by the departmental Director of Undergraduate Studies.

**Sociology** (18 credits)

A minor in Sociology requires SOC 2010 and 15 credits from sociology and rural sociology courses numbered 3000 or higher. At least one 4000-level course must be included.

**Spanish-American Area Studies**

(18 credits)

A minor in Spanish-American Area Studies requires the equivalent of SPAN 2020, ECON 4100, and 12 credits distributed as follows: six credits from GEOG 3400, HIST 3400, 3410, 3420, 4400; and six credits from SPAN 3080, 3110, 3820, 4030, 4220, 4350.

**Sustainability** (18 credits)

A minor in Sustainability requires 18 credits, including CU 2010; three credits of approved engagement activities, such as creative inquiry, study abroad, independent research, co-ops, or capstone projects; and 12 credits of courses that focus on sustainability issues, selected from AGRB 4570\*, ARCH 4710\*, 4720\*, BE 4400, 4640, BIOL 2040\*, 3130, 4410, CE 4360, 4370, ECE 4200, 4610, 4570, ECON 3190, EES 4860, ENR 4130, 4500\*, ENSP 2000, 4000\*, FOR 4340, GEOL 1200, 2700\*, HIST 1240\*, HON 2060 (when the course covers sustainable energy innovation or experimental forest topics), HORT 1010, 3080, 4560, ME 4200, 4570, PES 3150\*, PHIL 3450\*, PHYS 2450, PKSC 3680\*, RS 4010\*, WFB 3130, 4180, 4300. Other courses may be substituted with departmental approval.

At least nine credits must be selected from 3000- or 4000-level courses. At least three and no more than nine credits must be from courses addressing the social dimension of sustainability. These courses are identified by an asterisk in the list above.

**Theatre** (20 credits)

A minor in Theatre requires 20 credits arranged as follows: three credits of dramatic literature (ENGL) 4100, 4110, (ENGL) 4290, THEA 4300; THEA (ENGL) 3470; three credits of theatre history (THEA) 3150, 3160, 3170, 3180; six credits in a sequence (THEA 2780/4790, THEA (ENGL) 3470/4470, THEA 3670/4670, THEA 3720/4720, 3760/4760; 2880 or 3770 and one of the following: 4770, 4870 or 4970); six credits in THEA at the 3000–4000 level; and two credits of THEA 2790.

**Travel and Tourism** (15 credits)

A minor in Travel and Tourism requires PRTM 3010, 3420, and nine additional credits from PRTM 3430, 3440, 3490, 3920, 3980, (GEOG) 4300, 4410, 4440, 4450, 4460, 4470, 4980.

**Turfgrass** (16 credits)

A minor in Turfgrass requires HORT 2120, 4120, PES 2020, and two of the following: AGM 4020, HORT (PES) 4330, PLPA (ENT) 4060.

**Urban Forestry** (16 credits)

A minor in Urban Forestry requires a minimum of 16 credits, distributed as follows:

*Group I*—FOR (HORT) 4270, 4500, 4800, HORT 2080

*Group II*—A minimum of three credits selected from CRP 4010, HORT 3080

*Group III*—A minimum of three credits selected from HORT 3030

**Wildlife and Fisheries Biology**

(15 credits)

A minor in Wildlife and Fisheries Biology requires WFB 3000; 3500; and nine additional hours selected from 3000-level or higher WFB courses, except 4630.

**Women's Leadership** (18 credits)

A minor in Women's Leadership requires HEHD 4100; WS 1030 or 3010; WS 2300; WS 3900 or 4010; and six additional credits selected in consultation with a departmental advisor.

**Writing** (15 credits)

A minor in Writing requires 15 credits as follows:

*Business and Technical Option*—AGRB 3510 or GC 1040, CPSC 1200, ENGL 3040 or 3140, 4900, 4950

*Media Studies Option*—ENGL 2310, 3320, 3330, 4780; and one of the following: ENGL 4750, 4890, (COMM) 4910, (COMM) 4920, or any course approved by the Chair of the English Department

*Writing Pedagogy Option*—ENGL 3120, 4000, 4010, (EDSC) 4850, and any 3000- or 4000-level writing course offered by the Department of English

*Creative Writing Options*

*Drama*—ENGL (THEA) 4300, THEA (ENGL) 3470, (ENGL) 4470 (six credits), and one of the following: ENGL 3120, 4100, 4110

*Fiction*—ENGL 3450, 4320, 4450 (six credits), and one of the following: ENGL 3120, 4180, 4250, 4260, 4280

*Poetry*—ENGL 3460, 4310, 4460 (six credits), and one of the following: ENGL 3120, 4160, 4170, 4280, 4440

# COLLEGE OF AGRICULTURE, FORESTRY AND LIFE SCIENCES

The College of Agriculture, Forestry and Life Sciences (CAFLS) supports Clemson University's land-grant mission to provide education, research and service to the public. The College of Agriculture, Forestry and Life Sciences serves more than 3,800 graduate and undergraduate students.

The College of Agriculture, Forestry and Life Sciences is a multi-disciplinary college of life-based sciences that prepares students to be leaders and innovators in their chosen careers. The shared biological foundation of the CAFLS Departments stimulates student learning and undergraduate research across disciplines; increases opportunities for team-based faculty research across departments, colleges and institutions; and makes available the latest scientific knowledge for the greater benefit of society.

To assist students in achieving these goals, the William B. Bookhart Jr. Student Services Center provides academic advising and developmental services to promote success for students in the related degree programs. These services involve recruitment and retention, academic advising, multicultural affairs, study abroad, career development, and placement.

The College of Agriculture, Forestry and Life Sciences is impacting the world one graduate at a time—from cell research to food production to packaged materials to the globe—developing partnerships for the future to make the world greener, healthier, tastier, and wealthier.

## AGRIBUSINESS

### Bachelor of Science

The Agribusiness curriculum provides strong training in economic and business principles as applied in agribusiness enterprises. Core classes in the major focus on agribusiness economics and management, leadership, marketing and sales, finance, accounting, and business skill development. Employment opportunities for graduates are many and diverse. Private sector opportunities include national and international careers in agribusiness management, banking, finance, sales, marketing, and public relations. Public sector opportunities include positions in organizations that promote food, agriculture, and natural resource interests; government agencies; and educational institutions. Moreover, the curriculum design provides graduates with the skills necessary to successfully establish their own businesses. By completing this curriculum, graduates will have fulfilled the requirements for an approved minor in the college, allowing students to tailor the program to meet specific career objectives.

The curriculum also emphasizes training on globalization, information technology, and interdisciplinary skills needed to analyze the complex interrelationships between business, the environment and society. Students are encouraged to participate on a creative inquiry student research team and to take advantage of an internship and/or study abroad opportunity. The program provides an excellent background for professional or graduate study in several disciplines.

### Freshman Year

#### First Semester

- 3 - AGRB 2050 Agriculture and Society
- 3 - MATH 1020 Intro. to Mathematical Analysis
- 3 - STAT 2220 Statistics in Everyday Life
- 4 - Natural Science Requirement<sup>1</sup>
- 3 - Oral Communication Requirement<sup>1</sup>

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#### Second Semester

- 3 - AGRB 2020 Agricultural Economics
- 3 - ENGL 1030 Accelerated Composition
- 3 - STAT 2300 Statistical Methods I
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 3 - Elective

15

### Sophomore Year

#### First Semester

- 3 - ACCT 2010 Financial Accounting Concepts
- 3 - AGRB 3020 Economics of Farm Management
- 3 - ECON 2120 Principles of Macroeconomics
- 3 - MGT 2010 Principles of Management
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>

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#### Second Semester

- 3 - ACCT 2020 Managerial Accounting Concepts
- 3 - AGRB 3570 Natural Resource Economics
- 3 - Leadership Requirement<sup>2</sup>
- 3 - Minor Requirement<sup>3</sup>
- 3 - Social Science Requirement<sup>1</sup>

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### Junior Year

#### First Semester

- 3 - AGM 3190 Agribusiness Decision Analysis
- 3 - AGRB 3090 Econ. of Agricultural Marketing *or*  
3 - MKT 3010 Principles of Marketing
- 3 - ECON (MGT) 3060 Managerial Economics *or*  
3 - ECON 3140 Intermediate Microeconomics
- 3 - ENGL 3140 Technical Writing
- 3 - Minor Requirement<sup>3</sup>

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#### Second Semester

- 3 - AGRB 3190 Agribusiness Management
- 3 - AGRB 4080 Quantitative Applied Economics
- 3 - AGRB 4210 Globalization *or*  
3 - ECON 3100 International Economy
- 3 - ECON 3020 Money and Banking *or*  
3 - ECON 3150 Intermediate Macroeconomics
- 3 - Minor Requirement<sup>3</sup>

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### Senior Year

#### First Semester

- 3 - AGRB 4090 Commodity Futures Markets
- 3 - AGRB 4120 Regional Economic Dev.
- 3 - AGRB 4600 Agricultural Finance
- 3 - LAW 3220 Legal Environment of Business
- 3 - Minor Requirement<sup>3</sup>

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#### Second Semester

- 3 - AGRB 4020 Production Economics
- 3 - AGRB 4520 Agricultural Policy
- 3 - AGRB 4560 Prices
- 3 - Internship, Creative Inquiry or Selected Topics<sup>4</sup>
- 3 - Minor Requirement<sup>3</sup>

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121 Total Semester Hours

<sup>1</sup>See General Education Requirements.

<sup>2</sup>Select from AGED 3550, 4150.

<sup>3</sup>See CAFLS approved minors.

<sup>4</sup>AGRB 4900, 4910, 4940

## AGRICULTURAL EDUCATION

### Bachelor of Science

Agricultural Education provides broad preparation in agricultural sciences and professional education, including communications and human relations skills. In addition to required courses, students may select a minor (see page 63).

The Bachelor's degree prepares students for professional education positions in the mainstream of agriculture, including teaching, cooperative extension service, and government agricultural agencies. The Agricultural Education degree also prepares students for other educational work, such as agricultural missionary, public relations, and training officers in agricultural industry.

In consultation with the departmental advisor, students choose one of the following emphasis areas: Communications, Leadership, or Teaching.

### Admission to Teaching Emphasis Students

Professional application to the professional level of a program is processed during the term in which a candidate is to complete 60 semester hours of work. At that time, the candidate is notified of his/her status. Prior to admission, the candidate must have passed all areas of the Praxis CORE and have a minimum cumulative grade-point average of 2.75. A candidate may exempt the CORE by meeting minimum ACT or SAT requirements as determined by the South Carolina Department of Education.

### Directed Teaching/Teaching Internship—A

candidate shall apply to the field experience director prior to the semester in which block methods courses are scheduled. The following conditions must be met prior to registration for directed teaching: (1) admission to the professional level of a program; (2) completion of at least 95 semester hours; (3) a minimum cumulative grade-point average of 2.75.

**Freshman Year****First Semester**

- 1 - AGED 1020 Agric. Ed. Freshman Seminar
- 3 - AGED 3650 Multiculturalism in Agric. Ed.
- 3 - AVS 1500 Introduction to Animal Science
- 1 - AVS 1510 Introduction to Animal Science Lab.
- 3 - BIOL 1030 General Biology I
- 1 - BIOL 1050 General Biology Lab. I
- 3 - HORT 1010 Horticulture
- 3 - Mathematics Requirement<sup>1</sup>
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**Second Semester**

- 1 - AGED 1000 Orientation and Field Experience
- 3 - AGM 2050 Principles of Fabrication
- 3 - BIOL 1040 General Biology II
- 1 - BIOL 1060 General Biology Lab. II
- 3 - ENGL 1030 Accelerated Composition
- 6 - Social Science Requirement<sup>2</sup>
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**Sophomore Year****First Semester**

- 3 - AGED 2010 Intro. to Agricultural Education
- 3 - AGED 2040 Applied Agriculture Calculations
- 3 - BT 2200 Biosystems Technology I
- 4 - CH 1010 General Chemistry
- 3 - HORT 2120 Introduction to Turfgrass Culture
- 1 - HORT 2130 Turfgrass Culture Lab.
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**Second Semester**

- 4 - CH 1020 General Chemistry
- 1 - COMM 1010 Communication Academic and Professional Development I<sup>3</sup>
- 3 - EDSP 3700 Introduction to Special Education
- 3 - PHYS 2070 General Physics I
- 3 - STAT 2300 Statistical Methods I
- 3 - Technical Requirement<sup>4</sup>
- 16-17

<sup>1</sup>MATH 1010, 1020, 1060, 1080, or 2070<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement. Note: ANTH 2010, GEOG 1030 or HIST 1730 is recommended to satisfy the Social Science Requirement.<sup>3</sup>Required of students in Communications Emphasis Area only.<sup>4</sup>See advisor.**COMMUNICATIONS EMPHASIS AREA****Junior Year****First Semester**

- 3 - AGED 3030 Mechanical Technology for Agriculture Education
- 3 - AGM 2210 Surveying
- 4 - COMM 2010 Intro. to Communication Studies
- 4 - PES 2020 Soils
- 3 - Arts and Humanities (Non-Lit.) and Science and Technology in Society Requirement<sup>1</sup>
- 17

**Second Semester**

- 3 - EDF 3020 Educational Psychology
- 3 - ENR 3020 Natural Resources Measurements
- 3 - HORT 4040 Plant Propagation
- 1 - HORT 4050 Plant Propagation Techniques Lab.
- 3 - Advanced Writing Requirement<sup>2</sup>
- 3 - Departmental Communication Requirement<sup>3</sup>
- 3 - Oral Communication Requirement<sup>4</sup>
- 19

**Senior Year****First Semester**

- 3 - ENGL 2310 Introduction to Journalism
- 3 - HORT 3030 Landscape Plants
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 6 - Departmental Communication Requirement<sup>3</sup>
- 3 - Technical Requirement<sup>3</sup>
- 18

**Second Semester**

- 12 - AGED 4070 Internship in Extension and Leadership Education<sup>5</sup>
- 12
- 134-135 Total Semester Hours

<sup>1</sup>See General Education Requirements. This course must also satisfy the Science and Technology in Society Requirement.<sup>2</sup>ENGL 3040 or 3140 is recommended.<sup>3</sup>See advisor.<sup>4</sup>See General Education Requirements. COMM 1500 or 2500 is recommended.<sup>5</sup>Internship must meet departmental requirements for Communications Emphasis Area. See advisor.**LEADERSHIP EMPHASIS AREA****Junior Year****First Semester**

- 3 - AGED 3030 Mechanical Technology for Agriculture Education
- 3 - AGM 2210 Surveying
- 3 - HORT 3030 Landscape Plants
- 4 - PES 2020 Soils
- 3 - Advanced Writing Requirement<sup>1</sup>
- 3 - Arts and Humanities (Non-Lit.) and Science and Technology in Society Requirement<sup>1</sup>
- 19

**Second Semester**

- 3 - EDF 3020 Educational Psychology
- 3 - ENR 3020 Natural Resources Measurements
- 3 - HORT 4040 Plant Propagation
- 1 - HORT 4050 Plant Propagation Techniques Lab.
- 3 - Oral Communication Requirement<sup>3</sup>
- 3 - Technical Requirement<sup>4</sup>
- 16

**Senior Year****First Semester**

- 3 - AGED 4030 Principles of Adult/Ext. Educ.
- 3 - AGED 4150 Leadership of Volunteers
- 3 - AGED 4160 Ethics and Issues in Agriculture and the Food and Fiber System
- 3 - MGT 2010 Principles of Management
- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 3 - Technical Requirement<sup>4</sup>
- 18

**Second Semester**

- 12 - AGED 4070 Internship in Extension and Leadership Education
- 12
- 134-135 Total Semester Hours

<sup>1</sup>ENGL 3040 or 3140 is recommended.<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.<sup>3</sup>See General Education Requirements. COMM 1500 or 2500 is recommended.<sup>4</sup>See advisor.**TEACHING EMPHASIS AREA****Junior Year****First Semester**

- 3 - AGED 3030 Mechanical Technology for Agriculture Education
- 3 - AGM 2210 Surveying
- 3 - HORT 3030 Landscape Plants
- 4 - PES 2020 Soils
- 3 - Advanced Writing Requirement<sup>1</sup>
- 16

**Second Semester**

- 3 - AGED 4160 Ethics and Issues in Agriculture and the Food and Fiber System
- 3 - EDF 3020 Educational Psychology
- 3 - ENR 3020 Natural Resources Measurements
- 3 - HORT 4040 Plant Propagation
- 1 - HORT 4050 Plant Propagation Techniques Lab.
- 3 - Oral Communication Requirement<sup>2</sup>
- 16

**Senior Year****First Semester**

- 1 - AGED 4000 Supervised Field Experience II
- 3 - AGED 4010 Instructional Methods in Ag. Ed.
- 3 - AGED 4030 Principles of Adult/Ext. Education
- 3 - AGED 4230 Curriculum
- 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
- 3 - Arts and Humanities (Non-Lit.) and Science and Technology in Society Requirement<sup>3</sup>
- 16

**Second Semester**

- 12 - AGED 4060 Directed Teaching
- 2 - AGED 4250 Teaching Agricultural Mechanics
- 14
- 130-131 Total Semester Hours

<sup>1</sup>ENGL 3040 or 3140 is recommended.<sup>2</sup>See General Education Requirements. COMM 1500 or 2500 is recommended.<sup>3</sup>See General Education Requirements.**AGRICULTURAL MECHANIZATION AND BUSINESS****Bachelor of Science**

The Agricultural Mechanization and Business major provides a program for students who desire training in areas relevant to dynamic agricultural enterprises. The program is organized with strength in both business management and technical support of agriculture and agribusiness. To produce well rounded individuals with good communication skills, the curriculum includes courses in the humanities, social sciences, English composition, and public speaking.

Graduates in Agricultural Mechanization and Business find meaningful and remunerative employment in a variety of situations directly and indirectly related to agricultural production, processing, marketing, and the many services connected therewith. Farming and technical sales in the agricultural, industrial, and heavy equipment industries are frequently chosen careers.

By completing this curriculum, graduates will have fulfilled the requirements for an Agricultural Business Management minor or other selected minor. Contact the Enrolled Student Services Office to have the minor recorded.

Additional information is available from the departmental offices or can be found at [www.clemson.edu/cafls/safes/agmec/index.html](http://www.clemson.edu/cafls/safes/agmec/index.html).

## Freshman Year

### First Semester

- 1 - AGM 1010 Intro. to Ag. Mech. and Business
- 3 - AGM 2050 Principles of Fabrication
- 3 - AGRB 2020 Agricultural Economics or  
3 - ECON 2110 Principles of Microeconomics<sup>1</sup>
- 3 - BIOL 1030 General Biology I
- 1 - BIOL 1050 General Biology Lab. I
- 3 - MATH 1020 Intro. to Mathematical Analysis

14

### Second Semester

- 3 - ACCT 2010 Financial Accounting Concepts
- 3 - BIOL 1040 General Biology II
- 1 - BIOL 1060 General Biology Lab. II
- 3 - COMM 1500 Intro. to Human Comm. or  
3 - COMM 2500 Public Speaking
- 3 - ENGL 1030 Accelerated Composition
- 3 - Elective

16

## Sophomore Year

### First Semester

- 3 - AGM 2190 Agribusiness and Food Systems
- 3 - AGM 2210 Surveying
- 4 - CH 1010 General Chemistry
- 2 - ENGR 2080 Engineering Graphics and Machine Design or  
2 - ENGR 2090 Introduction to Engineering Computer Graphics or  
2 - ENGR 2100 Comp. Aided Design/Engr. Apps.
- 4 - PHYS 2000 Introductory Physics or  
3 - PHYS 2070 General Physics I and  
1 - PHYS 2090 General Physics I Lab.

16

### Second Semester

- 3 - AGM 2060 Machinery Management
- 3 - AGM 3030 Calculations for Mechanized Agric.
- 4 - CH 1020 General Chemistry
- 3 - Arts and Humanities (Literature) Requirement
- 3 - Plant/Crop Science Requirement<sup>2</sup>

16

## Junior Year

### First Semester

- 3 - AGM 3010 Soil and Water Conservation
- 3 - AGM 3190 Agribusiness Decision Analysis
- 3 - AGM 4050 Environmental Control in Animal Structures
- 3 - AGRB 3020 Economics of Farm Management or  
3 - MGT 2010 Principles of Management<sup>1,3</sup>
- 4 - PES 2020 Soils

16

## Second Semester

- 3 - AGM 4020 Drainage and Irrigation
- 3 - AGM 4520 Mobile Power
- 3 - STAT 2300 Statistical Methods I<sup>4</sup>
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>4</sup>
- 3 - Minor Requirement<sup>5</sup>

15

## Senior Year

### First Semester

- 1 - AGM 4000 Senior Seminar in Agricultural Mechanization and Business
- 3 - AGM 4060 Mechanical and Hydraulic Systems
- 3 - AGM 4600 Electrical Systems
- 3 - AGRB 3190 Agribusiness Management or  
3 - MGT 2010 Principles of Management<sup>1,3</sup>
- 3 - AGRB 3090 Econ. of Agricultural Marketing or  
3 - MKT 3010 Principles of Marketing<sup>1</sup>
- 3 - Minor Requirement<sup>5</sup>

16

### Second Semester

- 3 - AGM 4100 Precision Agriculture Technology
- 3 - AGM 4720 Capstone or  
3 - AGM 4190 Agribusiness Innov./Enpren.<sup>6</sup>
- 3 - Minor Requirement<sup>5</sup>
- 3 - Plant/Crop<sup>2</sup> or Soil Science<sup>7</sup> Requirement
- 3 - Social Science Requirement<sup>4</sup>

15

124 Total Semester Hours

<sup>1</sup>Required for students minoring in Business Administration.  
<sup>2</sup>HORT 1010, 2100, 2110, 2120, 4050, (PES) 4330, 4550, 4560, PES 1040, 4050, 4210, 4220, 4230, (AGRB) 4260, PLPA 3100, 4060, 4110, or 4590. If applicable, these courses may also be used to satisfy minor requirement.

<sup>3</sup>MGT 2010 can count for either of the AGRB 3020 or 3190 requirement but not for both.

<sup>4</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness and three must satisfy the Science and Technology in Society Requirements.

<sup>5</sup>See CAFLS approved minors. If requirements for an approved minor have already been satisfied, this course may be any 3000-level (or higher) course from an approved program. Any required course in the curriculum can also be used to count towards minor requirements.

<sup>6</sup>AGM 4190 is a fall-only course. Students electing to take AGM 4190 must switch the course order with a fall listing.

<sup>7</sup>PES 4030, 4460, 4520, 4850, or 4900. If applicable, these courses may also be used to satisfy minor requirement.

## ANIMAL AND VETERINARY SCIENCES

### Bachelor of Science

The Animal and Veterinary Sciences curriculum provides students with both a basic and applied understanding of the scientific principles needed for successful careers in the scientific, technical, and business phases of livestock and poultry production, processing, and marketing. Strengths of this program include extensive hands-on instruction at Clemson's six animal farms, personalized advising, and the opportunity for valued-added experiences, including involvement in research, teaching, extension, international travel, and internships. Students choose from three concentrations.

The Animal Agribusiness Concentration prepares students for careers in the many facets of the animal industries, including production, sales and marketing, business management, advertising, and extension. The Equine Business Concentration prepares students for such professions as trainers, managers, riding instructors, sales or media representatives, breed association representatives or for equine entrepreneurial careers such as owners of tack shops, boarding facilities, or riding schools. The Preveterinary and Science Concentration prepares students to meet the requirements for most veterinary schools, graduate schools, and medical and dental schools. Students with South Carolina residency may compete for contract seats at Mississippi State, Tuskegee, and University of Georgia Colleges of Veterinary Medicine. Experienced preprofessional advising is provided for all students pursuing advanced degrees.

## Change of Major into Animal and Veterinary Sciences

Students who change majors into Animal and Veterinary Sciences must have a 2.5 minimum cumulative grade-point average.

## ANIMAL AGRIBUSINESS CONCENTRATION

### Freshman Year

#### First Semester

- 1 - AVS 1000 Orientation to Animal and Vet. Sci.
- 3 - AVS 1500 Introduction to Animal Science
- 1 - AVS 1510 Introduction to Animal Science Lab.
- 3 - BIOL 1030 General Biology I and
- 1 - BIOL 1050 General Biology Lab. I or  
5 - BIOL 1100 Principles of Biology I
- 4 - CH 1010 General Chemistry
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>

16-17

#### Second Semester

- 3 - BIOL 1040 General Biology II and
- 1 - BIOL 1060 General Biology Lab. II or  
5 - BIOL 1110 Principles of Biology II
- 4 - CH 1020 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 3 - MATH 1010 Essen. Math. for Informed Soc. or  
3 - MATH 1020 Intro. to Math. Analysis or  
4 - MATH 1060 Calculus of One Variable I
- 2 - AVS Techniques Requirement<sup>2</sup>

16-18

## Sophomore Year

### First Semester

- 3 - ACCT 2010 Financial Accounting Concepts
- 3 - MGT 2010 Principles of Management
- 3 - STAT 2300 Statistical Methods I
- 2 - AVS Techniques Requirement<sup>2</sup>
- 3 - Elective

14

### Second Semester

- 3 - ECON 2110 Principles of Microeconomics
- 3 - FIN 3060 Corporation Finance
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 2 - AVS Evaluation Requirement<sup>3</sup>
- 2 - AVS Techniques Requirement<sup>2</sup>
- 3 - Social Science Requirement<sup>1</sup>

16

**Junior Year****First Semester**

- 4 - AVS 3010 Anat. and Phys. of Domestic Animals
  - 3 - AVS 3700 Principles of Animal Nutrition
  - 3 - AVS 4700 Animal Genetics
  - 3 - ECON 2120 Principles of Macroeconomics
  - 3 - PES 4230 Field Crops—Forages
- 16

**Second Semester**

- 3 - AVS 3750 Applied Animal Nutrition
  - 3 - AVS 4130 Animal Products
  - 3 - AVS 4530 Animal Reproduction
  - 3 - LAW 3220 Legal Environment of Business
  - 3 - Elective
- 15

**Senior Year****First Semester**

- 3 - AVS 3100 Animal Health
  - 1 - AVS 4000 Animal and Veterinary Sciences Professional Development
  - 3 - AVS 4150 Contemporary Issues in Animal Sci.
  - 3 - MKT 3010 Principles of Marketing
  - 2 - AVS Experience-Based Activity<sup>4</sup>
  - 2 - AVS Techniques Requirement<sup>2</sup>
- 14

**Second Semester**

- 2 - AVS 4060 Seminars and Related Topics
  - 3 - AVS 4100 Domestic Animal Behavior
  - 2 - AVS 4170 Animal Agribusiness Development
  - 3 - AVS Experience-Based Activity<sup>4</sup>
  - 4 - Production Class<sup>5</sup>
  - 2 - Elective
- 16

123–126 Total Semester Hours

<sup>1</sup>See General Education Requirements. Social Science courses must be selected from two different fields. AGRB and ECON are considered the same field. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>Select from AVS 2000, 2010, 2120, 2030, 2040, 2050, 2060, 2090, 2110, 2120, 3020, 3090, 3110, 3230, 4050 or 4550

<sup>3</sup>Select from AVS 3020, 3090, 3110 or 3230

<sup>4</sup>Select from AVS 3600, 3900, 4410, 4420, 4430, 4440 or 4910

<sup>5</sup>Select from AVS 4010, 4120 or 4500.

**EQUINE BUSINESS CONCENTRATION****Freshman Year****First Semester**

- 1 - AVS 1000 Orientation to Animal and Vet. Sci.
  - 3 - AVS 1500 Introduction to Animal Science
  - 1 - AVS 1510 Introduction to Animal Science Lab.
  - 3 - BIOL 1030 General Biology I and
  - 1 - BIOL 1050 General Biology Lab. I or
  - 5 - BIOL 1100 Principles of Biology I
  - 4 - CH 1010 General Chemistry
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 16-17

**Second Semester**

- 3 - BIOL 1040 General Biology II and
  - 1 - BIOL 1060 General Biology Lab. II or
  - 5 - BIOL 1110 Principles of Biology II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - MATH 1010 Essen. Math. for Informed Soc. or
  - 3 - MATH 1020 Intro. to Math. Analysis or
  - 4 - MATH 1060 Calculus of One Variable I
  - 2 - AVS Techniques Requirement<sup>2</sup>
- 16-18

**Sophomore Year****First Semester**

- 3 - ACCT 2010 Financial Accounting Concepts
  - 2 - AVS 2040 Horse Care Techniques
  - 3 - MGT 2010 Principles of Management
  - 3 - STAT 2300 Statistical Methods I
  - 3 - Elective
- 14

**Second Semester**

- 2 - AVS 3090 Principles of Equine Evaluation
  - 3 - ECON 2110 Principles of Microeconomics
  - 3 - FIN 3060 Corporation Finance
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 2 - AVS Techniques Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 16

**Junior Year****First Semester**

- 4 - AVS 3010 Anat. and Phys. of Domestic Animals
  - 3 - AVS 3700 Principles of Animal Nutrition
  - 3 - AVS 4700 Animal Genetics
  - 3 - ECON 2120 Principles of Macroeconomics
  - 3 - PES 4230 Field Crops—Forages
- 16

**Second Semester**

- 3 - AVS 3750 Applied Animal Nutrition
  - 3 - AVS 4530 Animal Reproduction
  - 3 - LAW 3220 Legal Environment of Business
  - 3 - MKT 3010 Principles of Marketing
  - 2 - AVS Techniques Requirement<sup>2</sup>
- 14

**Senior Year****First Semester**

- 3 - AVS 3100 Animal Health
  - 1 - AVS 4000 Animal and Veterinary Sciences Professional Development
  - 2 - AVS 4060 Seminars and Related Topics
  - 3 - AVS 4150 Contemporary Issues in Animal Sci.
  - 4 - AVS 4160 Equine Exercise Physiology
  - 2 - AVS Experience-Based Activity<sup>3</sup>
- 15

**Second Semester**

- 3 - AVS 4100 Domestic Animal Behavior
  - 4 - AVS 4120 Advanced Equine Management
  - 2 - AVS 4170 Animal Agribusiness Development
  - 5 - Elective
- 14

121–124 Total Semester Hours

<sup>1</sup>See General Education Requirements. AGRB and ECON courses may not be used to fulfill the Social Science Requirement. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>Select from AVS 2000, 2010, 2030, 2050, 2060, 2090, 2110, 2120, 3020, 3110, 3230, 4050 or 4550

<sup>3</sup>Select from AVS 3600, 3900, 4410, 4420, 4430, 4440 or 4910

**PREVETERINARY AND SCIENCE CONCENTRATION****Freshman Year****First Semester**

- 1 - AVS 1000 Orientation to Animal and Vet. Sci.
  - 3 - AVS 1500 Introduction to Animal Science
  - 1 - AVS 1510 Intro. to Animal Science Lab.
  - 3 - BIOL 1030 General Biology I and
  - 1 - BIOL 1050 General Biology Lab. I or
  - 5 - BIOL 1100 Principles of Biology I
  - 4 - CH 1010 General Chemistry
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 16-17

**Second Semester**

- 3 - BIOL 1040 General Biology II and
  - 1 - BIOL 1060 General Biology Lab. II or
  - 5 - BIOL 1110 Principles of Biology II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - MATH 1020 Intro. to Math. Analysis or
  - 4 - MATH 1060 Calculus of One Variable I
  - 2 - AVS Techniques Requirement<sup>2</sup>
- 16-18

**Sophomore Year****First Semester**

- 3 - CH 2230 Organic Chemistry
  - 1 - CH 2270 Organic Chemistry Lab.
  - 3 - PHYS 2070 General Physics I
  - 1 - PHYS 2090 General Physics II Lab.
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 2 - AVS Techniques Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 16

**Second Semester**

- 3 - CH 2240 Organic Chemistry
  - 1 - CH 2280 Organic Chemistry Lab.
  - 3 - PHYS 2080 General Physics II
  - 1 - PHYS 2100 General Physics II Lab.
  - 3 - STAT 2300 Statistical Methods I
  - 2 - AVS Techniques Requirement<sup>2</sup>
  - 3 - Oral Communication Requirement<sup>3</sup>
- 16

**Junior Year****First Semester**

- 4 - AVS 3010 Anat. and Phys. of Domestic Animals
  - 3 - AVS 3100 Animal Health
  - 3 - AVS 3700 Principles of Animal Nutrition
  - 3 - BCHM 3010 Molecular Biochemistry or
  - 3 - BCHM 3050 Essential Elements of Bioch. or
  - 3 - BCHM 4060 Physiological Chemistry
  - 3 - Departmental Requirement<sup>4</sup>
- 16

**Second Semester**

- 3 - AVS 3750 Applied Animal Nutrition
  - 3 - AVS 4530 Animal Reproduction
  - 3 - GEN 3000 Fundamental Genetics<sup>5</sup>
  - 4 - MICR 3050 General Microbiology<sup>5</sup>
  - 1 - AVS Experience-Based Activity<sup>6</sup>
- 14

**Senior Year****First Semester**

- 1 - AVS 4000 Animal and Veterinary Sciences Professional Development
  - 2 - AVS 4060 Seminars and Related Topics
  - 3 - AVS 4150 Contemporary Issues in Animal Sci.
  - 2 - AVS Techniques Requirement<sup>2</sup>
  - 3 - Departmental Requirement<sup>4</sup>
  - 3 - Elective
- 
- 14

**Second Semester**

- 3 - AVS 4100 Domestic Animal Behavior
- 3 - AVS 4130 Animal Products
- 2 - AVS Experience-Based Activity<sup>6</sup>
- 3 - Departmental Requirement<sup>4</sup>
- 3 - Social Science Requirement<sup>1</sup>

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14

122–125 Total Semester Hours

<sup>1</sup>See General Education Requirements. Social Science courses must be selected from two different fields. AGRB and ECON are considered the same field. Three of these General Education credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>Select from AVS 2000, 2010, 2030, 2040, 2050, 2060, 2090, 2110, 2120, 3020, 3090, 3110, 3230, 4050 or 4550.

<sup>3</sup>COMM 1500 or 2500

<sup>4</sup>Select nine hours from any graded (not Pass/No Pass) 3000- or 4000-level course and/or any of the following: ACCT 2010, AGRB 2020 or ECON 2110, BIOL 2220, 2230, ECON 2120, MGT 2010, PES 2020, SPAN 1010, 1020.

<sup>5</sup>May take GEN 3000 and MICR 3050 in either semester of the junior year.

<sup>6</sup>Select from AVS 3600, 3900, 4410, 4420, 4430, 4440 or 4910.

**BIOCHEMISTRY****Bachelor of Science**

Biochemistry is the study of the molecular basis of life. To comprehend current biochemical information and make future contributions to our molecular understanding of life processes, students must obtain a broad background in biology and a firm foundation in chemistry, mathematics, and physics. This is the basis of the biochemistry curriculum.

The program provides an excellent educational background for professional school (medicine, dentistry, or veterinary medicine) and graduate school in biochemistry, molecular biology, or another biological science discipline. Graduates will find employment opportunities in the research and service programs of universities, medical schools, hospitals, research institutes, and industrial and government laboratories.

**Freshman Year****First Semester**

- 1 - BCHM 1030 Careers in Biochem. and Genetics
  - 5 - BIOL 1100 Principles of Biology I
  - 4 - CH 1010 General Chemistry
  - 4 - MATH 1060 Calculus of One Variable I
- 
- 14

**Second Semester**

- 5 - BIOL 1110 Principles of Biology II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1080 Calculus of One Variable II
- 
- 16

**Sophomore Year****First Semester**

- 2 - BCHM 3040 Molecular Biology Lab.
- 3 - CH 2230 Organic Chemistry
- 1 - CH 2270 Organic Chemistry Lab.
- 3 - GEN 3020 Molecular and General Genetics
- 3 - PHYS 1220 Physics with Calculus I
- 1 - PHYS 1240 Physics Lab. I

3-4 - Advanced Mathematics Requirement<sup>1</sup>

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16-17

**Second Semester**

- 3 - BCHM 3010 Molecular Biochemistry
- 3 - CH 2240 Organic Chemistry
- 1 - CH 2280 Organic Chemistry Lab.
- 3 - COMM 1500 Intro. to Human Comm. or  
3 - COMM 2500 Public Speaking
- 3 - PHYS 2210 Physics with Calculus II
- 1 - PHYS 2230 Physics Lab. II
- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>

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17

**Junior Year****First Semester**

- 3 - BCHM 4310 Physical Approach to Biochem.
- 2 - BCHM 4330 General Biochemistry Lab. I
- 3 - CH 3300 Introduction to Physical Chemistry<sup>3</sup>
- 3 - Science Requirement<sup>4</sup>
- 3 - Social Science Requirement<sup>5</sup>
- 2 - Elective<sup>6</sup>

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16

**Second Semester**

- 3 - BCHM 4320 Biochemistry of Metabolism
- 2 - BCHM 4340 General Biochemistry Lab. II
- 3 - BCHM 4360 Molecular Biol.: Genes to Proteins
- 3 - PHIL 3260 Science and Values
- 3 - Social Science Requirement<sup>5</sup>

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14

**Senior Year****First Semester**

- 3 - BIOL 4610 Cell Biology
- 3 - GEN (BCHM) 4400 Bioinformatics
- 3 - Science Requirement<sup>4</sup>
- 4 - Elective<sup>6</sup>

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13

**Second Semester**

- 2 - BCHM 4930 Senior Seminar
- 3 - Science Requirement<sup>4</sup>
- 9 - Elective<sup>6</sup>

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120–121 Total Semester Hours

<sup>1</sup>STAT 2300 or MATH 2060

<sup>2</sup>See General Education Requirements.

<sup>3</sup>CH 3310 may be substituted.

<sup>4</sup>BIOL 2220, 2230, or any courses at 3000 level or above in BCHM, BIOE, BIOL, CH, GEN, MATH, MICR, PHYS, PLPA, and STAT. Other courses must be approved by advisor.

<sup>5</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>6</sup>Two semesters of a foreign language are strongly recommended.

Notes:

1. A student is allowed to enroll in science and mathematics courses only when all prerequisites have been passed with a grade of C or higher.
2. A minimum grade of C is required in all science and mathematics courses. No student may exceed a maximum of two attempts, excluding a W, to complete successfully any science or mathematics course.

**BIOLOGICAL SCIENCES****Bachelor of Arts**

The Bachelor of Arts in Biological Sciences provides a strong foundation in biology and is ideal for students desiring a liberal education emphasizing an interdisciplinary approach to a thorough understanding of the life sciences.

**Freshman Year****First Semester**

- 1 - BIOL 1010 Frontiers in Biology I<sup>1</sup>
- 5 - BIOL 1100 Principles of Biology I<sup>2</sup>
- 4 - CH 1010 General Chemistry
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Oral Communications Requirement<sup>3</sup>

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17

**Second Semester**

- 5 - BIOL 1110 Principles of Biology II<sup>2</sup>
- 4 - CH 1020 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 3 - Mathematical Sciences Requirement<sup>4</sup>

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15

**Sophomore Year****First Semester**

- 3 - CH 2230 Organic Chemistry<sup>5,6</sup>
- 1 - CH 2270 Organic Chemistry Lab.<sup>5,6</sup>
- 3 - GEN 3000 Fundamental Genetics<sup>7</sup>
- 3 - Arts and Humanities (Literature) Requirement<sup>8</sup>
- 4 - Foreign Language Requirement<sup>9</sup>
- 3 - Social Science Requirement<sup>8</sup>

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17

**Second Semester**

- 3 - BCHM 3050 Essential Elements of Bioch.<sup>10</sup>
- 4 - Foreign Language Requirement<sup>9</sup>
- 4 - Major Requirement<sup>5,11</sup>
- 4 - Organismal Diversity Requirement<sup>12</sup>

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15

**Junior Year****First Semester**

- 3 - BIOL 3350 Evolutionary Biology
- 3 - BIOL 4610 Cell Biology
- 2 - BIOL 4620 Cell Biology Laboratory
- 3 - ENGL 3150 Scientific Writing and Comm.<sup>13</sup>
- 3 - Foreign Language Requirement<sup>9</sup>
- 3 - Minor Requirement<sup>14</sup>

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17

**Second Semester**

- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>8</sup>
- 3 - Foreign Language Requirement<sup>9</sup>
- 3 - Ecology Requirement<sup>15</sup>
- 6 - Minor Requirement<sup>14</sup>

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15

**Senior Year****First Semester**

- 2 - BIOL 4930 Senior Seminar<sup>16</sup> or  
2 - MICR 4930 Senior Seminar<sup>16</sup>
- 3 - PHYS 2070 General Physics I<sup>17</sup>
- 1 - PHYS 2090 General Physics I Lab.<sup>17</sup>
- 3 - Functional Biology Requirement<sup>18</sup>
- 3 - Social Science Requirement<sup>8</sup>

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**Second Semester**

- 3 - PHYS 2080 General Physics II<sup>19</sup>  
 1 - PHYS 2100 General Physics II Lab.<sup>19</sup>  
 6 - Minor Requirement<sup>14</sup>  
 3 - Elective  
 13

121 Total Semester Hours

<sup>19</sup>Students seeking a double major in Science Teaching and Biological Sciences should substitute ED 1050 for BIOL 1010.<sup>2</sup>BIOL 1100 and 1110 are strongly recommended; however, BIOL 1030/1050 may substitute for BIOL 1100, and BIOL 1040/1060 may substitute for BIOL 1110. The remaining 1-2 credits required must be satisfied by completing 1-2 extra credits.<sup>3</sup>See General Education Requirements.<sup>4</sup>MATH 1080, STAT 2300, or other approved coursework. See advisor. Medical and dental schools have different mathematics requirements. The Medical Colleges Admissions Test (MCAT) includes questions on statistics.<sup>5</sup>Most professional health sciences schools require a second semester of organic chemistry with laboratory, CH 2240/2280.<sup>6</sup>CH 2010 and CH 2020 may substitute.<sup>7</sup>GEN 3020 may substitute.<sup>8</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements. The Medical Colleges Admissions Test (MCAT) includes questions on psychology and sociology.<sup>9</sup>Four semesters (through 2020) in the same modern foreign language are required.<sup>10</sup>BCHM 3010 may substitute.<sup>11</sup>Four credit hours must be selected from BIOL or MICR courses at the 3000 level or above or CH 2240/2280, or from the department-approved list. Students seeking a double major in Science Teaching/Biological Sciences should substitute EDSC 4470 for Major Requirement.<sup>12</sup>At least one lecture and associated laboratory selected from BIOL 3010, 3020/3060, 3030/3070, 3040/3080, 3200, 4060/4070, 4250/4260.<sup>13</sup>ENGL 3140 may substitute.<sup>14</sup>See page 63 for approved minors.<sup>15</sup>At least one course selected from BIOL 4410, 4420, 4430, 4460, 4700, or MICR 4010.<sup>16</sup>Students seeking a double major in Science Teaching/Biological Sciences should substitute EDSC 4570 for BIOL 4930 or MICR 4930.<sup>17</sup>PHYS 1220/1240 may substitute.<sup>18</sup>At least one course selected from BIOL 3160, 4010, 4080, 4590, 4750, or 4800.<sup>19</sup>PHYS 2210/2230 may substitute.**Double Major in Biological Sciences/  
Science Teaching—Biological Sciences**

The Bachelor of Arts Degree in Biological Sciences and Science Teaching—Biological Sciences prepares students for teaching biology on the secondary school level and for graduate studies in any of the life science areas. See page 126 for the curriculum.

Note: To receive a double major in Biological Sciences and Science Teaching—Biological Sciences, the student must complete a change-of-program form to declare both majors.

**PREREHABILITATION SCIENCES  
EMPHASIS AREA****Freshman Year****First Semester**

- 1 - BIOL 1010 Frontiers in Biology I  
 3 - BIOL 1030 General Biology I<sup>1</sup>  
 1 - BIOL 1050 General Biology Lab. I<sup>1</sup>  
 4 - CH 1010 General Chemistry  
 4 - MATH 1060 Calculus of One Variable I  
 3 - Oral Communication Requirement<sup>2</sup>  
 16

**Second Semester**

- 3 - BIOL 1040 General Biology II<sup>1</sup>  
 1 - BIOL 1060 General Biology Lab. II<sup>1</sup>  
 4 - CH 1020 General Chemistry  
 3 - ENGL 1030 Accelerated Composition  
 3 - Statistics Requirement<sup>3</sup>  
 14

**Sophomore Year****First Semester**

- 3 - CH 2230 Survey of Organic Chemistry<sup>4,5</sup>  
 1 - CH 2270 Survey of Organic Chemistry Lab.<sup>4,5</sup>  
 3 - GEN 3000 Fundamental Genetics<sup>6</sup>  
 4 - Foreign Language Requirement<sup>7</sup>  
 4 - Organismal Diversity Requirement<sup>8</sup>  
 15

**Second Semester**

- 3 - BCHM 3050 Essential Elements of Bioch.<sup>9</sup>  
 3 - PSYC 2010 Introduction to Psychology  
 3 - Arts and Humanities (Literature) Requirement<sup>10</sup>  
 4 - Foreign Language Requirement<sup>7</sup>  
 3 - Social Science Requirement<sup>10</sup>  
 16

**Junior Year****First Semester**

- 4 - BIOL 3150 Functional Human Anatomy  
 3 - BIOL 3350 Evolutionary Biology  
 3 - BIOL 4610 Cell Biology  
 2 - BIOL 4620 Cell Biology Laboratory  
 3 - Foreign Language Requirement<sup>7</sup>  
 15

**Second Semester**

- 4 - BIOL 3160 Human Physiology  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>10</sup>  
 3 - Foreign Language Requirement<sup>7</sup>  
 6 - Minor Requirement<sup>11</sup>  
 16

**Senior Year****First Semester**

- 2 - BIOL 4930 Senior Seminar or  
 2 - MICR 4930 Senior Seminar  
 3 - ENGL 3150 Scientific Writing and Comm.<sup>12</sup>  
 3 - PHYS 2070 General Physics I<sup>13</sup>  
 1 - PHYS 2090 General Physics I Lab.<sup>13</sup>  
 3 - Ecology Requirement<sup>14</sup>  
 3 - Minor Requirement<sup>11</sup>  
 15

**Second Semester**

- 3 - PHYS 2080 General Physics II<sup>15</sup>  
 1 - PHYS 2100 General Physics II Lab.  
 6 - Minor Requirement<sup>11</sup>  
 3 - Prerehabilitation Requirement<sup>16</sup>  
 2 - Elective  
 15

122 Total Semester Hours

<sup>1</sup>Rehabilitation programs require BIOL 1030/1050 and 1040/1060 or equivalent; however, BIOL 1100 and 1110 may substitute.<sup>2</sup>See General Education Requirements.<sup>3</sup>STAT 2300 or other approved coursework. See advisor. Professional schools have different mathematics requirements.<sup>4</sup>CH 2010 and 2020 may substitute.<sup>5</sup>Most professional health sciences schools require two semesters of organic chemistry with laboratory, CH 2230/2270 and 2240/2280.<sup>6</sup>GEN 3020 may substitute.<sup>7</sup>Four semesters (through 2020) in the same modern foreign language are required.<sup>8</sup>At least one lecture and associated laboratory selected from BIOL 3010, 3020/3060, 3030/3070, 3040/3080, 3200, 4060/4070, 4250/4260.<sup>9</sup>BCHM 3010 may substitute.<sup>10</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.<sup>11</sup>See page 63 in the *Undergraduate Announcements* for approved minors. Psychology is recommended. The Medical University of South Carolina and other Rehabilitation Sciences programs require PSYC 2010 and 3830.<sup>12</sup>ENGL 3140 may substitute.<sup>13</sup>PHYS 1220/1240 may substitute.<sup>14</sup>At least one course selected from BIOL 4410, 4420, 4430, 4460, 4700, or MICR 4010.<sup>15</sup>BIOL 4780 or 4790 or MICR 3050. BIOL 4780 or 4790 is recommended for physical and occupational therapy programs. MICR 3050 is recommended for physician assistant programs.<sup>16</sup>PHYS 2210/2230 may substitute.**BIOLOGICAL SCIENCES****Bachelor of Science**

Biology encompasses the broad spectrum of the modern life sciences, including the study of all aspects of life from the structure and function of the whole organism down to the subcellular levels and up through the interactions of organisms to the integrated existence of life on the entire planet. Descriptive, structural, functional, and evolutionary questions are explored through the hierarchy of the organization of life. Applications of current advances to the health and well-being of man and society, to nature and the continuation of earth as a balanced ecosystem, and to an appreciation of the place of natural science in our cultural heritage receive emphasis.

Majors in Biological Sciences receive classroom, laboratory, and field training in biology with an emphasis on chemistry, mathematics, and physics as necessary tools. The Bachelor of Science in Biological Sciences curriculum prepares students for graduate study in any of the life science areas (such as agricultural sciences, biochemistry, botany, cell and molecular biology, conservation, ecology and environmental science, entomology, forestry, genetics, industrial and regulatory biology, microbiology, morphology, physiology, wildlife biology, and zoology; for the health professions (medicine, dentistry, etc.), veterinary medicine; and for science teaching.

**Freshman Year****First Semester**

- 1 - BIOL 1010 Frontiers in Biology I
  - 5 - BIOL 1100 Principles of Biology I<sup>1</sup>
  - 4 - CH 1010 General Chemistry
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Oral Communications Requirement<sup>2</sup>
- 
- 17

**Second Semester**

- 5 - BIOL 1110 Principles of Biology II<sup>1</sup>
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - Mathematical Sciences Requirement<sup>3</sup>
- 
- 15

**Sophomore Year****First Semester**

- 3 - CH 2230 Organic Chemistry<sup>4,5</sup>
  - 1 - CH 2270 Organic Chemistry Lab.<sup>4,5</sup>
  - 3 - GEN 3000 Fundamental Genetics<sup>6</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>7</sup>
  - 4 - Organismal Diversity Requirement<sup>8</sup>
  - 2 - Elective
- 
- 16

**Second Semester**

- 3 - BCHM 3050 Essential Elements of Bioch.<sup>9</sup>
  - 3 - BIOL 3350 Evolutionary Biology or
  - 3 - Elective
  - 4 - Major Requirement<sup>4,10</sup>
  - 3 - Social Science Requirement<sup>7</sup>
  - 3 - Elective
- 
- 16

**Junior Year****First Semester**

- 3 - BIOL 3350 Evolutionary Biology or
  - 3 - Elective
  - 3 - BIOL 4610 Cell Biology
  - 2 - BIOL 4620 Cell Biology Lab.
  - 3 - PHYS 2070 General Physics I<sup>11</sup>
  - 1 - PHYS 2090 General Physics I Lab.<sup>11</sup>
  - 3 - Ecology Requirement<sup>12</sup>
- 
- 15

**Second Semester**

- 3 - ENGL 3150 Scientific Writing and Comm.<sup>13</sup>
  - 3 - PHYS 2080 General Physics II<sup>14</sup>
  - 1 - PHYS 2100 General Physics II Lab.<sup>14</sup>
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>7</sup>
  - 3 - Functional Biology Requirement<sup>15</sup>
  - 2 - Major Requirement<sup>10</sup>
- 
- 15

**Senior Year****First Semester**

- 2 - BIOL 4930 Senior Seminar or
  - 2 - MICR 4930 Senior Seminar
  - 6 - Major Requirement<sup>10</sup>
  - 3 - Social Science Requirement<sup>7</sup>
  - 4 - Elective
- 
- 15

**Second Semester**

- 9 - Major Requirement<sup>10</sup>
  - 3 - Elective
- 
- 12

121 Total Semester Hours

<sup>1</sup>BIOL 1100 and 1110 are strongly recommended; however, BIOL 1030/1050 may substitute for BIOL 1100, and BIOL 1040/1060 may substitute for BIOL 1110. The remaining 1-2 credits required must be satisfied by completing 1-2 extra credits.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>MATH 1080, STAT 2300, or other approved coursework. See advisor. Medical/dental schools have different mathematics requirements. The Medical Colleges Admissions Test (MCAT) includes questions on statistics.

<sup>4</sup>Most professional health sciences schools require the second semester of organic chemistry with laboratory, CH 2240/2280.

<sup>5</sup>CH 2010 and CH 2020 may substitute.

<sup>6</sup>GEN 3020 may substitute.

<sup>7</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements. The Medical Colleges Admissions Test (MCAT) includes questions on psychology and sociology.

<sup>8</sup>At least one lecture and associated laboratory selected from BIOL 3010, 3020/3060, 3030/3070, 3040/3080, 3200, 4060/4070, 4250/4260.

<sup>9</sup>BCHM 3010 may substitute.

<sup>10</sup>Twenty-one credit hours. At least seventeen credit hours must come from BIOL or MICR courses at the 3000-level or higher, four credit hours of which must be laboratory. Up to four credit hours may come from CH 2240/2280 or courses on the department-approved list. Any combination of BIOL 4910, 4920, 4940 and 4950 may not exceed eight credit hours.

<sup>11</sup>PHYS 1220/1240 may substitute.

<sup>12</sup>At least one course selected from BIOL 4410, 4420, 4430, 4460, 4700, or MICR 4010.

<sup>13</sup>ENGL 3140 may substitute.

<sup>14</sup>PHYS 2210/2230 may substitute.

<sup>15</sup>At least one course selected from BIOL 4010, 4080, 4590, 4750, or 4800.

**ENTOMOLOGY EMPHASIS AREA**

See Bachelor of Science curriculum for freshman year requirements.

**Sophomore Year****First Semester**

- 3 - CH 2230 Organic Chemistry<sup>1,2</sup>
  - 1 - CH 2270 Organic Chemistry Lab.<sup>1,2</sup>
  - 4 - ENT (BIOL) 3010 Insect Biology and Diversity
  - 3 - GEN 3000 Fundamental Genetics<sup>3</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>4</sup>
  - 2 - Elective
- 
- 16

**Second Semester**

- 3 - BCHM 3050 Essential Elements of Bioch.<sup>5</sup>
  - 3 - BIOL 3350 Evolutionary Biology
  - 4 - Major Requirement<sup>1,6</sup>
  - 3 - Social Science Requirement<sup>4</sup>
  - 3 - Elective
- 
- 16

**Junior Year****First Semester**

- 3 - BIOL 4610 Cell Biology
  - 2 - BIOL 4620 Cell Biology Laboratory
  - 3 - PHYS 2070 General Physics I<sup>7</sup>
  - 1 - PHYS 2090 General Physics I Lab.<sup>7</sup>
  - 3 - Ecology Requirement<sup>8</sup>
  - 3 - Entomology Requirement<sup>9</sup>
- 
- 15

**Second Semester**

- 3 - ENGL 3150 Scientific Writing and Comm.<sup>10</sup>
  - 3 - PHYS 2080 General Physics II<sup>11</sup>
  - 1 - PHYS 2100 General Physics II Lab.<sup>11</sup>
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>4</sup>
  - 3 - Entomology Requirement<sup>9</sup>
  - 3 - Functional Biology Requirement<sup>12</sup>
- 
- 16

**Senior Year****First Semester**

- 2 - BIOL 4930 Senior Seminar or
  - 2 - MICR 4930 Senior Seminar
  - 4 - Entomology Requirement<sup>9</sup>
  - 3 - Social Science Requirement<sup>4</sup>
  - 4 - Elective
- 
- 13

**Second Semester**

- 4 - Entomology Requirement<sup>9</sup>
  - 3 - Major Requirement<sup>1,6</sup>
  - 6 - Elective
- 
- 13

121 Total Semester Hours

<sup>1</sup>Most professional health sciences schools require two semesters of organic chemistry with laboratory, CH 2240/2280.

<sup>2</sup>CH 2010 and CH 2020 may substitute.

<sup>3</sup>GEN 3020 may substitute.

<sup>4</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

<sup>5</sup>BCHM 3010 may substitute.

<sup>6</sup>Seven credit hours must be selected from BIOL or MICR courses at the 3000-level or above or CH 2240/2280.

<sup>7</sup>PHYS 1220/1240 may substitute.

<sup>8</sup>At least one course selected from BIOL 4410, 4420, 4430, 4460, 4700, or MICR 4010.

<sup>9</sup>ENT (BIOL) 4000, (BIOL) 4150 and seven additional credits selected from ENT 3000, 3080, 4040/4090, 4070, (BIOL) 4360, (BIOL, WFB) 4690, 4900, (GEN) 4950, or PLPA (ENT) 4060.

<sup>10</sup>ENGL 3140 may substitute.

<sup>11</sup>PHYS 2210/2230 may substitute.

<sup>12</sup>At least one course selected from BIOL 3160, 4010, 4080, 4590, 4750, or 4800.

**PREPHARMACY EMPHASIS AREA****Freshman Year****First Semester**

- 1 - BIOL 1010 Frontiers in Biology I
  - 3 - BIOL 1030 General Biology I<sup>1</sup>
  - 1 - BIOL 1050 General Biology Lab. I
  - 4 - CH 1010 General Chemistry
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Oral Communication Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 3 - BIOL 1040 General Biology II<sup>1</sup>
  - 1 - BIOL 1060 General Biology Lab. II<sup>1</sup>
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - Mathematical Sciences Requirement<sup>3</sup>
- 
- 14

**Sophomore Year****First Semester**

- 3 - CH 2230 Organic Chemistry<sup>4</sup>
- 1 - CH 2270 Organic Chemistry Lab.<sup>4</sup>
- 3 - GEN 3000 Fundamental Genetics<sup>5</sup>
- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 4 - Organismal Diversity Requirement<sup>6</sup>
- 2 - Elective

16

**Second Semester**

- 3 - BCHM 3050 Essential Elements of Bioch.<sup>7</sup>
- 3 - BIOL 3350 Evolutionary Biology
- 3 - CH 2240 Organic Chemistry
- 1 - CH 2280 Organic Chemistry Lab.
- 3 - Social Science Requirement<sup>2</sup>
- 3 - Elective

16

**Junior Year****First Semester**

- 4 - BIOL 3150 Functional Human Anatomy
- 3 - BIOL 4610 Cell Biology
- 2 - BIOL 4620 Cell Biology Laboratory
- 3 - PHYS 2070 General Physics I<sup>8</sup>
- 1 - PHYS 2090 General Physics I Lab.<sup>8</sup>
- 3 - PSYC 2010 Introduction to Psychology

16

**Second Semester**

- 4 - BIOL 3160 Human Physiology
- 3 - ENGL 3150 Scientific Writing and Comm.<sup>9</sup>
- 3 - PHYS 2080 General Physics II<sup>10</sup>
- 1 - PHYS 2100 General Physics II Lab.<sup>10</sup>
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 3 - Economics Requirement<sup>11</sup>

17

**Senior Year****First Semester**

- 2 - BIOL 4930 Senior Seminar *or*
- 2 - MICR 4930 Senior Seminar
- 3 - Ecology Requirement<sup>12</sup>
- 3 - Major Requirement<sup>13</sup>
- 5 - Elective

13

**Second Semester**

- 4 - MICR 3050 General Microbiology
- 3 - Major Requirement<sup>13</sup>
- 6 - Elective

13

121 Total Semester Hours

<sup>1</sup>Pharmacy programs require BIOL 1030/1050 and 1040/1060 or equivalent; however, BIOL 1100 and 1110 may substitute. The additional 1-2 credit hours will be subtracted from Major Requirement credits.

<sup>2</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

<sup>3</sup>MATH 1080, STAT 2300, or other approved coursework. See advisor. Professional schools have different mathematics requirements.

<sup>4</sup>CH 2010 and CH 2020 may substitute.

<sup>5</sup>GEN 3020 may substitute.

<sup>6</sup>At least one lecture and associated laboratory selected from BIOL 3010, 3020/3060, 3030/3070, 3040/3080, 3200, 4060/4070, 4250/4260.

<sup>7</sup>BCHM 3010 may substitute.

<sup>8</sup>PHYS 1220/1240 may substitute.

<sup>9</sup>ENGL 3140 may substitute.

<sup>10</sup>PHYS 2210/2230 may substitute.

<sup>11</sup>ECON 2000, 2110, or 2120

<sup>12</sup>At least one course selected from BIOL 4410, 4420, 4430, 4460, 4700, or MICR 4010.

<sup>13</sup>Six credit hours must be selected from BIOL or MICR courses at the 3000 level or above or from the department-approved list.

**TOXICOLOGY EMPHASIS AREA**

See Bachelor of Science curriculum for freshman year requirements.

**Sophomore Year****First Semester**

- 3 - BIOL 2110 Introduction to Toxicology
- 3 - CH 2230 Organic Chemistry<sup>1,2</sup>
- 1 - CH 2270 Organic Chemistry Lab.<sup>1,2</sup>
- 3 - GEN 3000 Fundamental Genetics<sup>3</sup>
- 4 - Organismal Diversity Requirement<sup>4</sup>
- 2 - Elective

16

**Second Semester**

- 3 - BCHM 3050 Essential Elements of Bioch.<sup>5</sup>
- 3 - BIOL 3350 Evolutionary Biology
- 4 - Major Requirement<sup>4,6</sup>
- 3 - Social Science Requirement<sup>7</sup>
- 3 - Elective

16

**Junior Year****First Semester**

- 3 - BIOL 4610 Cell Biology
- 2 - BIOL 4620 Cell Biology Laboratory
- 3 - ETOX 4300 Toxicology
- 3 - PHYS 2070 General Physics I<sup>8</sup>
- 1 - PHYS 2090 General Physics I Lab.<sup>8</sup>
- 3 - Ecology Requirement<sup>9</sup>

15

**Second Semester**

- 3 - ENGL 3150 Scientific Writing and Comm.<sup>10</sup>
- 3 - PHYS 2080 General Physics II<sup>11</sup>
- 1 - PHYS 2100 General Physics II Lab.<sup>11</sup>
- 3 - Arts and Humanities (Literature) Requirement<sup>7</sup>
- 3 - Functional Biology Requirement<sup>12</sup>
- 2 - Elective

15

**Senior Year****First Semester**

- 2 - BIOL 4930 Senior Seminar *or*
- 2 - MICR 4930 Senior Seminar
- 3 - CH 3130 Quantitative Analysis
- 2 - CH 3170 Quantitative Analysis Lab.
- 3 - Social Science Requirement<sup>7</sup>
- 5 - Elective

15

**Second Semester**

- 3 - CH 4130 Chemistry of Aqueous Systems *or*
- 3 - ETOX 4210 Chemical Sources and Fate in Environmental Systems
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>7</sup>
- 3 - Toxicology Requirement<sup>13</sup>
- 3 - Elective

12

121 Total Semester Hours

<sup>1</sup>Most professional health sciences schools require the second semester of organic chemistry with laboratory, CH 2240/2280.

<sup>2</sup>CH 2010 and CH 2020 may substitute.

<sup>3</sup>GEN 3020 may substitute.

<sup>4</sup>At least one lecture and associated laboratory selected from BIOL 3010, 3020/3060, 3030/3070, 3040/3080, 3200, 4060/4070, 4250/4260.

<sup>5</sup>BCHM 3010 may substitute.

<sup>6</sup>Four credit hours must be selected from BIOL or MICR courses at the 3000 level or above or CH 2240/2280, or from the department-approved list.

<sup>7</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

<sup>8</sup>PHYS 1220/1240 may substitute.

<sup>9</sup>At least one course selected from BIOL 4410, 4420, 4430, 4460, 4700, or MICR 4010.

<sup>10</sup>ENGL 3140 may substitute.

<sup>11</sup>PHYS 2210/2230 may substitute.

<sup>12</sup>At least one course selected from BIOL 3160, 4010, 4080, 4590, 4750, or 4800.

<sup>13</sup>Any 4000-level ETOX course.

**Combined Bachelor of Science in Biological Sciences/Master of Science in Bioengineering**

Under this plan, students may reduce the time necessary to earn both degrees by applying graduate credits to both undergraduate and graduate program requirements. See Academic Regulations in this catalog for enrollment guidelines and procedures. Students are encouraged to obtain the specific requirements for the dual degree from the Department of Biological Sciences or Bioengineering as early as possible in their undergraduate program as a number of required courses have prerequisites not normally taken by Biological Sciences majors.

**ENVIRONMENTAL AND NATURAL RESOURCES****Bachelor of Science**

The Environmental and Natural Resources curriculum produces professionals who have a broad-based knowledge in natural resources and an ability to interact with other resource professionals to provide thoughtful solutions to environmental and natural resource problems. The world is blessed with an abundance of natural resources, but the problems associated with their conservation are immense. Protection of rare and endangered species, preventing and controlling invasions of exotics, protecting old growth forests, restoring degraded ecosystems, and balancing the resource demands of industry and the public are some of the environmental issues which are enmeshed in politicized environments.

Three concentrations are offered within the Environmental and Natural Resources major, which is administered by the Department of Forestry and Environmental Conservation. The Conservation Biology Concentration is oriented toward students who desire a greater exposure to taxa, their habitats, and their interrelationships. The Natural Resources Management Concentration emphasizes both resource management and negotiation skills. The Natural Resource and Economic Policy Concentration provides more in-depth study in economics and policy applications.

Graduates in Environmental and Natural Resources are well prepared for further graduate studies in natural resources and related fields. Potential public sector employers of graduates include federal, state, and municipal resource management agencies, private industries impacting land and water resources, environmental management consulting firms, and various environmental advocacy groups.

## Freshman Year

### First Semester

- 3 - BIOL 1030 General Biology I
- 1 - BIOL 1050 General Biology Lab. I
- 4 - CH 1010 General Chemistry *or*
  - 4 - CH 1050 Chemistry in Context I<sup>1</sup>
- 1 - ENR 1010 Introduction to Environmental and Natural Resources I
- 3 - MATH 1020 Intro. to Mathematical Analysis
- 3 - Oral Communications Requirement<sup>2</sup>

15

### Second Semester

- 3 - BIOL 1040 General Biology II
- 1 - BIOL 1060 General Biology Lab. II
- 4 - CH 1020 General Chemistry *or*
  - 4 - CH 1060 Chemistry in Context II<sup>1</sup>
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENR 1020 Introduction to Environmental and Natural Resources II
- 3 - STAT 2300 Statistical Methods I

15

Note: See footnotes after each Concentration.

## CONSERVATION BIOLOGY CONCENTRATION

### Sophomore Year

#### First Semester

- 3 - AGRB 2570 Natural Resources, Environment, and Economics *or*
  - 3 - ECON 2110 Principles of Microeconomics
- 4 - BIOL 3200 Field Botany *and*
  - 1 - Elective *or*
    - 2 - FOR 2050 Dendrology *and*
    - 3 - FOR 2210 Forest Biology
- 3 - CH 2230 Organic Chemistry
- 4 - FNR 2040 Soil Information Systems *or*
  - 4 - PES 2020 Soils

15

#### Second Semester

- 3 - GEN 3000 Fundamental Genetics
- 3 - WFB (BIOL) 3130 Conservation Biology
- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 3 - Physical Environment Requirement<sup>3</sup>
- 3 - Taxonomy/Habitat Requirement<sup>4</sup>

15

### Junior Year

#### First Semester

- 3 - BIOL 3350 Evolutionary Biology
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 3 - Ecology Requirement<sup>5</sup>
- 3 - Natural Resource Economics Requirement<sup>6</sup>
- 3 - Taxonomy/Habitat Requirement<sup>4</sup>

15

### Second Semester

- 3 - ENGL 3140 Technical Writing
- 3 - ENR 3020 Natural Resources Measurements
- 3 - Ecology Requirement<sup>5</sup>
- 3 - Physiology Requirement<sup>7</sup>
- 3 - Taxonomy/Habitat Requirement<sup>4</sup>

15

### Senior Year

#### First Semester

- 3 - FOR (ENR) 4340 GIS for Landscape Planning
- 3 - Conservation Policy/Law Requirement<sup>8</sup>
- 3 - Internship, Creative Inquiry or Directed Research Requirement<sup>9</sup>
- 3 - Social Science Requirement<sup>2</sup>
- 3 - Taxonomy/Habitat Requirement<sup>4</sup>

15

#### Second Semester

- 3 - ENR (BIOL) 4130 Restoration Ecology
- 3 - ENR 4500 Conservation Issues
- 6 - Taxonomy/Habitat Requirement<sup>4</sup>
- 3 - Elective

15

120 Total Semester Hours

<sup>1</sup>Conservation Biology Concentration students or students planning to take organic chemistry must take CH 1010 and CH 1020 and must satisfy the General Education Science and Technology in Society Requirement through another course.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement. Three of these credit hours must satisfy the General Education Science and Technology in Society requirement, if not satisfied by another course. (Note: Social Science Requirement must be in an area other than economics or agribusiness.)

<sup>3</sup>GEOL 1010, or PHYS 2400

<sup>4</sup>AGM 3010, BIOL 3020/3060, 3030/3070, 3040/3080, 3050/3090, 3200, 4060/4070, 4100/4110, 4170, 4420, 4640, 4680, 4720, 4770, 4860, ENT (BIOL) 3010, (ENT, WFB) 4690, FOR 2510, 4060, GEOL 1120, 1140, 2100, 4030, MICR 4030, WFB 3000, 4180, 4400, 4620 or 4760. At least four of the courses must be laboratories or courses with a required laboratory component.

<sup>5</sup>BIOL 4410, 4420, 4430, 4460, 4700, or FNR 4660

<sup>6</sup>AGRB 3570, 4750, or FOR 3040

<sup>7</sup>AVS 3010, BIOL 4010/4020, 4580, 4750, or (AVS) 4800

<sup>8</sup>ENR 4290, FOR (ENR) 4160, or WFB 4300

<sup>9</sup>Internship (FNR 4900); Creative Inquiry (FNR 4700); Directed Research (WFB 4630); or Senior Honors Thesis (FNR 4910).

## NATURAL RESOURCE AND ECONOMIC POLICY CONCENTRATION

### Sophomore Year

#### First Semester

- 3 - AGRB 2570 Natural Resources, Environment and Economics *or*
  - 3 - ECON 2110 Principles of Microeconomics
- 3 - POSC 1010 American National Government *or*
  - 3 - POSC 1020 Intro. to International Relations
- 3 - Geography Requirement<sup>3</sup>
- 3 - Natural Science Requirement<sup>4</sup>

15

### Second Semester

- 3 - AGRB 3570 Natural Res. Economics
- 3 - ECON 2120 Principles of Macroeconomics
- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 3 - Elective

15

### Junior Year

#### First Semester

- 3 - ECON 3140 Intermediate Microeconomics
- 3 - ENR 4290 Environmental Law and Policy
- 3 - Advanced Writing Requirement<sup>2</sup>
- 3 - Applied Economics Requirement<sup>5</sup>
- 3 - Natural Science or Minor Requirement<sup>3</sup>

15

#### Second Semester

- 3 - AGRB 4750 Wildlife Economics
- 3 - ENSP 4000 Studies in Environmental Science
- 3 - STAT 4620 Statistics Applied to Economics
- 3 - Macroeconomics Requirement<sup>6</sup>
- 3 - Natural Science Requirement<sup>3</sup>

15

### Senior Year

#### First Semester

- 3 - AGRB 4570 Natural Resource Use, Technology, and Policy
- 3 - ECON 3190 Environmental Economics
- 6 - Applied Economics Requirement<sup>7</sup> *or*
  - 3 - Applied Economics Requirement<sup>7</sup> *and*
  - 3 - Minor Requirement
- 3 - Internship, Creative Inquiry or Directed Research Requirement<sup>7</sup>

15

#### Second Semester

- 3 - ENR 4500 Conservation Issues
- 6 - Applied Economics Requirement<sup>7</sup>
- 3 - Community Development Requirement<sup>10</sup>
- 3 - Elective *or*
  - 3 - Minor Requirement

15

120 Total Semester Hours

<sup>1</sup>Conservation Biology Concentration students or students planning to take organic chemistry must take CH 1010 and CH 1020 and must satisfy the General Education Science and Technology in Society Requirement through another course.

<sup>2</sup>See General Education Requirements. Students must also select a course to satisfy the University's Cross-Cultural Awareness Requirement.

<sup>3</sup>Select from BIOL, ENR, EES, ENSP, ETOX, FOR, GEOL, PES, or WFB 3000 or 4000 level courses..

<sup>4</sup>GEOG 1010, 1030, or 1060

<sup>5</sup>Select from AGRB 3000 or 4000 level courses.

<sup>6</sup>ECON 3020, 3100 or 3150

<sup>7</sup>Internship (AGRB 4910); Creative Inquiry (AGRB 4940); or Directed Research (PES 4910 or 4920).

<sup>8</sup>RS 4010 or 4590

## NATURAL RESOURCES MANAGEMENT CONCENTRATION

### Sophomore Year

#### First Semester

- 4 - FNR 2040 Soil Information Systems *or*  
4 - PES 2020 Soils
  - 2 - FOR 2050 Dendrology
  - 3 - FOR 2210 Forest Biology
  - 3 - WFB 3000 Wildlife Biology
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 
- 15

#### Second Semester

- 3 - ENR 3020 Natural Resources Measurements
  - 3 - FOR 2060 Forest Ecology
  - 3 - WFB 3500 Principles of Fish and Wildlife Biol.
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 
- 15

### Junior Year

#### First Semester

- 3 - AGRB 2570 Natural Resources, Environment and Economics *or*  
3 - ECON 2110 Principles of Microeconomics
  - 4 - BIOL 3200 Field Botany *or*  
3 - BIOL 4060 Intro. Plant Taxonomy and  
1 - BIOL 4070 Plant Taxonomy Lab.
  - 3 - ENR 4290 Environmental Law and Policy
  - 3 - Minor Requirement<sup>3</sup>
  - 3 - Elective
- 
- 16

#### Second Semester

- 3 - AGRB 3570 Natural Res. Economics
  - 3 - GEOL 1010 Physical Geology
  - 1 - GEOL 1030 Physical Geology Lab.
  - 3 - WFB (BIOL) 3130 Conservation Biology
  - 6 - Minor Requirement<sup>3</sup>
- 
- 16

### Senior Year

#### First Semester

- 3 - FOR (ENR) 4160 Forest Policy and Admin.
  - 3 - FOR (ENR) 4340 GIS for Landscape Planning
  - 3 - Internship, Creative Inquiry or Directed Research Requirement<sup>4</sup>
  - 3 - Minor Requirement<sup>3</sup>
  - 3 - Elective
- 
- 15

#### Second Semester

- 3 - ENGL 3140 Technical Writing
  - 3 - ENR 4500 Conservation Issues
  - 2 - FOR 4060 Forested Watershed Management
  - 3 - WFB 4620 Wetland Wildlife Biology
  - 3 - Minor Requirement<sup>3</sup>
- 
- 14

121 Total Semester Hours

<sup>1</sup>Conservation Biology Concentration students or students planning to take organic chemistry must take CH 1010 and CH 1020 and must satisfy the General Education Science and Technology in Society Requirement through another course.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>3</sup>A minor is required and must be selected from the following: Biochemistry; Biological Sciences; Chemistry; Crop and Soil; Environmental Science; Environmental Science and Policy; Forest Resource Management; Geology; Horticulture; Legal Studies; Microbiology; Natural Resource Economics; Non-profit Leadership; Park and Protected Area Management; Recreational Therapy; Travel and Tourism; Urban Forestry; Wildlife and Fisheries Biology.

<sup>4</sup>Internship (FNR 4900); Creative Inquiry (FNR 4700); Directed Research (FNR 4910); or Senior Honors Thesis (WFB 4630).

## FOOD SCIENCE

### Bachelor of Science

Food Science majors apply principles of basic and applied sciences to design and manufacture safe and quality foods in addition to identifying the relationship between nutrients and human health. The curriculum allows flexibility for concentrating in one of two areas:

In the Food Science and Technology Concentration, students may emphasize business, culinary science (one of three national programs that have been approved by the Research Chef's Association as Culinology™), engineering, food packaging, and additional sciences that complement requirements of the Institute of Food Technologists.

Food processing industries, ingredient manufacturers, and packaging suppliers employ graduates in new food product development, quality assurance, production management, and technical sales. State and federal agencies also need graduates for food safety and regulatory positions.

The Nutrition and Dietetics Concentration prepares students for graduate study in nutrition and a variety of health related fields as well as dietetic internship programs to become a Registered Dietitian.

Examples of career opportunities include employment as dietitians, nutritionists, consultants and food specialists. The Nutrition and Dietetics curriculum is accredited by the Accreditation Council for Education of Nutrition and Dietetics (ACEND).

The Department of Food, Nutrition and Packaging Sciences also offers an accelerated five-year combined bachelor's/master's program that allows students to count up to twelve hours of graduate credit toward both the BS degree in Food Science and the MS degree in Food, Nutrition and Culinary Sciences. Details are available from the Department of Food, Nutrition and Packaging Sciences or at [www.clemson.edu/fnps](http://www.clemson.edu/fnps).

## FOOD SCIENCE AND TECHNOLOGY CONCENTRATION

### Freshman Year

#### First Semester

- 3 - BIOL 1030 General Biology I and  
1 - BIOL 1050 General Biology Lab. I *or*  
5 - BIOL 1100 Principles of Biology I
  - 4 - CH 1010 General Chemistry
  - 3 - COMM 1500 Intro. to Human Comm. *or*  
3 - COMM 2500 Public Speaking
  - 1 - FDSC 1010 Introduction to Food Science and Human Nutrition
  - 3 - MATH 1020 Intro. to Math. Analysis *or*  
4 - MATH 1060 Calculus of One Variable I
- 
- 15-17

### Second Semester

- 3 - BIOL 1040 General Biology II *and*  
1 - BIOL 1060 General Biology Lab. II *or*  
5 - BIOL 1110 Principles of Biology II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 1 - FDSC 1020 Perspectives in Food and Nutrition Sciences
  - 1 - FDSC 4500 Creative Inquiry
  - 3 - PSYC 2010 Introduction to Psychology
- 
- 16-17

### Sophomore Year

#### First Semester

- 3 - CH 2010 Survey of Organic Chemistry *and*  
1 - CH 2020 Survey of Organic Chemistry Lab. *or*  
3 - CH 2230 Organic Chemistry *and*  
1 - CH 2270 Organic Chemistry Lab.
  - 1 - FDSC 4500 Creative Inquiry
  - 3 - PHYS 1220 Physics with Calculus I *and*  
1 - PHYS 1240 Physics Lab. I *or*  
4 - PHYS 2000 Introductory Physics *or*  
3 - PHYS 2070 General Physics I *and*  
1 - PHYS 2090 General Physics I Lab.
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>1,2</sup>
- 
- 15

#### Second Semester

- 3 - BCHM 3050 Essential Elements of Biochem.
  - 2 - BIOL 4340 Biological Chemistry Lab. Techniq.
  - 3 - FDSC 2140 Food Resources and Society
  - 1 - FDSC 4500 Creative Inquiry
  - 3 - STAT 2300 Statistical Methods I
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 2 - Elective
- 
- 17

### Junior Year

#### First Semester

- 1 - FDSC 3010 Food Regulations and Policy
  - 1 - FDSC 4170 Seminar
  - 1 - FDSC 4500 Creative Inquiry
  - 4 - MICR 3050 General Microbiology
  - 3 - NUTR 4510 Human Nutrition
  - 3 - Departmental Requirement<sup>3</sup>
  - 2 - Emphasis Area Requirement<sup>4</sup>
- 
- 15

#### Second Semester

- 3 - ENGL 3040 Business Writing *or*  
3 - ENGL 3140 Technical Writing
  - 2 - FDSC 4030 Food Chemistry and Analysis
  - 4 - FDSC 4100 Food Product Development
  - 1 - FDSC 4500 Creative Inquiry
  - 4 - MICR 4070 Food and Dairy Microbiology
  - 3 - Emphasis Area Requirement<sup>4</sup>
- 
- 17

### Senior Year

#### First Semester

- 3 - FDSC 3060 Institutional Food Service Mgt. *or*  
3 - FDSC 3070 Restaurant Food Service Mgt.
  - 3 - FDSC 4010 Food Chemistry I
  - 3 - FDSC 4040 Food Preservation and Processing
  - 2 - FDSC 4070 Quantity Food Production
  - 1 - FDSC 4500 Creative Inquiry
  - 3 - Emphasis Area Requirement<sup>4</sup>
- 
- 15

**Second Semester**

- 3 - FDSC 4020 Food Chemistry II
- 4 - FDSC 4080 Food Process Engineering
- 3 - FDSC (PKSC) 4090 Total Quality Mgt. for the Food and Packaging Industries
- 1 - FDSC 4500 Creative Inquiry
- 3 - Emphasis Area Requirement<sup>4</sup>

14

124-127 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>For students undecided on concentration area, AGRB 2020, ECON 2110, or 2120 is recommended.

<sup>3</sup>FDSC 4300 or AVS 4130

<sup>4</sup>See advisor.

## NUTRITION AND DIETETICS CONCENTRATION

**Freshman Year****First Semester**

- 3 - BIOL 1030 General Biology I *and*
- 1 - BIOL 1050 General Biology Lab. I *or*
- 5 - BIOL 1100 Principles of Biology I
- 4 - CH 1010 General Chemistry
- 3 - COMM 1500 Intro. to Human Comm. *or*
- 3 - COMM 2500 Public Speaking
- 1 - FDSC 1010 Introduction to Food Science and Human Nutrition
- 3 - MATH 1020 Intro. to Math. Analysis *or*
- 4 - MATH 1060 Calculus of One Variable I

15-17

**Second Semester**

- 3 - BIOL 1040 General Biology II *and*
- 1 - BIOL 1060 General Biology Lab. II *or*
- 5 - BIOL 1110 Principles of Biology II
- 4 - CH 1020 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - FDSC 1020 Perspectives in Food and Nutrition Sciences
- 3 - PSYC 2010 Introduction to Psychology<sup>1</sup>

15-16

**Sophomore Year****First Semester**

- 3 - AGRB 2020 Agricultural Economics *or*
- 3 - ECON 2110 Principles of Microeconomics *or*
- 3 - ECON 2120 Principles of Macroeconomics
- 3 - CH 2010 Survey of Organic Chemistry *and*
- 1 - CH 2020 Survey of Organic Chemistry Lab. *or*
- 3 - CH 2230 Organic Chemistry *and*
- 1 - CH 2270 Organic Chemistry Lab.
- 3 - NUTR 2030 Introduction to Principles of Human Nutrition
- 1 - NUTR 2160 Evidence-Based Nutrition
- 3 - PHYS 1220 Physics with Calculus I *and*
- 1 - PHYS 1240 Physics Lab. I *or*
- 4 - PHYS 2000 Introductory Physics *or*
- 3 - PHYS 2070 General Physics I *and*
- 1 - PHYS 2090 General Physics I Lab.

15

**Second Semester**

- 3 - BCHM 3050 Essential Elements of Biochem.
- 2 - BIOL 4340 Biological Chemistry Lab. Techniq.
- 3 - NUTR 2040 Nutrition Across the Life Cycle
- 3 - STAT 2300 Stastical Methods I
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>

17

**Junior Year****First Semester**

- 4 - BIOL 2220 Human Anatomy and Phys. I
- 1 - FDSC 3010 Food Regulations and Policy
- 1 - FDSC 4500 Creative Inquiry
- 4 - MICR 3050 General Microbiology
- 3 - NUTR 4510 Human Nutrition
- 2 - Elective

15

**Second Semester**

- 4 - BIOL 2230 Human Anatomy and Phys. II
- 3 - FDSC 3060 Institutional Food Service Mgt.
- 1 - FDSC 4500 Creative Inquiry
- 4 - MICR 4070 Food and Dairy Microbiology
- 1 - NUTR 4180 Professional Dev. in Dietetics *or*
- 1 - NUTR 4190 Professional Dev. In Nutrition<sup>2</sup>
- 3 - NUTR 4550 Nutrition and Metabolism

16

**Senior Year****First Semester**

- 3 - ENGL 3040 Business Writing *or*
- 3 - ENGL 3140 Technical Writing
- 3 - FDSC 4010 Food Chemistry I
- 3 - FDSC 4040 Food Preservation and Processing
- 2 - FDSC 4070 Quantity Food Production
- 4 - NUTR 4240 Medical Nutrition Therapy I

15

**Second Semester**

- 3 - FDSC 4020 Food Chemistry II
- 2 - FDSC 4030 Food Chemistry and Analysis
- 3 - FDSC (PKSC) 4090 Total Quality Mgt. for the Food and Packaging Industries
- 4 - NUTR 4250 Medical Nutrition Therapy II
- 3 - NUTR 4260 Community Nutrition
- 1 - NUTR 4270 Nutrition Counseling

16

124-127 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>NUTR 4190 is recommended for students not pursuing registered dietitian (RD) status.

## FOREST RESOURCE MANAGEMENT

**Bachelor of Science**

The Forest Resource Management curriculum combines a broad education in the arts and sciences with applied forest sciences. This combination provides the necessary foundation for the scientific management of forest resources, products, and services.

Foresters are qualified for a broad spectrum of employment opportunities in the public and private sectors. They may be engaged as managers, administrators, or owners of forest lands or forest-based businesses; as technical specialists in the production of timber, usable water, wildlife, and aesthetic values, and in the recreational use of the forest; or as professionals in other areas where the conservation of natural resources is a concern. Foresters earning advanced degrees find employment in academic work and in research conducted by public and private agencies.

The curriculum, accredited by the Society of American Foresters, provides a strong program in the basic knowledge and skills required of a professional forester. Forest Resource Management majors will select a minor (see page 63). The curriculum also provides the necessary prerequisites for graduate study.

For students interested in conservation biology, water, and natural resources, the Department of Forestry and Environmental Conservation also administers the Conservation Biology Concentration and the Natural Resources Management Concentration within the Environmental and Natural Resources degree program. See pages 52-53 for program details.

**Freshman Year****First Semester**

- 3 - BIOL 1030 General Biology I
- 1 - BIOL 1050 General Biology Lab. I
- 4 - CH 1010 General Chemistry
- 1 - ENR 1010 Intro. to Environ. and Natural Res. I
- 3 - MATH 1020 Intro. to Mathematical Analysis
- 3 - Oral Communication Requirement<sup>1</sup>

15

**Second Semester**

- 3 - BIOL 1040 General Biology II
- 1 - BIOL 1060 General Biology Lab. II
- 3 - ENGL 1030 Accelerated Composition
- 1 - FOR 1010 Introduction to Forestry
- 3 - STAT 2300 Statistical Methods I
- 4 - Departmental Science Requirement<sup>2</sup>

15

**Sophomore Year****First Semester**

- 4 - FNR 2040 Soil Information Systems
- 2 - FOR 2050 Dendrology
- 3 - FOR 2210 Forest Biology
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 3 - Economics Requirement<sup>3</sup>

15

**Second Semester**

- 3 - ENGL 3140 Technical Writing
- 3 - FOR 2060 Forestry Ecology
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 3 - Social Science Requirement<sup>1</sup>
- 3 - Minor Requirement<sup>4</sup>

15

**Forestry Summer Camp**

- 2 - FOR 2510 Forest Communities
- 1 - FOR 2520 Forest Operations
- 4 - FOR 2530 Forest Mensuration
- 1 - FOR 2540 Forest Products

8

**Junior Year****First Semester**

- 2 - FOR 3020 Forest Biometrics
  - 3 - FOR 3040 Forest Resource Economics
  - 3 - FOR 3410 Wood Procurement Practices in the Forest Industry
  - 4 - FOR 4130 Integrated Forest Pest Management
  - 3 - FOR (ENR) 4340 GIS for Landscape Planning
  - 1 - Internship, Creative Inquiry or Directed Research Requirement<sup>5</sup>
- 16

**Second Semester**

- 2 - FOR 3080 Remote Sensing in Forestry
  - 3 - FOR 4080 Wood and Paper Products
  - 3 - FOR 4180 Forest Resource Valuation
  - 4 - FOR 4650 Silviculture
  - 3 - Minor Requirement<sup>4</sup>
  - 1 - Internship, Creative Inquiry or Directed Research Requirement<sup>5</sup>
- 16

**Senior Year****First Semester**

- 4 - FOR 4100 Harvesting Processes
  - 3 - FOR (ENR) 4160 Forest Policy and Admin.
  - 3 - FOR 4170 Forest Resource Mgt. and Regulation
  - 2 - FOR 4310 Recreation Resource Planning in Forest Management
  - 3 - Minor Requirement<sup>4</sup>
  - 1 - Internship, Creative Inquiry or Directed Research Requirement<sup>5</sup>
- 16

**Second Semester**

- 1 - FNR 4990 Natural Resources Seminar
  - 2 - FOR 4060 Forested Watershed Management
  - 3 - FOR 4150 Forest Wildlife Management
  - 2 - FOR 4250 Forest Resource Management Plans
  - 6 - Minor Requirement<sup>4</sup>
- 14

130 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement. (Note: Social Science Requirement must be in an area other than economics or applied economics.)

<sup>2</sup>See advisor. CH 1020 or PHYS 2000 or higher level general physics course.

<sup>3</sup>AGRB 2570, ECON 2000, 2110, or 2120.

<sup>4</sup>To be selected by the middle of the sophomore year.

<sup>5</sup>FNR 4700, 4900, or FOR 4190.

**LAND SURVEYING EMPHASIS AREA****Freshman Year****First Semester**

- 3 - BIOL 1030 General Biology I
  - 1 - BIOL 1050 General Biology Lab. I
  - 4 - CH 1010 General Chemistry
  - 1 - ENR 1010 Intro. to Environ. and Natural Res. I
  - 3 - MATH 1020 Intro. to Mathematical Analysis
  - 3 - Oral Communication Requirement<sup>1</sup>
- 15

**Second Semester**

- 3 - BIOL 1040 General Biology II
  - 1 - BIOL 1060 General Biology Lab. II
  - 3 - ENGL 1030 Accelerated Composition
  - 1 - FOR 1010 Introduction to Forestry
  - 3 - STAT 2300 Statistical Methods I
  - 4 - Departmental Science Requirement<sup>2</sup>
- 15

**Sophomore Year****First Semester**

- 4 - FNR 2040 Soil Information Systems
  - 2 - FOR 2050 Dendrology
  - 3 - FOR 2210 Forest Biology
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Economics Requirement<sup>3</sup>
- 15

**Second Semester**

- 2 - ENGR 2100 Engr. Graphics for Civil Engr.
  - 3 - ENGL 3140 Technical Writing
  - 3 - FOR 2060 Forestry Ecology
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 14

**Forestry Summer Camp**

- 2 - FOR 2510 Forest Communities
  - 1 - FOR 2520 Forest Operations
  - 4 - FOR 2530 Forest Mensuration
  - 1 - FOR 2540 Forest Products
- 8

**Junior Year****First Semester**

- 2 - FOR 3020 Forest Biometrics
  - 3 - FOR 3040 Forest Resource Economics
  - 3 - FOR 3410 Wood Procurement Practices in the Forest Industry
  - 4 - FOR 4130 Integrated Forest Pest Management
  - 3 - FOR (ENR) 4340 GIS for Landscape Planning
- 15

**Second Semester**

- 3 - AGM 2210 Surveying: Earthwork and Area Measurements
  - 2 - FOR 3080 Remote Sensing in Forestry
  - 3 - FOR 4080 Wood and Paper Products
  - 3 - FOR 4180 Forest Resource Valuation
  - 4 - FOR 4650 Silviculture
- 15

**Summer**

- 3 - FNR 4900 Field Training in Natural Resources<sup>4</sup>

**Senior Year****First Semester**

- 4 - FOR 4100 Harvesting Processes
  - 3 - FOR (ENR) 4160 Forest Policy and Admin.
  - 3 - FOR 4170 Forest Resource Mgt. and Regulation
  - 2 - FOR 4310 Rec. Resource Plan. in Forest Mgt.
  - 3 - FOR 4330 GPS Applications
- 15

**Second Semester**

- 3 - BE 3220 Small Watershed Hydrology and Sedimentology
  - 1 - FNR 4990 Natural Resources Seminar
  - 2 - FOR 4060 Forested Watershed Management
  - 3 - FOR 4150 Forest Wildlife Management
  - 2 - FOR 4250 Forest Resource Management Plans
  - 3 - LAW 3330 Real Estate Law
- 14

129 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement. (Note: Social Science Requirement must be in an area other than economics or applied economics.)

<sup>2</sup>See advisor. CH 1020 or PHYS 2000 or higher level general physics course. PHYS 2000 is highly recommended.

<sup>3</sup>AGRB 2570, ECON 2000, 2110, or 2120

<sup>4</sup>Summer internship must be in land surveying.

**GENETICS****Bachelor of Science**

Genetics is the study of heredity. Genetics research takes many forms, from the study of heredity at the level of individual molecules to study at the level of cells and chromosomes, individuals, or populations. To comprehend current genetic information and to make future contributions to our molecular understanding of life processes, students must obtain a broad background in biology and a firm foundation in chemistry and mathematics. This is the basis of the genetics curriculum.

A degree in Genetics is a strong preparation for many careers. The degree provides an excellent foundation for medical, veterinary, or pharmacy school, as well as graduate research in any discipline related to biology, including bioinformatics, forensic technology, and genetic counseling. Because of the increasing emphasis on genetics in everyday life, a Bachelor of Science in Genetics can also be a direct path to a career in the emerging biotechnology industries (pharmaceuticals, agricultural technologies, biomimetic minerals) in research, sales, or business operations. Combined with a law degree, a genetics bachelor of science is a good background for a career as a patent attorney.

**Freshman Year****First Semester**

- 5 - BIOL 1100 Principles of Biology I
  - 4 - CH 1010 General Chemistry
  - 1 - GEN 1030 Careers in Biochem. and Genetics
  - 4 - MATH 1060 Calculus of One Variable I
- 14

**Second Semester**

- 5 - BIOL 1110 Principles of Biology II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1080 Calculus of One Variable II
- 16

**Sophomore Year****First Semester**

- 3 - CH 2230 Organic Chemistry
- 1 - CH 2270 Organic Chemistry Lab.
- 3 - COMM 1500 Intro. to Human Comm. *or*
- 3 - COMM 2500 Public Speaking
- 3 - GEN 3020 Molecular and General Genetics
- 3 - PHYS 1220 Physics with Calculus I<sup>1</sup>
- 1 - PHYS 1240 Physics Lab. I<sup>1</sup>

14

**Second Semester**

- 3 - BCHM 3010 Molecular Biochemistry
- 3 - CH 2240 Organic Chemistry
- 1 - CH 2280 Organic Chemistry Lab.
- 2 - GEN 3040 Molecular Biology Lab.
- 3 - STAT 2300 Statistical Methods I
- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 3 - Social Science Requirement<sup>2</sup>

18

**Junior Year****First Semester**

- 3 - GEN 4200 Molecular Genetics and Gene Reg.
- 2 - GEN 4210 Molecular Genetics and Gene Regulation Lab.
- 3 - GEN (BCHM) 4400 Bioinformatics
- 3 - Science Requirement<sup>3</sup>
- 3 - Social Science Requirement<sup>2</sup>

14

**Second Semester**

- 3 - BIOL 4610 Cell Biology
- 3 - GEN 4100 Population and Quantitative Gen.
- 2 - GEN 4110 Population and Quantitative Gen. Lab.
- 3 - PHIL 3260 Science and Values
- 3 - Genetics Requirement<sup>4</sup>
- 3 - Elective<sup>5</sup>

17

**Senior Year****First Semester**

- 3 - GEN 4500 Comparative Genetics
- 3 - Genetics Requirement<sup>4</sup>
- 3 - Science Requirement<sup>3</sup>
- 6 - Elective<sup>5</sup>

15

**Second Semester**

- 2 - GEN 4930 Senior Seminar
- 3 - Genetics Requirement<sup>4</sup>
- 3 - Science Requirement<sup>3</sup>
- 6 - Elective<sup>5</sup>

14

122 Total Semester Hours

<sup>1</sup>Medical, veterinary, and graduate school requirements often include two semesters of physics with calculus and the physics laboratory. Students are encouraged to check requirements for admission to professional postgraduate programs.

<sup>2</sup>See General Education Requirements. Three of the Social Science Requirement credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>3</sup>BIOL 2220, 2230, PHYS 2080, 2100, 2210, 2230, or any courses at 3000 level or above in BCHM, BIOE, BIOL, CH, GEN, MATH, MICR, PHYS, and STAT. Other courses must be approved by advisor. A maximum of nine credit hours from undergraduate research courses (4910, creative inquiry or similar courses) may be used towards the combined science and genetics requirements.

<sup>4</sup>AVS 4700, BCHM 4310, 4320, 4330, 4340, 4360, 4430, 4910, BIOL 3350, 4400, 4500, (PLPA) 4540, 4560, 4570, GEN 4700, 4910, MICR 3050, 4150, 4170, PES 4050.

<sup>5</sup>Two semesters of a foreign language are strongly recommended.

**Notes:**

1. A student is allowed to enroll in science and mathematics courses only when all prerequisites have been passed with a grade of C or better.
2. A minimum grade of C is required in all science and mathematics courses. No student may exceed a maximum of two attempts, excluding a W, to complete successfully any science or mathematics course.

**HORTICULTURE****Bachelor of Science**

Horticulture connects plants and people to improve our world, be it through the enhancement of the foods we eat, the creation of healthy natural living spaces, the economic and aesthetic enhancement of our homes and communities, or the application of green solutions to the challenges of environmental quality. The plants of horticulture are the foundation of human and environmental well being, and it is horticulture professionals who have the knowledge, skills, and passion to utilize those plants for the betterment of humankind.

The Horticulture degree program includes courses in science, mathematics, business, leadership, law, and communication, combined with a strong foundation in horticultural sciences and arts. The curriculum provides the flexibility to choose courses within those categories that best support the student's personal interests, goals, and success. Career opportunities are endless.

Students work closely with faculty in creative inquiry groups to investigate and implement solutions to real problems. Internships are excellent opportunities to learn and explore potential careers.

**Freshman Year****First Semester**

- 3 - BIOL 1030 General Biology I
- 1 - BIOL 1050 General Biology Lab. I
- 4 - CH 1010 General Chemistry
- 3 - HORT 1010 Horticulture
- 4 - Spanish Language Requirement<sup>1</sup>

15

**Second Semester**

- 3 - BIOL 1040 General Biology II
- 1 - BIOL 1060 General Biology Lab II
- 4 - CH 1020 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 3 - MATH 1020 Intro. to Mathematical Analysis
- 3 - Business Requirement<sup>1</sup>

17

**Sophomore Year****First Semester**

- 3 - HORT 2100 Growing Garden Plants in the Fall
- 3 - HORT 3030 Landscape Plants
- 3 - MATH 1010 Essential Math. for Informed Soc.
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 4 - Plant Biology Requirement<sup>1</sup>

16

**Second Semester**

- 3 - HORT 2110 Growing Plants in the Spring
- 4 - PES 2020 Soils
- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 3 - Social Science Requirement<sup>2</sup>

13

**Summer**

- 3 - HORT 2710 Internship<sup>3</sup> *or*
- 3 - HORT 4710 Advanced Internship<sup>3</sup>

**Junior Year****First Semester**

- 3 - HORT 3080 Sustainable Landscape Garden Design
- 3 - Business Requirement<sup>1</sup>
- 3 - Horticulture Specialization Requirement<sup>1</sup>
- 3 - Oral Communication Requirement<sup>2</sup>
- 3 - Related Science Requirement<sup>1</sup>

15

**Second Semester**

- 3 - BIOL 4010 Plant Physiology
- 1 - BIOL 4020 Plant Physiology Lab
- 3 - HORT 4040 Plant Propagation
- 1 - HORT 4050 Plant Propagation Techniques Lab.
- 3 - Horticulture Specialization Requirement<sup>1</sup>
- 3 - Social Science Requirement<sup>2</sup>
- 1 - Elective

15

**Senior Year****First Semester**

- 3 - HORT 4090 Senior Capstone Course
- 3 - Business Requirement<sup>1</sup>
- 3 - Horticulture Specialization Requirement<sup>1</sup>
- 3 - Related Science Requirement<sup>1</sup>
- 3 - Elective

15

**Second Semester**

- 3 - Horticulture Specialization Requirement<sup>1</sup>
- 6 - Related Science Requirement<sup>1</sup>
- 3 - Elective

12

121 Total Semester Hours

<sup>1</sup>See advisor. Select from department-approved list.

<sup>2</sup>See General Education Requirements. The Cross-Cultural Awareness Requirement and Science and Technology in Society General Education requirements must also be satisfied through these courses.

<sup>3</sup>Internship must be completed in one or two semesters. Internship may be done fall, spring, or summer after completing HORT 3030. Prior approval is required for internships, and a 2.0 grade-point average is required for registration.

*Note:* Horticulture majors must earn a C or better in all HORT classes.

**MICROBIOLOGY****Bachelor of Science**

Microbiology deals with the study of bacteria, viruses, yeasts, filamentous fungi, protozoa, and unicellular algae. Microbiologists seek to describe these organisms in terms of their structures, functions, and processes of reproduction, growth, and death at both the cellular and molecular levels. They are also concerned with their ecology, particularly in regard to their pathological effects on man, and with their economic importance.

The Microbiology major provides a thorough training in the basic microbiological skills. Further, students receive instruction in mathematics, physics, chemistry, and biochemistry, all essential to the training of a modern microbiologist. Students can prepare for a variety of careers through a wide choice of electives. The Microbiology curriculum with a Biomedicine



Concentration is recommended for students planning postgraduate programs. Microbiology graduates may enter graduate school in microbiology, biochemistry, bioengineering, or related disciplines; they may enter medical or dental schools or pursue careers in one of the many industries or public service departments dependent upon microbiology. Some of these are the fermentation and drug industries, medical and public health microbiology, various food industries, and agriculture.

Microbiology majors planning to apply for admission to a medical or dental school should inform their advisors immediately upon entering the program.

## Freshman Year

### First Semester

- 1 - BIOL 1010 Frontiers in Biology I *or*
  - 1 - MICR 1010 Microbes and Human Affairs
- 5 - BIOL 1100 Principles of Biology I<sup>1</sup>
- 4 - CH 1010 General Chemistry
- 3 - COMM 1500 Intro. to Human Comm. *or*
  - 3 - COMM 2500 Public Speaking
- 4 - MATH 1060 Calculus of One Variable I

17

### Second Semester

- 5 - BIOL 1110 Principles of Biology II<sup>1</sup>
- 4 - CH 1020 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 3-4 - Mathematical Sciences Requirement<sup>2</sup>

15-16

## Sophomore Year

### First Semester

- 3 - CH 2230 Organic Chemistry
- 1 - CH 2270 Organic Chemistry Lab.
- 3 - ENGL 3150 Scientific Writing and Comm.
- 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
- 3 - Social Science Requirement<sup>3</sup>
- 3 - Elective<sup>4</sup>

16

### Second Semester

- 2 - BIOL 4340 Biol. Chemistry Lab. Techniques
- 3 - CH 2240 Organic Chemistry
- 1 - CH 2280 Organic Chemistry Lab.
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
- 3 - Biochemistry Requirement<sup>5</sup>
- 4 - General Microbiology Requirement<sup>6</sup>

16

## Junior Year

### First Semester

- 3 - MICR 4010 Microbial Diversity and Ecology
- 3 - PHYS 1220 Physics with Calculus I *and*
  - 1 - PHYS 1240 Physics Lab. I *or*
    - 3 - PHYS 2070 General Physics I *and*
      - 1 - PHYS 2090 General Physics I Lab.
- 6 - Microbiology Requirement<sup>7</sup>
- 3 - Elective<sup>4</sup>

16

### Second Semester

- 3 - MICR 4120 Bacterial Physiology
- 2 - MICR 4500 Advanced Micro Lab I
- 3 - Microbiology Requirement<sup>7</sup>
- 3 - Social Science Requirement<sup>3</sup>
- 3 - Elective<sup>4,8</sup>

14

## Senior Year

### First Semester

- 3 - BIOL 4610 Cell Biology
- 3 - MICR 4150 Microbial Genetics
- 2 - MICR 4510 Advanced Micro Lab II
- 3 - Virology Requirement<sup>9</sup>
- 3 - Elective<sup>4</sup>

14

### Second Semester

- 2 - BIOL 4930 Senior Seminar *or*
  - 2 - MICR 4930 Senior Seminar
- 2 - MICR 4520 Advanced Micro Lab III
- 3 - Microbiology Requirement<sup>7</sup>
- 9 - Elective<sup>4</sup>

16

### 124-125 Total Semester Hours

<sup>1</sup>BIOL 1100 and 1110 are strongly recommended; however, BIOL 1030/1050 may substitute for BIOL 1100, and BIOL 1040/1060 may substitute for BIOL 1110. The remaining 1-2 credits required must be satisfied by completing 1-2 extra credits from departmental course offerings at the 3000 level or above. See advisor.

<sup>2</sup>MATH 1110 or STAT 2300 or other approved coursework. See advisor. Medical and dental schools have different mathematics requirements.

<sup>3</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>4</sup>Elective hours may be used toward satisfying the requirements of a minor.

<sup>5</sup>BCHM 3010 or 3050, or other approved coursework at the 2000 level or higher.

<sup>6</sup>MICR 3050 or other approved coursework at the 2000 level or higher.

<sup>7</sup>See advisor. Minimum of 12 credits is required. At least one course must be selected from each of the following fields:

*Biomedicine*—BIOL 4200, 4560/4570, 4670, 4840, 4890, GEN 3000, HLTH 3800, MICR 4000, 4050, 4110, (AVS, BIOL) 4140, 4170

*Environmental*—BIOL (PLPA) 4250, MICR 4020, 4030, 4100  
*Food Safety, Industrial, and Technology*—BIOL 4870, MICR 4070, 4130

Remaining credits can be satisfied by any 3000- or 4000-level MICR course, any of the above listed courses, or any of the following:

BCHM 4400, BIOL 3150, 3160, 3940, 4910, 4940

<sup>8</sup>Students planning to apply to medical/dental schools should take PHYS 2080 and 2100 during the second semester of the junior year.

<sup>9</sup>BIOL 4540 or MICR 4160

## BIOMEDICINE CONCENTRATION

### Freshman Year

#### First Semester

- 1 - BIOL 1010 Frontiers in Biology I *or*
  - 1 - MICR 1010 Microbes and Human Affairs
- 5 - BIOL 1100 Principles of Biology I<sup>1</sup>
- 4 - CH 1010 General Chemistry
- 3 - COMM 1500 Intro. to Human Comm. *or*
  - 3 - COMM 2500 Public Speaking
- 4 - MATH 1060 Calculus of One Variable I

17

#### Second Semester

- 5 - BIOL 1110 Principles of Biology II<sup>1</sup>
- 4 - CH 1020 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 3-4 - Mathematical Sciences Requirement<sup>2</sup>

15-16

## Sophomore Year

### First Semester

- 3 - CH 2230 Organic Chemistry
- 1 - CH 2270 Organic Chemistry Lab.
- 3 - ENGL 3150 Scientific Writing and Comm.
- 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
- 3 - Social Science Requirement<sup>3</sup>
- 3 - Elective<sup>4</sup>

16

### Second Semester

- 3 - CH 2240 Organic Chemistry
- 1 - CH 2280 Organic Chemistry Lab.
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
- 3 - Biochemistry Requirement<sup>5</sup>
- 3 - Biomedicine Requirement<sup>6</sup>
- 4 - General Microbiology Requirement<sup>7</sup>

17

## Junior Year

### First Semester

- 3 - BIOL 4610 Cell Biology
- 2 - BIOL 4620 Cell Biology Lab.
- 3 - MICR 4010 Microbial Diversity and Ecology
- 3 - PHYS 1220 Physics with Calculus I *and*
  - 1 - PHYS 1240 Physics Lab. I *or*
    - 3 - PHYS 2070 General Physics I *and*
      - 1 - PHYS 2090 General Physics I Lab.
- 3 - Genetics Requirement<sup>8</sup>

15

### Second Semester

- 3 - MICR 4120 Bacterial Physiology
- 2 - MICR 4500 Advanced Micro Lab I
- 3 - PHYS 2080 General Physics II *and*
  - 1 - PHYS 2100 General Physics II Lab. *or*
    - 3 - PHYS 2210 Physics with Calculus II *and*
      - 1 - PHYS 2230 Physics Lab. II
- 3 - Social Science Requirement<sup>3</sup>
- 3 - Elective<sup>4</sup>

15

## Senior Year

### First Semester

- 3 - MICR 4140 Basic Immunology
- 3 - MICR 4150 Microbial Genetics
- 3 - MICR 4160 Introductory Virology
- 2 - MICR 4510 Advanced Micro Lab II
- 3 - Biomedicine Requirement<sup>6</sup>

14

### Second Semester

- 2 - BIOL 4930 Senior Seminar *or*
  - 2 - MICR 4930 Senior Seminar
- 3 - MICR 4110 Pathogenic Bacteriology
- 3 - MICR 4170 Cancer and Aging
- 2 - MICR 4520 Advanced Micro Lab III
- 3 - Biomedicine Requirement<sup>6</sup>
- 3 - Elective<sup>4</sup>

16

### 125-126 Total Semester Hours

<sup>1</sup>BIOL 1100 and 1110 are strongly recommended; however, BIOL 1030/1050 may substitute for BIOL 1100, and BIOL 1040/1060 may substitute for BIOL 1110. The remaining 1-2 credits required must be satisfied by completing 1-2 extra credits from departmental course offerings at the 3000 level or above. See advisor.

<sup>2</sup>MATH 1110 or STAT 2300 or other approved coursework. See advisor. Medical and dental schools have different mathematics requirements.

<sup>3</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>4</sup>Elective hours may be used toward satisfying the requirements of a minor.

<sup>5</sup>BCHM 3010 or 3050, or other approved coursework at the 2000 level or higher.

<sup>6</sup>See advisor. A minimum of nine credits selected from: BCHM 4320, 4400, BIOL 3150, 3160, 3940, 4200, (PLPA) 4250, 4340, 4560/4570, 4670, 4840, 4890, 4910, 4940, 4950, HLTH 3800, MICR 3940, 4000, 4050, 4910, 4940, or 4950.

<sup>7</sup>MICR 3050 or other approved coursework at the 2000 level or higher.

<sup>8</sup>GEN 3000 or 3020, or other approved coursework.

## PACKAGING SCIENCE

### Bachelor of Science

The Bachelor of Science degree in Packaging Science prepares students for careers in industries producing and utilizing packages for all types of products. Packaging is an essential part of industrialized economies, protecting, preserving, and helping to market products. The field of packaging is highly competitive and highly innovative, requiring an ever-increasing number of professional positions.

Opportunities for employment include a wide variety of career paths such as manufacturing, marketing, sales, design, purchasing, quality assurance, and customer services. Most career opportunities are in positions requiring technical knowledge combined with marketing and management skills.

The core curriculum assures graduates of having the skills and knowledge required by most entry-level packaging positions. Emphasis area choices or minors allow students to select courses to improve career preparation for specific industry segments, including: Distribution, Transportation and Engineering Technology; Food and Health Care Packaging; Materials; and Package Design and Graphics. Alternatively, any University-approved minor may be completed.

Students changing majors into Packaging Science must:

1. have an overall minimum GPA of 2.0; and
2. have completed four of the following courses with an average GPA of 2.7:  
BIOL 1030, 1040, CH 1010, 1020, MATH 1060, PHYS 1220, 2070, 2080, 2210; or both MATH 1040 and 1070; and
3. have completed PKSC 1020 with a grade of B or higher.

### Combined Bachelor of Science/ Master of Science Degree Program

The Department of Food, Nutrition and Packaging Sciences also offers an accelerated five-year combined bachelor's/master's program that allows students to count up to twelve hours of graduate credit toward both the BS degree in Packaging Science and the MS degree in Packaging Science. Details are available from the Department of Food, Nutrition and Packaging Sciences or at [www.clemson.edu/fnps](http://www.clemson.edu/fnps).

## Freshman Year

### First Semester

- 3 - BIOL 1030 General Biology I
  - 1 - BIOL 1050 General Biology Lab. I
  - 4 - CH 1010 General Chemistry
  - 4 - MATH 1060 Calculus of One Variable I
  - 1 - PKSC 1010 Packaging Orientation<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 16

### Second Semester

- 3 - BIOL 1040 General Biology II
  - 1 - BIOL 1060 General Biology Lab. II
  - 4 - CH 1020 General Chemistry
  - 3 - COMM 2500 Public Speaking
  - 3 - ENGL 1030 Accelerated Composition
  - 2 - PKSC 1020 Intro. to Packaging Science<sup>1</sup>
- 16

## Sophomore Year

### First Semester<sup>3</sup>

- 3 - CH 2010 Survey of Organic Chemistry and
  - 1 - CH 2020 Survey of Organic Chemistry Lab. or
  - 3 - CH 2230 Organic Chemistry and
  - 1 - CH 2270 Organic Chemistry Lab.
  - 3 - PHYS 1220 Physics with Calculus I and
  - 1 - PHYS 1240 Physics Lab. II or
  - 3 - PHYS 2070 General Physics I and
  - 1 - PHYS 2090 General Physics I Lab.
  - 4 - PKSC 2020 Packaging Materials and Manuf.<sup>1</sup>
  - 4 - PKSC 2200 Product/Package Design and Prototyping<sup>1</sup>
- 16

### Second Semester<sup>3</sup>

- 3 - PHYS 2080 General Physics II and
  - 1 - PHYS 2100 General Physics II Lab. or
  - 3 - PHYS 2210 Physics with Calculus II and
  - 1 - PHYS 2230 Physics Lab. II
  - 3 - PKSC 2010 Packaging Perishable Products<sup>1</sup>
  - 1 - PKSC 2040 Container Systems<sup>1</sup>
  - 1 - PKSC 2060 Container Systems Lab.<sup>1</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 14

## Summer

- 0 - COOP 1010 Cooperative Education<sup>4</sup>

## Junior Year

### First Semester

- 3 - ENGL 3140 Technical Writing
  - 4 - GC 1030 Graphic Comm. I for Packaging Sci.
  - 3 - PKSC 4010 Packaging Machinery<sup>1</sup>
  - 3 - PKSC 4040 Mechanical Properties of Packages and Principles of Protective Packaging<sup>1,5</sup>
  - 1 - PKSC 4540 Product and Package Eval. Lab.<sup>1,5</sup>
  - 3 - Emphasis Area Requirement<sup>6</sup>
- 17

### Second Semester

- 3 - PKSC 3200 Package Design Theory<sup>1</sup>
  - 3 - PKSC 3680 Packaging and Society<sup>1</sup>
  - 3 - PKSC 4300 Converting for Flexible Packaging<sup>1</sup>
  - 3 - PKSC 4400 Packaging for Distribution<sup>1</sup>
  - 3 - STAT 2300 Statistical Methods I
  - 3 - Emphasis Area Requirement<sup>6</sup>
- 18

## Senior Year

### First Semester

- 4 - PKSC 4160 Appl. of Polymers in Packaging<sup>1</sup>
  - 4 - PKSC 4640 Food and Health Care Pkg. Syst.<sup>1</sup>
  - 3 - STAT 3300 Statistical Methods II
  - 3 - Emphasis Area Requirement<sup>6</sup>
- 14

### Second Semester

- 3 - AGRB 2020 Agricultural Economics or
  - 3 - ECON 2110 Principles of Microeconomics
  - 1 - PKSC 4030 Packaging Career Preparation<sup>1</sup>
  - 3 - PKSC 4200 Package Design and Development<sup>1</sup>
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 6 - Emphasis Area Requirement<sup>6</sup>
- 16
- 127 Total Semester Hours

<sup>1</sup>Packaging Science majors are required to:

1. Complete PKSC 1020, 2020, 2040, and 2060 with a grade of C or better before being allowed to register for PKSC 4010, 4040, 4160, 4300, 4400, 4540, 4640.

2. Earn a C or better in all PKSC courses in order to graduate

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement. *Note:* Social Science Requirement must be in an area other than economics or applied economics. A 2000-level or higher foreign language course is recommended to satisfy the Arts and Humanities (Non-Literature) Requirement.

<sup>3</sup>Students interested in minors or emphasis areas should take any prerequisites in the sophomore year.

<sup>4</sup>At least one 15-week period of 40 hour weeks of Cooperative Education is required. A six-month period is preferred. Two 10-week summer periods of 40 hour weeks with the same company is an option.

<sup>5</sup>PKSC 4040 and 4540 must be taken concurrently.

<sup>6</sup>Completion of any emphasis area or university approved minor is required. The approved course list of the four emphasis areas is available in the departmental undergraduate student handbook or the department office. Emphasis areas consist of 15 credit hours selected from one of the following areas (additional emphasis area courses may be approved by emphasis area coordinator):

*Distribution, Transportation and Engineering Technology; Food and Health Care Packaging; Package Design and Graphics; and Materials.*

## PLANT AND ENVIRONMENTAL SCIENCES

### Bachelor of Science

The BS degree program in Plant and Environmental Sciences is a multidisciplinary program that educates students with expertise in soils, crop sciences, and applied agricultural biotechnology. It offers students a rigorous, science-based degree with educational opportunities related to management of agricultural commodities and natural resources, as well as soil and water resources. Students can tailor the program to fit their professional and academic goals by selecting one of three concentrations.

The Agricultural Biotechnology Concentration integrates conventional disciplines with molecular advances in plants, pathogens, and biosystem interactions and responds to the educational void between the rapid adoption of biotechnology products into agricultural production and the intermediate- and end-users, farmers, and consumers. Graduates in this concentration will be competitive as scientists in emerging agricultural biotechnology industries, as educators, and as policy makers and officers in regulatory agencies.

Students with a concentration in Agronomy will graduate with comprehensive knowledge to increase farm profits by decreasing the costs of crop production; build soil tilth and fertility through rotations, multiple cropping, and nutrient cycling; protect the environment by minimizing or more efficiently using synthetic agrichemicals; manage crop pests and weeds with integrated, ecologically sound strategies; develop strategies for profitable marketing of agricultural commodities; and create a strong, diversified agriculture that is stable through market and weather fluctuations. Graduates can assume positions as self-employed farmers, farm managers, state and federal natural resource managers, research technicians, agricultural industry employees, greenhouse managers, consultants in pest management and sustainable agriculture, field ecology professionals, agritourism industry specialists, extension personnel, or regulatory officers.

Students with a concentration in Soil and Water Science can address compelling problems such as land application of agricultural and industrial wastes, reduction of contamination of ground and surface waters, establishment of functional septic drain fields, and production of food and fiber crops. Graduates will be able to establish careers in traditional agrarian fields such as soil scientists and conservationists, extension agents, and farm consultants, and in the broader environmental arenas of DHEC, consulting engineering firms, and environmental consulting. Graduates will be well prepared for graduate work in fields ranging from soil science to environmental engineering and law.

### Freshman Year

#### First Semester

- 3 - BIOL 1030 General Biology I<sup>1</sup>
  - 1 - BIOL 1050 General Biology Lab. I<sup>1</sup>
  - 4 - CH 1010 General Chemistry
  - 3 - MATH 1020 Intro. to Math. Analysis or
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - PES 1040 Introduction to Plant Science
- 14-15

#### Second Semester

- 3 - BIOL 1040 General Biology II<sup>1</sup>
  - 1 - BIOL 1060 General Biology Lab II<sup>1</sup>
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - STAT 2300 Statistical Methods I
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 17

<sup>1</sup>BIOL 1100 may substitute for BIOL 1030/1050 and BIOL 1110 may substitute for BIOL 1040/1060; BIOL 1100 and 1110 are recommended for students in the Agricultural Biotechnology Concentration.

<sup>2</sup>See General Education Requirements. PHIL 1030 is recommended for students in the Agricultural Biotechnology Concentration.

## AGRICULTURAL BIOTECHNOLOGY CONCENTRATION

### Sophomore Year

#### First Semester

- 3 - BIOL 3040 Biology of Plants
  - 3 - CH 2010 Survey of Organic Chemistry
  - 1 - CH 2020 Survey of Organic Chemistry Lab.
  - 4 - ENT 3010 Insect Biology and Diversity
  - 3 - PLPA 3100 Principles of Plant Pathology
- 14

#### Second Semester

- 3 - AGRB 2050 Agriculture and Society
  - 3 - BIOL 3350 Evolutionary Biology
  - 3 - COMM 1500 Intro. to Human Comm. or
  - 3 - COMM 2500 Public Speaking
  - 3 - GEN 3000 Fundamental Genetics
  - 4 - MICR 3050 General Microbiology
  - 1 - PES 4550 Seminar
- 17

### Junior Year

#### First Semester

- 3 - BCHM 3050 Essential Elements of Biochem.
  - 2 - BIOL 4340 Biological Chem. Lab. Tech
  - 3 - ECON 2000 Economic Concepts or
  - 3 - ECON 2110 Principles of Microeconomics
  - 3 - PES 3350 Agricultural Biotechnology
  - 3 - PES 4220 Major World Crops
  - 3 - Social Science Requirement<sup>1</sup>
- 17

#### Second Semester

- 3 - BIOL 4010 Plant Physiology
  - 1 - BIOL 4020 Plant Physiology Lab.
  - 3 - ENGL 3150 Scientific Writing and Comm.
  - 1 - PES 4010 Academic and Professional Dev.
  - 3 - PES 4050 Plant Breeding
  - 3 - PES 4090 Biology of Invasive Plants
- 14

### Senior Year

#### First Semester

- 2 - PES 4450 Regulatory Issues and Policies
  - 3 - PES 4900 Beneficial Soil Organisms in Plant Growth
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 6 - Concentration Requirement<sup>2</sup>
- 14

#### Second Semester

- 3 - PES 3500 Practicum
  - 3 - PES 3400 Medical Botany
  - 9 - Concentration Requirement<sup>2</sup>
- 15

122-123 Total Semester Hours

<sup>1</sup>See General Education Requirements.

<sup>2</sup>Select from a department approved list. Courses to support proficiency in a foreign language also are encouraged.

## AGRONOMY CONCENTRATION

### Sophomore Year

#### First Semester

- 3 - CH 2010 Survey of Organic Chemistry
  - 1 - CH 2020 Survey of Organic Chemistry Lab.
  - 4 - ENT 3010 Insect Biology and Diversity
  - 4 - PES 2020 Soils
  - 3 - PLPA 3100 Principles of Plant Pathology
- 15

#### Second Semester

- 3 - AGRB 2050 Agriculture and Society
  - 3 - COMM 1500 Intro. to Human Comm. or
  - 3 - COMM 2500 Public Speaking
  - 3 - GEN 3000 Fundamental Genetics
  - 4 - MICR 3050 General Microbiology
- 13

### Summer

- 3 - ENT 4070 Applied Agricultural Entomology
  - 3 - PLPA 4110 Plant Disease Diagnosis I
- 6

### Junior Year

#### First Semester

- 3 - AGRB 2020 Agricultural Economics or
  - 3 - ECON 2110 Principles of Microeconomics
  - 3 - BCHM 3050 Essential Elements of Biochem.
  - 2 - BIOL 4340 Biol. Chem. Lab Techniques
  - 3 - IPM 4010 Principles of Integrated Pest Mgt.
  - 3 - PES 4220 Major World Crops
  - 3 - Concentration Requirement<sup>1</sup>
- 17

#### Second Semester

- 3 - BIOL 4010 Plant Physiology
  - 1 - BIOL 4020 Plant Physiology Lab.
  - 3 - ENGL 3150 Scientific Writing and Comm.
  - 1 - PES 4010 Academic and Professional Dev.
  - 3 - PES 4050 Plant Breeding
  - 3 - PES 4090 Biology of Invasive Plants
  - 1 - PES 4550 Seminar
- 15

### Senior Year

#### First Semester

- 2 - PES 4450 Regulatory Issues and Policies
  - 3 - PES 4900 Beneficial Soil Organisms in Plant Growth
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - Concentration Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 14

#### Second Semester

- 3 - PES 3500 Practicum
  - 3 - PES 4520 Soil Fertility and Management
  - 1 - PES 4530 Soil Fertility Lab.
  - 6 - Concentration Requirement<sup>1</sup>
- 13
- 124-125 Total Semester Hours

<sup>1</sup>Select from department-approved list.

<sup>2</sup>See General Education Requirements.

## SOIL AND WATER SCIENCE CONCENTRATION

### Sophomore Year

#### First Semester

- 3 - CH 2010 Survey of Organic Chemistry
  - 1 - CH 2020 Survey of Organic Chemistry Lab.
  - 3 - GEOL 1010 Physical Geology
  - 1 - GEOL 1030 Physical Geology Lab.
  - 4 - PES 2020 Soils
  - 3 - PHYS 2070 General Physics I
  - 1 - PHYS 2090 General Physics I Lab.
- 
- 16

#### Second Semester

- 3 - AGRB 2050 Agriculture and Society
  - 3 - COMM 1500 Intro. to Human Comm. *or*  
3 - COMM 2500 Public Speaking
  - 4 - MICR 3050 General Microbiology
  - 3 - PHYS 2080 General Physics II
  - 1 - PHYS 2100 General Physics II Lab.
- 
- 14

### Junior Year

#### First Semester

- 3 - AGM 3010 Soil and Water Conservation
  - 3 - PES 4220 Major World Crops
  - 9 - Concentration Requirement<sup>1</sup>
- 
- 15

#### Second Semester

- 3 - BIOL 4010 Plant Physiology and
  - 1 - BIOL 4020 Plant Physiology Lab.
  - 3 - ENGL 3150 Scientific Writing and Comm.
  - 3 - PES 3150 Environment and Agric.
  - 1 - PES 4010 Academic and Professional Dev.
  - 3 - Concentration Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 17

### Senior Year

#### First Semester

- 3 - PES 3500 Practicum
  - 2 - PES 4030 Soil Genesis and Classification
  - 1 - PES 4550 Seminar
  - 3 - Applied Spatial Technology Requirement<sup>3</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - Field Scale Environmental Mgt. Requirement<sup>4</sup>
- 
- 15

#### Second Semester

- 3 - PES 4080 Land Treatment of Wastewater and Sludges
  - 3 - PES 4900 Beneficial Soil Organisms in Plant Growth
  - 6 - Concentration Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 15

123–124 Total Semester Hours

<sup>1</sup>Select from department-approved list. Courses to support proficiency in a foreign language also are encouraged.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>AGM 4100, FOR 4330, GEOL 4210, or other course approved by advisor.

<sup>4</sup>AGM 4020, GEOL 4090, or other course approved by advisor.

## PREPROFESSIONAL HEALTH STUDIES

### Non-degree

The health professions need individuals with a diversity of educational backgrounds and a wide variety of talents and interests. The philosophies of education, the specific preprofessional course requirements, the noncognitive qualifications for enrollment, and the systems of training vary among the professional health schools; but all recognize the desirability of a broad education—a good foundation in the natural sciences, highly developed communication skills, and a solid background in the humanities and social sciences. The absolute requirements for admission to professional health schools are limited to allow latitude for developing individualized undergraduate programs of study; however, most schools of medicine and dentistry require 16 semester hours of chemistry, including organic chemistry, eight hours of biological sciences, eight hours of physics, and six hours of mathematics. These requirements should be balanced with courses in vocabulary building, the humanities, and social sciences. The basic requirements in the natural sciences and as many of the courses in the humanities and social sciences as possible should be completed by the third year so students are prepared to take the Dental Admission Test or the Medical College Admission Test prior to applying to a professional school.

Undergraduates may also prepare to study optometry, podiatry, and other health professions. While the basic requirements for these professional schools are essentially the same as those for schools of medicine and dentistry, specific requirements for individual schools in these professions vary somewhat; consequently, interested students are advised to consult with the chief health professionals advisor.

At Clemson, rather than having a separate, organized preprofessional health studies program, students are allowed to major in any curriculum, as long as the basic entrance requirements of the professional health school are fulfilled. These schools are not as concerned about a student's major as they are about academic performance in whichever curriculum the student chooses. Professional health schools have neither preferences nor prejudices concerning any curriculum, which is evidenced by the fact that their entering students represent a broad spectrum of curricula. The emphasis is placed on the student's doing well in the curriculum chosen, and this becomes critical as competition increases for the limited number of places available in professional health schools.

### PREPHARMACY

The two-year Prepharmacy program requires 66–72 credit hours, depending on the pharmacy school of interest. Upon completion of the program, students will be eligible to apply to a college of pharmacy, usually the South Carolina College of Pharmacy (MUSC and USC campuses), and may be eligible to apply for the Bachelor of Science in Preprofessional Studies. The degree in Pharmacy is awarded by the institution attended. It is important for students to work closely with their advisor as there are variations in courses required by the pharmacy schools.

For financial aid purposes, students in the Prepharmacy program are considered to be enrolled in a degree-seeking program.

### First Year

#### First Semester

- 3 - BIOL 1030 General Biology I
  - 1 - BIOL 1050 General Biology Lab. I
  - 4 - CH 1010 General Chemistry
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - PSYC 2010 Introduction to Psychology
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 
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#### Second Semester

- 3 - BIOL 1040 General Biology II
  - 1 - BIOL 1060 General Biology Lab. II
  - 4 - CH 1020 General Chemistry
  - 3 - ECON 2000 Economic Concepts
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - STAT 2300 Statistical Methods I
  - 1 - Elective
- 
- 18

### Second Year

#### First Semester

- 4 - BIOL 2220 Human Anatomy and Phys. I
  - 3 - CH 2230 Organic Chemistry
  - 1 - CH 2270 Organic Chemistry Lab.
  - 3 - PHYS 2070 General Physics I
  - 1 - PHYS 2090 General Physics I Lab.
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - History or Philosophy Requirement<sup>3</sup>
- 
- 18

#### Second Semester

- 4 - BIOL 2230 Human Anatomy and Phys. II
  - 3 - CH 2240 Organic Chemistry
  - 1 - CH 2280 Organic Chemistry Lab.
  - 3 - COMM 1500 Intro. to Human Comm. *or*  
3 - COMM 2500 Public Speaking
  - 3 - PHYS 2080 General Physics II
  - 1 - PHYS 2100 General Physics II Lab.
  - 3 - Science and Tech. in Society Requirement<sup>4</sup>
- 
- 18

### Third Year<sup>5</sup>

72–90 Total Semester Hours

<sup>1</sup>ART 2100 or MUSC 2100

<sup>2</sup>Select any ENGL course from General Education Arts and Humanities (Literature) Requirement.

<sup>3</sup>See advisor.

<sup>4</sup>See General Education Requirements.

<sup>5</sup>Students planning to receive the Bachelor of Science in Preprofessional Studies degree are required to complete a minimum of 18 additional credit hours which must include MICR 3050, and successfully complete a year at an accredited pharmacy school. See advisor for requirements.

### PREREHABILITATION SCIENCES

The Prerehabilitation Sciences major includes concentrations in physical therapy, occupational therapy, communication sciences and disorders, as well as in physician assisting and allied health areas. This curriculum is designed to meet the requirements of the programs in the College of Health Professions at the Medical University of South Carolina and other professional schools. The program requires a minimum of 90 semester hours of undergraduate coursework. In addition, students must apply to a professional school for acceptance into its program.

Because preparation for some of the concentrations, such as the physical therapy, occupational therapy, and communication sciences and disorders programs at MUSC, requires a baccalaureate degree in any area, students are advised to select a major with similar requirements after consultation with the Prehabilitation Sciences advisor. The following curriculum fulfills the general requirements for those fields requiring less than a baccalaureate degree. Electives should be chosen after consultation with the advisor. Professional schools may change their requirements at any time, so it is imperative that students in this major stay in close contact with their advisor.

For financial aid purposes, students in the Prehabilitation Sciences program are considered to be enrolled in a degree-seeking program.

## First Year

### First Semester

- 3 - BIOL 1030 General Biology I
  - 1 - BIOL 1050 General Biology Lab. I
  - 4 - CH 1010 General Chemistry
  - 3 - PSYC 2010 Introduction to Psychology
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Science and Technology in Society Req.<sup>1</sup>
- 
- 17

### Second Semester

- 3 - BIOL 1040 General Biology II
  - 1 - BIOL 1060 General Biology Lab. II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - STAT 2300 Statistical Methods I
  - 3 - SOC 2010 Introduction to Sociology
  - 1 - Elective
- 
- 18

## Second Year

### First Semester

- 4 - BIOL 2220 Human Anatomy and Phys. I
  - 3 - PHYS 2070 General Physics I
  - 1 - PHYS 2090 General Physics I Lab.
  - 3 - PSYC 3400 Lifespan Developmental Psych.
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - Arts and Humanities Requirement<sup>1</sup>
- 
- 17

### Second Semester

- 4 - BIOL 2230 Human Anatomy and Phys. II
  - 3 - COMM 1500 Intro. to Human Comm. *or*
  - 3 - COMM 2500 Public Speaking
  - 3 - CPSC 1200 Intro. to Information Technology
  - 3 - PHYS 2080 General Physics II
  - 1 - PHYS 2100 General Physics II Lab.
  - 3 - Mathematics Requirement<sup>3</sup>
- 
- 17

## Third Year<sup>4</sup>

90 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>Select any ENGL course from General Education Arts and Humanities (Literature) Requirement.

<sup>3</sup>See advisor.

<sup>4</sup>Students planning to receive the Bachelor of Science degree must transfer to a degree-granting major. See advisor for requirements.

## PREVETERINARY MEDICINE

Under a regional plan, the South Carolina Preveterinary Advisory Committee coordinates a program for South Carolina residents who are interested in pursuing careers in veterinary medicine. South Carolina residents attending any college or university may apply through the Veterinary Medical College Application Service (VMCAS) to the University of Georgia College of Veterinary Medicine. Currently the University of Georgia admits up to 17 students each year through arrangements with the Southern Regional Education Board. The State of South Carolina has a contract with Mississippi State University to admit up to five South Carolina residents. The State of South Carolina also has a contract with Tuskegee University to admit up to four South Carolina residents. Application must be made directly to Tuskegee University.

Minimum requirements for admission to a college of veterinary medicine generally include the satisfactory completion of prescribed courses in a well-rounded undergraduate degree program. Specific requirements for admission to the University of Georgia College of Veterinary Medicine include the following undergraduate courses: six credits of English, 14 credits of humanities and social studies, eight credits of physics, eight credits of general biology, eight credits of advanced biology, three credits of biochemistry, and 16 credits of organic and inorganic chemistry. (Chemistry and physics courses must be at the premedical level; they may not be survey courses.)

To be in the best competitive position, applicants should complete courses in animal agriculture, genetics, nutrition, biochemistry, and advanced biology. Considerations for selection are character, scholastic achievement, personality, experience with large and small animals, general knowledge, and motivation. In the past, competition has been keen, and only those applicants who have shown exceptional ability have been admitted. Specific considerations may include a minimal grade-point average and completion of standardized tests such as the Graduate Record Examination and the Veterinary College Admission Test.

Since out-of-state students attending Clemson are ineligible to apply to the University of Georgia or Tuskegee University under the South Carolina quota, they should contact the college(s) of veterinary medicine to which they plan to apply. They may apply at the University of Georgia for at-large admission.

Veterinary schools accept students with a broad range of academic backgrounds; therefore, it is recommended that the beginning university student select any undergraduate major and simultaneously complete the courses required for veterinary school entrance and those required for completion of a BS or BA degree. For students selecting Animal and Veterinary Sciences or Biological Sciences at Clemson University, the basic curricula have been designed to accommodate Georgia's entrance requirements. Further information is available from the Department of Animal and Veterinary Sciences at 864-656-3427.

## TURFGRASS

### Bachelor of Science

Turfgrass is a major part of our built environment and daily life, including home lawns, sports fields, and golf courses. Grassed areas are aesthetically attractive and provide many environmental benefits, including the prevention of soil erosion, noise reduction, improved water quality, and reduced injuries from sports.

Graduates pursue careers in management of professional golf courses and sports fields and in lawn care; production and sale of seed, sod, supplies, and equipment; or as technicians for businesses or government agencies. The curriculum provides a strong foundation in science, advanced business, and environmental and leadership skills that are needed for success in today's competitive environment. Courses in horticulture also provide a background for turfgrass managers who may have responsibilities for landscaped areas.

Students work closely with faculty in creative inquiry groups to investigate and implement solutions to real problems. Student interns experience a wide range of turf facilities, businesses, and public institutions to develop skills and experience needed for successful careers. In addition, the University's golf course (Walker Golf Course) and athletic fields offer great employment and learning opportunities.

## Freshman Year

### First Semester

- 3 - BIOL 1030 General Biology I
  - 1 - BIOL 1050 General Biology Lab I
  - 4 - CH 1010 General Chemistry
  - 3 - HORT 1010 Horticulture
  - 3 - MATH 1020 Intro to Math Analysis
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 
- 17

### Second Semester

- 3 - BIOL 1040 General Biology II
  - 1 - BIOL 1060 General Biology Laboratory II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - MATH 1010 Essential Math for Informed Soc.
- 
- 14

## Sophomore Year

### First Semester

- 3 - BIOL 3040 Biology of Plants
  - 1 - BIOL 3080 Biology of Plants Lab
  - 3 - HORT 2120 Introduction to Turfgrass Culture
  - 1 - HORT 2130 Turfgrass Culture Lab.
  - 3 - HORT 3030 Landscape Plants
  - 3 - Social Science Requirement<sup>1</sup>
- 
- 14

### Second Semester

- 3 - HORT 4270 Urban Tree Care
  - 4 - PES 2020 Soils
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Oral Communications Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 
- 16

**Summer**

- 3 - HORT 2710 Internship<sup>2</sup> or  
 3 - HORT 4710 Advanced Internship<sup>2</sup>
- 
- 3

**Junior Year****First Semester**

- 4 - ENT 3010 Insect Biology and Diversity  
 3 - PES 3100 Plant Disease and People  
 3 - Business Requirement<sup>3</sup>  
 3 - Horticulture Specialization Requirement<sup>4</sup>  
 3 - Soil Science Requirement<sup>5</sup>
- 
- 16

**Second Semester**

- 3 - AGM 4020 Landscape Drainage and Irrigation  
 3 - BIOL 4010 Plant Physiology  
 1 - BIOL 4020 Plant Physiology Lab.  
 3 - HORT 4200 Applied Turfgrass Physiology  
 2 - PLPA (ENT) 4060 Diseases and Insects of Turfgrasses  
 3 - Horticulture Specialization Requirement<sup>4</sup>
- 
- 15

**Summer**

- 1 - PLPA (ENT) 4080 Diseases and Insects of Turfgrasses Laboratory

**Senior Year****First Semester**

- 3 - HORT 4090 Senior Capstone Course  
 3 - HORT 4120 Advanced Turfgrass Management  
 3 - PES 4460 Soil Management  
 3 - Business Requirement<sup>3</sup>  
 3 - Related Science Requirement<sup>6</sup>
- 
- 15

**Second Semester**

- 3 - HORT (PES) 4330 Landscape and Turf Weed Management  
 3 - PES 4520 Soil Fertility  
 1 - PES 4530 Soil Fertility Lab  
 3 - Business Requirement<sup>3</sup>  
 6 - Related Science Requirement<sup>6</sup>
- 
- 16

123 Total Semester Hours

<sup>1</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements.

<sup>2</sup>Internship must be completed in one or two semesters. First internship must be completed within one year after successfully passing HORT 2120/2130. Prior approval is required for internships, and a GPA of 2.0 is required for registration. Students are strongly encouraged to take multiple internships.

<sup>3</sup>See advisor. Select from approved departmental list. A total of nine hours is required.

<sup>4</sup>Turfgrass majors are required to take six hours of HORT specialization courses. Turfgrass internship courses do not count as HORT specialization courses.

<sup>5</sup>In addition to PES 2020, 4460, 4520, and 4530, students must select one additional soils course from PES 4010, 4080 or 4900.

<sup>6</sup>Choose nine hours from the recommended list of courses.

\*Note: Turfgrass majors must earn a C or better in all HORT courses. Courses may be repeated as often as necessary to achieve the minimum grade.

**WILDLIFE AND FISHERIES BIOLOGY****Bachelor of Science**

Increased interest in conservation of natural resources and the environment and demand for seafood products has resulted in these areas becoming increasingly technical and requiring highly qualified wildlife and fisheries biologists. Greatest demands for graduates are in the areas of management, research, survey, and regulatory positions with state and federal agencies; industrial research and quality control laboratories; conservation, recreation, and other public service agencies; and private enterprises.

The Bachelor of Science degree program in Wildlife and Fisheries Biology provides a solid foundation for many careers in the sciences. The curriculum is strong in basic and applied sciences, communication skills, and the social sciences. In addition, three credit hours are available for field training with appropriate natural resource agencies. Students may satisfy coursework requirements for professional certification by the Wildlife Society and/or the American Fisheries Society.

For students interested in conservation biology, water, and natural resources, the Department of Forestry and Environmental Conservation also administers the Conservation Biology and Natural Resources Management Concentrations within the Environmental and Natural Resources degree program. See pages 52-53 for program details.

**Combined Bachelor of Science/ Master of Science Degree Program**

Under this plan, students may reduce the time necessary to earn both degrees by applying graduate credits to both undergraduate and graduate program requirements. Students are encouraged to obtain the specific requirements for the dual degree from the Department of Forestry and Environmental Conservation as early as possible in their undergraduate program, as a number of required courses have prerequisites not normally taken by Wildlife and Fisheries Biology majors. Enrollment guidelines and procedures can be found under Academic Regulations in this catalog.

**Freshman Year****First Semester**

- 3 - BIOL 1030 General Biology I  
 1 - BIOL 1050 General Biology Lab. I  
 4 - CH 1010 General Chemistry  
 1 - ENR 1010 Intro. to Env. and Natural Res. I  
 3 - MATH 1020 Intro. to Mathematical Analysis  
 3 - Oral Communication Requirement<sup>1</sup>
- 
- 15

**Second Semester**

- 3 - BIOL 1040 General Biology II  
 1 - BIOL 1060 General Biology Lab. II  
 4 - CH 1020 General Chemistry or  
 4 - PHYS 2000 Introductory Physics  
 3 - ENGL 1030 Accelerated Composition  
 3 - STAT 2300 Statistical Methods I  
 1 - Elective
- 
- 15

**Sophomore Year****First Semester**

- 4 - FNR 2040 Soil Information Systems  
 2 - FOR 2050 Dendrology  
 3 - FOR 2210 Forest Biology  
 3 - WFB 3000 Wildlife Biology  
 1 - WFB 3010 Wildlife Biology Lab.  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 
- 16

**Second Semester**

- 3 - ENGL 3140 Technical Writing  
 3 - FOR 2060 Forestry Ecology  
 3 - GEN 3000 Fundamental Genetics  
 3 - WFB 3500 Principles of Fish and Wildlife Biol.  
 3 - Social Science Requirement<sup>1</sup>
- 
- 15

**Junior Year****First Semester**

- 3 - BIOL 3030 Vertebrate Biology  
 4 - BIOL 3200 Field Botany  
 3 - WFB 4100 Wildlife Management Techniques  
 3 - Approved Requirement<sup>2</sup>  
 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 
- 16

**Second Semester**

- 3 - WFB (BIOL) 3130 Conservation Biology  
 3 - WFB 4120 Wildlife Management  
 3 - WFB 4160 Fishery Biology  
 3 - WFB 4400 Non-Game Wildlife Management  
 3 - WFB 4620 Wetland Wildlife Biology
- 
- 15

**Senior Year****First Semester**

- 3 - AGRB 2570 Natural Resources, Environment, and Economics  
 4 - AVS 3010 Anat. and Phys. of Domestic Animals  
 3 - FOR (ENR) 4340 GIS for Natural Resources  
 6 - Approved Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 1 - FNR 4990 Natural Resources Seminar  
 3 - WFB 4300 Wildlife Conservation Policy  
 6 - Approved Requirement<sup>2</sup>  
 3 - Policy and Law Requirement<sup>2</sup>
- 
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121 Total Semester Hours

<sup>1</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society Requirements. (Note: Social Science Requirement must be in an area other than economics or applied economics.)

<sup>2</sup>Select from department-approved list.

## MINORS

Following are minors acceptable for students in the College of Agriculture, Forestry and Life Sciences. Students cannot major and minor in the same field or acquire a minor that is not allowed by the degree program.

Accounting	Legal Studies
Adult/Extension Education	Management
Aerospace Studies	Management Information Systems
Agricultural Business Management	Mathematical Sciences
Agricultural Mechanization and Business	Microbiology
American Sign Language Studies	Military Leadership
Animal and Veterinary Sciences	Modern Languages
Anthropology	Music
Architecture	Natural Resource Economics
Art	Nonprofit Leadership
Athletic Leadership	Nuclear Engineering and Radiological Sciences
Biochemistry	Packaging Science
Biological Sciences	Pan African Studies
British and Irish Studies	Park and Protected Area Management
Business Administration	Philosophy
Chemistry	Physics
Cluster	Plant Pathology
Communication Studies	Political Science
Computer Science	Precision Agriculture
Crop and Soil Environmental Science	Psychology
Digital Production Arts	Public Policy
East Asian Studies	Recreational Therapy
Economics	Religion
Education	Russian Area Studies
English	Science and Technology in Society
Entomology	Screenwriting
Entrepreneurship	Sociology
Environmental Science and Policy	Spanish-American Area Studies
Equine Industry— <i>not open to Animal and Veterinary Sciences majors</i>	Sustainability
Film Studies	Theatre
Financial Management	Travel and Tourism
Food Science	Turfgrass— <i>not open to Horticulture majors</i>
Forest Products— <i>not open to Forestry majors</i>	Urban Forestry
Forest Resource Management	Wildlife and Fisheries Biology
Gender, Sexuality and Women's Studies	Women's Leadership
Genetics	Writing
Geography	
Geology	See pages 40-43 for details.
Global Politics	
Great Works	
History	
Horticulture— <i>not open to Turfgrass majors</i>	
Human Resource Management	

# COLLEGE OF ARCHITECTURE, ARTS AND HUMANITIES

By uniting the humanities with the disciplines of design and building and the arts, the College of Architecture, Arts and Humanities offers one-of-a-kind opportunities for interdisciplinary exploration and achievement—opportunities that are at once rigorous and imaginative, classical and innovative. Students and faculty see their ideas expressed in a myriad of forms—as buildings and landscapes, as the written word, as music and drama, as paintings, pots, prints and photographs. They work in the very oldest media and the very newest. They work alone. They work together. They seek not only the imaginative answers, but the enduring questions.

The College of Architecture, Arts and Humanities is organized into three schools. The School of the Arts includes the departments of Art and Performing Arts. The School of Design and Building includes the School of Architecture, the Department of Construction Science and Management, and the Department of Planning and Landscape Architecture. The School of the Humanities includes the departments of Communication Studies; English; History; Languages; and Philosophy and Religion. In addition to the undergraduate and graduate degrees offered by the ten departments, an array of interdisciplinary programs is housed in the Office of the Dean, including the doctoral programs in Planning, Design and the Built Environment; and in Rhetoric, Communication and Information Design.

## SCHOOL OF DESIGN AND BUILDING AND SCHOOL OF THE ARTS

The Bachelor of Arts in Architecture degree is the preprofessional preparation for graduate study leading to the Master of Architecture degree, which is the fully accredited professional degree in the field. The accredited Bachelor of Science in Construction Science and Management program prepares students for careers as professional managers in the construction industry. A graduate program is also offered leading to the Master of Construction Science and Management. The Visual Arts program offers professional study in the studio visual arts leading to the Bachelor of Fine Arts degree. A graduate program leading to the Master of Fine Arts is also offered. The accredited four-year Bachelor of Landscape Architecture and three-year Master of Landscape Architecture degree programs prepare students for careers as professional landscape architects and are offered by the Department of Landscape Architecture. The Bachelor of Arts in Production Studies in Performing Arts is a distinctive degree program that combines practical hands-on experiences in performing arts production technologies with classes in music and theatre performance, history, and theory.

A graduate program in City and Regional Planning is housed within the school and accepts graduates from a variety of baccalaureate programs and prepares them for careers in both public and private sector

planning through its Master of City and Regional Planning degree. The Master of Science in Historic Preservation degree is a professional degree program designed for students who will specialize in working with historic buildings, landscapes, and the decorative arts. The Master of Real Estate Development is a full-time, two-year professional degree jointly offered by the Department of Planning, Development and Preservation and the Department of Finance in the College of Business and Behavioral Science.

In addition to the facilities housed on the Clemson campus, the College offers third- and fourth-year Architecture and third-year Landscape Architecture students the opportunity to earn credit toward their degrees at three off-campus sites. Students may spend a semester at the Charleston Architecture Center earning credit from both Clemson University and the College of Charleston. Additionally, the Charles E. Daniel Center for Building Research and Urban Studies in Genoa, Italy, and the Barcelona Program in Barcelona, Spain, provide students with an intensive program of study and travel in Europe.

### Architecture Charleston Program

Located in Charleston, South Carolina, this program is available to qualified undergraduates in Architecture, Construction Science and Management, Landscape Architecture, and Visual Arts. Studio work is oriented toward design within the historic seaport setting. Students also enroll in classes at the College of Charleston campus. The program is enriched by visiting scholars and professionals from the area.

### Architecture Overseas Program

The Daniel Center for Building Research and Urban Studies in Genoa, Italy, is available to qualified Bachelor of Arts in Architecture, Master of Architecture, Construction Science and Management, Fine Arts, City and Regional Planning, and professional year Landscape Architecture students. The Barcelona program in Barcelona, Spain, is available to qualified Bachelor of Arts in Architecture and professional year Landscape Architecture students. In both Genoa and Barcelona, studio and classroom work is enriched by visiting scholars and complemented by scheduled field trips in the country of program origin and in continental Europe.

### Entrance Requirements

Admission to degree programs in the School of Design and Building and the School of the Arts is based on academic performance and is limited based on space availability in the various programs. Students seeking admission are advised to apply to the Admissions Office early in the fall of their senior year in high school. They are also encouraged to visit the school during their senior year. Faculty are available to meet with them and their parents informally and answer questions and discuss individual programs in more detail. Prospective students may schedule appointments by calling the individual department.

### Advancement in Architecture

Students enrolled in second-, third-, or fourth-year design studios and theory courses must attain at least a 2.0 grade-point average in each year level (by repeating one or both semesters, if necessary) to qualify for advancement to the next year level or, in the case of fourth-year Architecture studios, to qualify for the

Architecture degree, or in Landscape Architecture at the final year, to qualify for the Bachelor of Landscape Architecture degree.

## SCHOOL OF HUMANITIES

The Bachelor of Arts degree is offered in Communication Studies, English, History, Language and International Trade, Modern Languages, Pan African Studies, Philosophy, Religious Studies, Sports Communication, Women's Leadership, and World Cinema. The Bachelor of Science degree is offered in Language and International Health.

To achieve depth as well as breadth in their education experiences, students majoring in Communication Studies, English, History, Modern Languages, Pan African Studies, Philosophy, Religious Studies, Sports Communication, or Women's Leadership complete at least 24 semester hours from courses above the sophomore level. As soon as feasible and not later than the end of the sophomore year, students in these fields also select a minor consisting of at least 15 additional semester hours. Courses satisfying the major may not also be included in the minor. A second major (a double major) may substitute for the minor, provided all requirements are fulfilled for each major.

The foreign language requirement is a proficiency requirement. Students must complete through 2020 in Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish. Some majors allow American Sign Language to fulfill the foreign language requirement.

Students enrolled in degree programs offered in the humanities who expect to teach in the public schools may elect education courses required for teaching certificates by the South Carolina Department of Education. Such courses are to be approved by their own department advisors.

Students may transfer into the Undeclared category in the humanities only if they have completed 45 or fewer credit hours. For more information, contact the College of Architecture, Arts and Humanities Advisement Center in 101 Strode Tower.

## ARCHITECTURE

### Bachelor of Arts

The Bachelor of Arts in Architecture prepares students for subsequent professional education by providing a sound general education, focused design studies, complementary support courses, and the requirement to study in an off campus location. The School of Architecture emphasizes the relationship of buildings to the rest of the environment: built, natural, and cultural. The curriculum includes seven semesters of studio in addition to complementary courses in architectural history and theory and building technology. The first three studios are collaborative, taught by faculty in Architecture, and Communication Studies. The Bachelor of Arts also includes requirements for a minor and foreign language.

In the first two years of the program, students learn to apply the thinking and communications skills needed to pursue higher-level work in the discipline. The curriculum in the first two years also allows students to complete most of the University's general education requirements. In the junior year, students must



select an off-campus, location-specific studio and co-required coursework in order to fulfill their off-campus study requirement. The final studio focuses on reflection and synthesis.

### Accreditation and Registration

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

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

Clemson University, College of Architecture, Arts and Humanities, School of Architecture offers the following NAAB-accredited degree programs:

M.Arch. (pre-professional degree + 60 graduate credits)

M.Arch. (pre-professional degree + 61 credits)  
Architecture + Health

M.Arch. (non-pre-professional degree + 90 credits)

M.Arch. (non-pre-professional degree + 91 credits)  
Architecture + Health

The next accreditation visit for all programs will be in 2017.

### Freshman Year

#### First Semester

- 3 - AAH 1010 Survey of Art and Arch. History I
- 3 - ARCH 1010 Introduction to Architecture
- 3 - ENGL 1030 Accelerated Composition
- 4 - MATH 1060 Calculus of One Variable I
- 3 - PHYS 2070 General Physics I
- 1 - PHYS 2090 General Physics I Lab.

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#### Second Semester

- 3 - AAH 1020 Survey of Art and Arch. History II
- 5 - ARCH 1510 Architecture Communication
- 3 - BIOL 2040 Environment, Energy and Society
- 4 - Foreign Language Requirement<sup>1</sup>

15

### Sophomore Year

#### First Semester

- 3 - ARCH 2040 History and Theory of Mod. Arch
- 6 - ARCH 2510 Architecture Foundations I
- 3 - ENGL 2120 World Literature
- 3 - Foreign Language Requirement<sup>1</sup>

15

#### Second Semester

- 6 - ARCH 2520 Architecture Foundations II
- 3 - ARCH 2700 Structures I
- 3 - Foreign Language Requirement<sup>1</sup>
- 3 - Social Science Requirement<sup>2</sup>

15

### Junior Year

#### First Semester

- 3 - Architecture History/Theory Requirement<sup>3</sup>
- 3 - Building Technology Requirement<sup>4</sup>
- 6 - Studio Requirement<sup>5</sup>
- 3 - Elective

15

#### Second Semester

- 3 - ARCH 4010 Architectural Portfolio
- 6 - Minor Requirement<sup>6</sup>
- 6 - Studio Requirement<sup>5</sup>

15

### Senior Year

#### First Semester

- 6 - Minor Requirement<sup>6</sup>
- 3 - Social Science Requirement<sup>2</sup>
- 6 - Studio Requirement<sup>5</sup>

15

#### Second Semester

- 6 - ARCH 4520 Synthesis Studio
- 3 - Minor Requirement<sup>6</sup>
- 6 - Elective

15

122 Total Semester Hours

<sup>1</sup>Three semesters (through 2020) in the same foreign language are required.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>3</sup>ARCH 4030, 4040, 4050, 4120, or 4710

<sup>4</sup>ARCH 2710, 4140, 4160, 4210, 4770, CSM 2020, 2030, 2050, 3040, or 3050

<sup>5</sup>ARCH 3510, 3520, 3530, 3540 or 3550

<sup>6</sup>See advisor.

## COMMUNICATION STUDIES

### Bachelor of Arts

The Bachelor of Arts in Communication Studies provides a thoroughly integrated yet individual degree program that prepares students for careers in business, government, and public sectors. In addition, the program provides a foundation for graduates who wish to pursue advanced degrees in the humanities, social sciences, business, and law. Through their coursework and extracurricular experiences, Communication Studies majors develop a set of skills in oral, written, and visual communication that enables them to research, design, present, and evaluate messages across diverse contexts and from a variety of platforms, including digital communication technology.

Students may change majors into the Communication Studies program based on approval of a committee of faculty from the Department of Communication Studies. The deadline for applying for a change of major during the fall semester is September 15, with decisions made by October 1. For spring semester changes of major, the deadline is February 15, with decisions made by March 1. The Department of Communication Studies accepts a maximum of 30 changes of major per year. To qualify for acceptance, applicants should have completed 15 credit hours including ENGL 1030 and COMM 2010 (with a C or better). All students requesting a transfer into

the Communication Studies program must have a grade-point average of 2.5 or higher. An application form and a writing sample are also required. Detailed information is available from the Communication Studies Department, 408 Strode Tower or the department website: [www.clemson.edu/caah/communication](http://www.clemson.edu/caah/communication).

### Freshman Year

#### First Semester

- 1 - COMM 1010 Communication Academic and Professional Development I
- 3 - ENGL 1030 Accelerated Composition
- 4 - Foreign Language Requirement<sup>1</sup>
- 3 - Mathematics Requirement<sup>2</sup>
- 3 - Social Science Requirement<sup>3</sup>

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#### Second Semester

- 4 - COMM 2010 Intro. to Communication Studies
- 3 - COMM 2500 Public Speaking
- 4 - Foreign Language Requirement<sup>1</sup>
- 3 - Mathematics or Natural Science Requirement<sup>3</sup>
- 3 - Elective

17

### Sophomore Year

#### First Semester

- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
- 3 - Emphasis Area Requirement<sup>4</sup>
- 3 - Foreign Language Requirement<sup>1</sup>
- 4 - Natural Science Requirement<sup>3</sup>
- 3 - Social Science Requirement<sup>3</sup>

16

#### Second Semester

- 3 - COMM 3010 Communication Theory *or*
- 3 - COMM 3020 Mass Comm. Theory *or*
- 3 - COMM 3150 Critical Discourse Theory
- 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
- 3 - Foreign Language Requirement<sup>1</sup>

6 - Elective

15

### Junior Year

#### First Semester

- 3 - Communication Requirement<sup>5</sup>
- 3 - Emphasis Area Requirement<sup>4</sup>
- 3 - Minor Requirement
- 6 - Elective

15

#### Second Semester

- 3 - COMM 3060 Discourse, Criticism and Soc. *or*
- 3 - COMM 3100 Quantitative Research Methods in Communication Studies *or*
- 3 - COMM 3110 Qualitative Research Methods in Communication Studies

3 - Communication Requirement<sup>5</sup>

6 - Minor Requirement

3 - Elective

15

### Senior Year

#### First Semester

- 6 - Emphasis Area Requirement<sup>4</sup>
- 3 - Minor Requirement
- 6 - Elective

15

**Second Semester**

- 3 - COMM 4950 Senior Capstone Seminar
- 1 - COMM 4980 Communication Academic and Professional Development II
- 3 - Minor Requirement
- 6 - Elective
- 13
- 120 Total Semester Hours

<sup>1</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>2</sup>STAT 2220 or 2300

<sup>3</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness Requirement and, if STAT 2220 is not selected, the Science and Technology in Society Requirement.

<sup>4</sup>See advisor. Emphasis area consists of 12 credit hours of COMM coursework at the 3000-4000 level with a single theme.

<sup>5</sup>Select from 3000-4000-level COMM courses.

## CONSTRUCTION SCIENCE AND MANAGEMENT

### Bachelor of Science

As the largest single industry in the United States and one of the most important, construction offers unlimited opportunities to highly motivated and professionally educated men and women. Future professionals must be skilled in managing people, equipment, and capital, in addition to having a thorough knowledge of construction materials and methods and the complex technologies of modern construction. The Bachelor of Science in Construction Science and Management curriculum is the basis for a career in construction or as a developer or building management specialist.

Change of major requests are considered only once a year, in late May or early June. Students who wish to change their major to Construction Science and Management must have completed at least 30 credit hours (with a minimum of 24 credit hours taken at Clemson University) with a minimum grade-point average of 2.7; and must have successfully completed ENGL 1030, PHYS 2070/2090, and the mathematics requirement (MATH 1020 or 1060) by the end of the spring semester of the year the change-of-major request is made. Students should contact the Construction Science and Management Department, 122 Lee Hall. The Department's Faculty Admissions Committee will consider all requests in late May or early June and select the top students by cumulative grade-point average based on space availability. Students who do not meet the minimum requirements at the end of spring semester will not be considered.

### Freshman Year

#### First Semester

- 3 - CSM 1000 Intro. to Construction Sci. and Mgt.
- 3 - ENGL 1030 Accelerated Composition
- 3 - MGT 2180 Management Personal Computer Applications
- 4 - MATH 1060 Calculus of One Variable I<sup>1</sup>
- 3 - PHYS 2070 General Physics I
- 1 - PHYS 2090 General Physics I Lab.

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**Second Semester**

- 3 - ART 2100 Introduction to Art and Architecture
- 3 - CSM 1500 Construction Problem Solving
- 3 - COMM 1500 Intro. to Human Comm. or  
3 - COMM 2500 Public Speaking
- 3 - PHYS 2080 General Physics II
- 1 - PHYS 2100 General Physics II Lab.
- 3 - STAT 3090 Introductory Business Statistics
- 16

### Sophomore Year

#### First Semester

- 3 - AGM 2210 Surveying
- 3 - CSM 2010 Structures I
- 3 - CSM 2030 Materials and Methods of Const. I
- 3 - ECON 2110 Principles of Microeconomics
- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 15

#### Second Semester

- 3 - ACCT 2010 Financial Accounting Concepts
- 4 - CSM 2020 Structures II
- 3 - CSM 2040 Contract Documents
- 3 - CSM 2050 Materials and Methods of Const. II
- 3 - ECON 2120 Principles of Macroeconomics
- 16

### Junior Year

#### First Semester

- 3 - CSM 3030 Soils and Foundations
- 3 - CSM 3040 Environmental Systems I
- 3 - CSM 3510 Construction Estimating
- 3 - ENGL 3040 Business Writing or  
3 - ENGL 3140 Technical Writing
- 3 - Social Science Requirement<sup>2</sup>
- 15

#### Second Semester

- 3 - CSM 3050 Environmental Systems II
- 3 - CSM 3520 Construction Scheduling
- 3 - CSM 3530 Construction Estimating II
- 3 - LAW 3220 Legal Environment of Business
- 3 - MGT 3070 Human Resource Management
- 15

### Senior Year

#### First Semester

- 3 - CSM 4110 Safety in Building Construction
- 1 - CSM 4500 Construction Internship
- 3 - CSM 4530 Construction Project Management
- 3 - CSM 4610 Construction Economics Seminar
- 6 - Major Requirement<sup>3</sup>
- 16

#### Second Semester

- 6 - CSM 4540 Construction Capstone
- 6 - Major Requirement<sup>3</sup>
- 3 - Science and Tech. in Society Requirement<sup>2</sup>
- 15

125 Total Semester Hours

<sup>1</sup>A sequence of MATH 1020 and 2070 and may be substituted.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>Select from department-approved list or as approved in writing by advisor and department chair. Note: Six credit hours must be in business.

Note: A minimum of 800 hours of construction experience will be required prior to graduation.

## ENGLISH

### Bachelor of Arts

The core courses of the English major help students acquire an understanding of literature as a humanistic study; develop an appreciation and practical knowledge of the modes of literary expression, research, and criticism; and improve the ability to communicate effectively and intelligently.

By the end of the sophomore year, students choose between two emphasis areas: Literature or Writing and Publication Studies. The Literature Emphasis Area offers an extensive exploration of American and British literature, literary theory, and related disciplines such as creative writing and film. The Writing and Publication Studies Emphasis Area focuses on digital publishing, professional communication, rhetoric, creative writing, and writing about the arts. By teaching students to read closely, think critically, and communicate effectively, both emphasis areas prepare English majors for work in a variety of professional and academic fields.

The standard program of study consists of courses stipulated in the map below, which includes 24 credit hours of core courses and 15 hours chosen from one of the two emphasis areas.

### Core Courses

ENGL 3000 and 3100 and 18 additional credits selected from the following:

**Literature Survey Requirement**—Six credit hours from ENGL 3960, 3970, 3980, 3990

**Shakespeare**—ENGL 4110

**Language, Criticism, and Theory**—Three credits from ENGL 4000, 4010, 4350, (WS) 4360, 4400, 4420, 4430, (COMM) 4510, 4880, (COMM) 4910, (COMM) 4920

**Advanced Writing**—Three credits selected from ENGL 3040, 3120, 3140, 3150, 3450, 3460, (THEA) 3470, 3480, 4450, 4460, (THEA) 4470, 4480, 4490, 4900, 4940

**Major Electives**—Three credits from 3000- or 4000-level ENGL courses

**Capstone Seminar**—ENGL 4960

### Literature Emphasis Area

**Literature I (to 1699)**—Three credits from ENGL 4030, 4070, 4080, 4100, 4140, 4200, (THEA) 4290, 4440, 4630

**Literature II (1700-1899)**—Three credits from ENGL 4150, 4160, 4170, 4180, 4210, 4250, 4260, 4640

**Literature III (from 1900)**—Three credits from ENGL 4280, (THEA) 4300, 4310, 4320, 4330, 4340, 4550, 4650

**Diversity**—Three credits from ENGL 3530, 3800, 4190, (HUM) 4560, 4820, 4830

**Major Electives**—Three additional credits from 3000- or 4000-level ENGL courses

### Writing and Publication Studies Emphasis Area

ENGL 4990 plus 12 additional credits selected from the following:

**Language, Criticism, and Theory**—Three credits in addition to core requirements from ENGL 4000, 4010, 4350, (WS) 4360, 4400, 4420, 4430, (COMM) 4510, 4880, (COMM) 4910, (COMM) 4920

**Advanced Writing**—Three credits, in addition to the Core Advanced Writing Requirement, selected from ENGL 3040, 3120, 3140, 3150, 3450, 3460, (THEA) 3470, 3480, 4450, 4460, (THEA) 4470, 4480, 4490, 4900, 4940

**WPS Courses**—Six credits from ENGL 3320, 3330, 3490, 3870, 4410, 4600, 4750, 4780, 4870, 4890, 4950

## Freshman Year

### First Semester

3 - ENGL 1030 Accelerated Composition  
3 - HIST 1720 The West and the World I  
4 - Foreign Language Requirement<sup>1</sup>  
3 - Mathematics Requirement<sup>2</sup>  
3 - Mathematics or Natural Science Requirement<sup>2</sup>  

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### Second Semester

3 - ENGL 2120 World Literature  
2 - ENGL 3000 Professional Development  
3 - HIST 1730 The West and the World II  
4 - Foreign Language Requirement<sup>1</sup>  
4 - Natural Science Requirement<sup>2</sup>  

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## Sophomore Year

### First Semester

3 - ENGL 3100 Critical Writing About Literature  
3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>  
3 - English Literature Survey Requirement<sup>4</sup>  
3 - Foreign Language Requirement<sup>1</sup>  
3 - Elective  

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15

### Second Semester

3 - COMM 1500 Intro. to Human Comm. *or*  
3 - COMM 2500 Public Speaking  
3 - English Literature Survey Requirement<sup>4</sup>  
3 - Fine Arts Requirement<sup>5</sup>  
3 - Foreign Language Requirement<sup>1</sup>  
3 - History/Philosophy Requirement<sup>6</sup>  

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## Junior Year

### First Semester

6 - Major Requirement<sup>7</sup>  
3 - Minor Requirement  
3 - Science and Tech. in Society Requirement<sup>2</sup>  
3 - Social Science Requirement<sup>8</sup>  

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15

### Second Semester

6 - Major Requirement<sup>7</sup>  
6 - Minor Requirement  
4 - Elective  

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## Senior Year

### First Semester

9 - Major Requirement<sup>7</sup>  
3 - Minor Requirement  
3 - Elective  

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15

### Second Semester

3 - ENGL 4960 Senior Seminar  
6 - Major Requirement<sup>7</sup>  
3 - Minor Requirement  

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12  
120 Total Semester Hours

<sup>1</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>See General Education Requirements. Select from courses in philosophy.

<sup>4</sup>ENGL 3960, 3970, 3980, or 3990

<sup>5</sup>AAH 1010, ART 2100, ENGL 3570, HUM 3010, 3020, 3060, MUSC 2100, 3110, 4150, 4160, or THEA 2100

<sup>6</sup>Any 3000- or 4000-level HIST or PHIL course

<sup>7</sup>See major requirements in program description above.

<sup>8</sup>See General Education Requirements. Must be in an area other than history.

## HISTORY

### Bachelor of Arts

The History major provides students with flexibility to pursue their particular interests in history. The major includes 34 credit hours in history, in addition to HIST 1720 and 1730, as outlined below.

*History Major*—HIST 2990, 4900 or 4980 and 27 additional credits in History. Students must take three hours each of United States history, European history and non-Western history, in addition to three hours of history at the 4000 level. No more than six hours of 1000- and 2000-level history courses (in addition to HIST 2990) may be counted towards the Major Requirements.

*History Major (Public History Emphasis Area)*—HIST 2990; HIST 4900 or HIST 4980; HIST 4140; HIST 4800; HIST 2020; GEOG 4400; HIST 4150, 4170, 4180 or another course approved by the emphasis area coordinator; and 12 additional credits in History. Students must take three hours each of United States history, European history, and non-Western history, in addition to three hours of history at the 4000 level. No more than six hours of 1000- and 2000-level history courses (in addition to HIST 2020 and 2990) may be counted towards the Major Requirements.

Pre-law students majoring in History should consult the pre-law advisor for a recommended program.

Students who change majors into History must have completed at least 12 credit hours at Clemson and have either a minimum 2.0 cumulative grade-point average or have earned a B or better in HIST 1720 or 1730, taken at Clemson.

### Double Major in History/Secondary Education—Social Studies (History)

The Bachelor of Arts Degree in History and Secondary Education—Social Studies (History) prepares students for teaching at the secondary school level and for graduate studies in History. See pages 129-130 for the curriculum.

*Note:* To receive a double major in History and Secondary Education—Social Studies (History), the student must complete a change-of-program form to declare both majors.

## Freshman Year

### First Semester

3 - ENGL 1030 Accelerated Composition  
3 - HIST 1720 The West and the World I  
4 - Foreign Language Requirement<sup>1</sup>  
4 - Natural Science Requirement<sup>2</sup>  
2 - Elective  

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## Second Semester

3 - HIST 1730 The West and the World II  
4 - Foreign Language Requirement<sup>1</sup>  
3 - Geography Requirement<sup>3</sup>  
3 - Mathematics Requirement<sup>2</sup>  
3 - Mathematics or Natural Science Requirement<sup>2</sup>  

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## Sophomore Year

### First Semester

3 - Arts and Humanities (Literature) Requirement<sup>2</sup>  
3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>  
3 - Foreign Language Requirement<sup>1</sup>  
3 - Major Requirement<sup>4</sup>  
3 - Elective  

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15

### Second Semester

4 - HIST 2990 Seminar: The Historian's Craft  
3 - Advanced Humanities Requirement<sup>5</sup>  
3 - Foreign Language Requirement<sup>1</sup>  
3 - Major Requirement<sup>4</sup>  
3 - Minor Requirement  

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## Junior Year

### First Semester

3 - Advanced Humanities Requirement<sup>5</sup>  
6 - Major Requirement<sup>4</sup>  
3 - Minor Requirement  
3 - Elective  

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15

### Second Semester

3 - Literature Requirement<sup>6</sup>  
6 - Major Requirement<sup>4</sup>  
3 - Minor Requirement  
3 - Elective  

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## Senior Year

### First Semester

3 - 4000-Level History Requirement<sup>4</sup>  
3 - Advanced Humanities Requirement<sup>5</sup>  
3 - Major Requirement<sup>4</sup>  
3 - Minor Requirement  
3 - Elective  

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15

### Second Semester

3 - HIST 4900 Senior Seminar *or*  
3 - HIST 4980 Senior Honors Thesis  
3 - Major Requirement<sup>4</sup>  
3 - Minor Requirement  
3 - Elective  

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12

120 Total Semester Hours

<sup>1</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>3</sup>GEOG 1010, 1030, or 1060

<sup>4</sup>See advisor. Students must take three hours each of U.S. history, European history, and non-Western history, in addition to three hours of history at the 4000 level. No more than six hours of 1000- and 2000-level history courses (in addition to HIST 2990 [or HIST 2020] and 2990 for students in the Public History Emphasis Area) may be counted towards the Major Requirements.

<sup>5</sup>ART 2100, MUSC 2100, THEA 2100, or any humanities course numbered 3000 or higher. The humanities for this purpose include AAH, COMM (except 3640, 3680), ENGL (except 3040, 3120, 3140, 3160, 3330, 3340, 3350, 4850, 4900, 4950), HUM, MUSC, PHIL, REL, THEA (except 3770, 4870, 4970), WS, and foreign language courses.

<sup>6</sup>Select from General Education Arts and Humanities (Literature) courses.

## LANDSCAPE ARCHITECTURE

### Bachelor of Landscape Architecture

The profession of landscape architecture is broad and interdisciplinary. Practicing landscape architects work on a wide range of project types, including, but not limited to, urban design, community design, historic preservation, ecological restoration, parks and park systems, institutional landscapes, memorials, cemeteries, industrial site reclamations, golf courses, wilderness areas and trails, residential landscapes, and gardens.

The profession is both an art and a science. Successful landscape architects are creative professionals who hold an environmental imperative and a social conscience. They are also excellent facilitators, able to bring numerous disciplines and professions together to work on complex projects in the landscape. Landscape Architecture students gain an understanding of this diverse range of subjects by participating in Clemson University's Creative Inquiry Initiative. As a consequence of numerous creative inquiry experiences within the program, students develop greater skills in teamwork, creative thinking, problem solving, and communication.

Clemson's Landscape Architecture program is noted for a special emphasis on the art of design. Consequently, the landscape architecture design studio experience is at the center of the student's education—42 hours of studio are required. The program leads to a nationally accredited Bachelor of Landscape Architecture degree. The program is generalist, covering the major areas of practice and building from design basics to sophisticated studio experiences, such as large scale landscape planning; parks, recreation, and open space planning; and regional, urban, and community design. The studio experience is supported by other courses inside and outside the Landscape Architecture curriculum that provide the necessary grounding in landscape history and social, cultural, environmental, and aesthetic theories. Students may also choose to focus elective credits on one of three areas: cultural issues, environmental issues, or professional development. Outstanding final year students may apply for admission into a shortened Master of City and Regional Planning, Master of Landscape Architecture, or Master of Real Estate Development program.

Any undergraduate student who meets the Academic Eligibility Policy after attempting 12 credit hours at Clemson University (or who is allowed to continue by virtue of a semester 2.4 grade-point average on 12 earned credits or who is allowed to continue through appeal to the Appeals Committee on Academic Eligibility or by other authorization of this committee) may transfer from one major to another. Any college or department that seeks an exception to this policy must have the approval of the collegiate dean and the provost.

## Freshman Year

### First Semester

3 - ART 2100 Intro. to Art and Architecture  
 3 - ENGL 1030 Accelerated Composition  
 3 - LARC 1150 Intro. to Landscape Architecture  
 3 - LARC 1280 Technical Graphics  
 3 - LARC 1510 Basic Design I  
 15

### Second Semester

3 - LARC 1160 History of Landscape Arch.  
 6 - LARC 1520 Basic Design II  
 3 - LARC 4280 Landscape Architecture Computer-Aided Design  
 3 - MATH 1020 Intro. to Mathematical Analysis  
 15

## Sophomore Year

### First Semester

3 - COMM 1500 Intro. to Human Comm. or  
 3 - COMM 2500 Public Speaking  
 6 - LARC 2510 Landscape Architecture Design Fundamentals  
 3 - LARC 2620 Design Implementation I  
 3 - LARC 4380 Advanced Computer-Aided Design  
 15

### Second Semester

3 - BIOL 1030 General Biology I  
 1 - BIOL 1050 General Biology I Lab.  
 6 - LARC 3520 Urban Design Studio  
 3 - LARC 3620 Design Implementation II  
 3 - Social Science Requirement<sup>1</sup>  
 16

## Junior Year

### First Semester

6 - LARC 4510 Community Design Studio  
 3 - LARC 4530 Key Issues in Landscape Arch.  
 3 - LARC 4620 Landscape Architecture Technology III  
 3 - Mathematics or Natural Science Requirement<sup>1</sup>  
 3 - Social Science Requirement<sup>1</sup>  
 18

### Second Semester

3 - LARC 4190 Off Campus Field Studies  
 3 - LARC 4210 Landscape Architectural Seminar  
 6 - LARC 4520 Off Campus Studio  
 3 - Elective  
 15

## Senior Year

### First Semester

3 - FOR (HORT) 4270 Urban Tree Care  
 6 - LARC 3510 Regional Design and Ecology  
 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>  
 3 - Elective  
 15

### Second Semester

6 - LARC 5520 Landscape Architecture Exit Project  
 3 - LARC 5910 Professional Practice  
 3 - Cross-Cultural Awareness Requirement<sup>1</sup>  
 3 - Elective  
 15

124 Total Semester Hours

<sup>1</sup>See General Education Requirements.

## LANGUAGE AND INTERNATIONAL HEALTH

### Bachelor of Science

The Bachelor of Science program in Language and International Health is jointly administered by the Department of Languages and the Department of Public Health Sciences in the College of Health, Education and Human Development. Students acquire knowledge in public health theory and practice, including the history and philosophy of public health and medicine; the organization, management, and financing of health services; the social and behavioral aspects of health, epidemiology, health evaluation methods, and health communications. Students also acquire communicative competence in the target language and its culture, literatures, health environments, and multicultural issues.

The program requires the completion of a semester internship abroad. Graduates will be qualified to assume positions in a variety of settings, including integrated hospital systems, consulting firms, managed care organizations, pharmaceutical companies, as well as multicultural community centers. They can also pursue graduate degrees in community health, epidemiology/biostatistics, health administration, health systems and research.

In addition to the curriculum requirements below, students in the Language and International Health program will be required to pass a noncredit examination and submit a noncredit senior dossier to assess their language competence in various areas. Both assessments take place in the student's last full semester at the University.

Students who have completed fewer than 50 credit hours may change majors into Language and International Health with a minimum cumulative grade-point average of 2.5. Students with 50 or more credit hours may apply for a change of major into Language and International Health, based on space availability, with a minimum cumulative grade-point average of 2.75.

## Freshman Year

### First Semester

3 - BIOL 1030 General Biology I  
 1 - BIOL 1050 General Biology Lab. I  
 4 - CHIN 1010 Elementary Chinese or  
 4 - SPAN 1020 Elementary Spanish or  
 4 - SPAN 1040 Basic Spanish  
 3 - ENGL 1030 Accelerated Composition  
 3 - HLTH 2020 Introduction to Public Health  
 1 - LIH 1270 Introduction to LIH  
 15

### Second Semester

4 - CHIN 1020 Elementary Chinese or  
 3 - SPAN 2010 Intermediate Spanish  
 3 - HLTH 2980 Human Health and Disease  
 3 - STAT 2300 Statistical Methods I  
 3 - Emphasis Area Requirement<sup>1</sup>  
 3 - Elective  
 15-16

**Sophomore Year****First Semester**

- 4 - CH 1010 General Chemistry *or*  
 4 - CH 1050 Chemistry in Context I  
 3 - CHIN 2010 Intermediate Chinese *or*  
 3 - SPAN 2020 Intermediate Spanish  
 3 - COMM 1500 Intro. to Human Comm. *or*  
 3 - COMM 2500 Public Speaking  
 3 - HLTH 4700 International Health  
 3 - Social Science Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 4 - CH 1020 General Chemistry *or*  
 4 - CH 1060 Chemistry in Context II  
 3 - CHIN 2020 Intermediate Chinese *or*  
 3 - SPAN 3020 Inter. Span. Grammar and Comp. *or*  
 3 - SPAN 3050 Inter. Span. Conv. and Comp. I, *or*  
 3 - SPAN 3060 Span Comp. for Business  
 3 - HLTH 2400 Determinants of Health Behavior  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>  
 3 - Emphasis Area Requirement<sup>1</sup>
- 
- 16

**Junior Year****First Semester**

- 4 - BIOL 2220 Human Anatomy and Phys. I  
 3 - CHIN 3050 Chinese Conversation and  
 Composition *or*  
 3 - SPAN 4150 Spanish for Health Professionals  
 3 - CHIN 4010 Premodern Chinese Literature *or*  
 3 - SPAN 3040 Int. to Hisp. Literary Forms *or*  
 3 - SPAN 3110 Survey of Spanish-Amer. Lit. *or*  
 3 - SPAN 3130 Survey of Spanish Lit. I  
 3 - HLTH 3800 Epidemiology  
 3 - HLTH 4800 Community Health Promotion *or*  
 3 - HEHD 4100 Leadership Behavior and Civic  
 Engagement *or*  
 3 - RS (SOC) 4590 The Community *or*  
 3 - SOC 3310 Urban Sociology
- 
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**Second Semester**

- 3 - CHIN 3060 Chinese Conversation and  
 Composition *or*  
 3 - SPAN 3070 The Hispanic World: Spain *or*  
 3 - SPAN 3080 The Hispanic World: Latin  
 America *or*  
 3 - SPAN 3180 Spanish Through Culture *or*  
 3 - SPAN 4350 Contemporary Hispanic  
 Culture  
 3 - CHIN (ANTH) 4180 Chinese Culture and  
 Society *or*  
 3 - SPAN 4180 Technical Spanish for Health  
 Management Professionals  
 3 - HLTH 4900 Research and Evaluation Strategies  
 for Public Health  
 3 - LIH 4000 Internship Abroad<sup>4</sup>  
 3 - Advanced Chinese Requirement<sup>5</sup> *or*  
 3 - Advanced Spanish Requirement<sup>3</sup> *or*  
 3 - Advanced Health Requirement<sup>6</sup>
- 
- 15

**Senior Year****First Semester**

- 4 - BIOL 2230 Human Anatomy and Physiology II  
 3 - CHIN 3170 Chinese for Health Professionals I *or*  
 3 - SPAN 4190 Health and the Hispanic  
 Community  
 3 - HLTH 2030 Overview of Health Care  
 3 - Emphasis Area Requirement<sup>1</sup>  
 3 - Elective
- 
- 16

**Second Semester**

- 3 - CHIN 4170 Chinese for Health Professionals II *or*  
 3 - Advanced Spanish Requirement<sup>5</sup>  
 3 - Advanced Health Requirement<sup>6</sup>  
 3 - Emphasis Area Requirement<sup>1</sup>  
 3 - Social Science Requirement<sup>2</sup>
- 
- 12

**121-122 Total Semester Hours**

<sup>1</sup>Select one of the following emphasis areas:

*Health Administration*—select one course from four of the following groups:

*Accounting*—ACCT 2010

*Economics*—ECON 2110, 2120

*Finance*—FIN 3060

*Health*—AGRB (HLTH) 3610, HLTH 4750

*International Trade*—CHIN 3160, 4160, SPAN 3160, 4050, 4160, 4170

*Law*—LAW 3220

*Management*—MGT 2010, 2180, 3900, 4110, 4160, 4220, 4230, I E) 4440, 4520

*Marketing*—MKT 3010

*Community Development*—select one course from four of the following groups:

*Applied Economics*—AGRB 2020, 3520

*Community Development*—AGRB 3570, 4110, 4120

*Economics*—ECON 2110, 2120

*Health*—AGRB (HLTH) 3610

*International Trade*—CHIN 3160, 4160, SPAN 3160, 4050, 4160, 4170

*Rural Sociology*—RS (SOC) 4010, (SOC) 4590, SOC 3710, (RS) 4710

*Sociology*—SOC 4330

<sup>2</sup>Select two courses (six hours) from two different fields: ANTH 2010, GEOG 1030, HIST 1720, 1730, 1930, POSC 1020, 1040, PSYC 2010, SOC 2010.

<sup>3</sup>See General Education Requirements. For students not taking the CH 1050/1060 sequence, three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>4</sup>Internship must be taken in a country where the target language is spoken. The study abroad courses and internship must be taken concurrently as listed during the second semester of the junior year or later or during the summer.

<sup>5</sup>Select from any 3000–4000-level courses in the target language except SPAN 3100.

<sup>6</sup>Select from any 3000–4000-level courses in HLTH.

**LANGUAGE AND INTERNATIONAL TRADE****Bachelor of Arts**

Students in the Bachelor of Arts program in Language and International Trade acquire communicative competence in the target language; a familiarity with specific peoples, cultures, literatures, and business environments; and the knowledge and skills to pursue graduate studies or careers in business within their language of specialization.

The Language and International Trade program combines foreign languages and international trade. Students choose one language concentration (Chinese, French, German, Japanese, or Spanish) and one professional concentration (Applied International Economics, International Trade, or Tourism).

The language component emphasizes speaking and writing skills, culture, civilization, and business/technical languages. The professional component introduces students to the core content of their preferred concentration, as well as to the international dimensions of that concentration.

Study abroad of at least one semester in the target language setting is mandatory. In addition, each student is required to complete an internship with an international company in the United States or a summer internship with a company abroad. Internships are subject to approval by the Language and International Trade Director. Students are strongly encouraged to participate in the Clemson Language Immersion Program (CLIP) prior to enrolling in study abroad programs.

In addition to the curriculum requirements below, students are required, as a condition of graduation, to pass a noncredit examination and submit a noncredit senior dossier to assess their language competence in various areas. Both assessments take place in the student's last full semester at the University.

**Freshman Year****First Semester**

- 4 - CHIN 1010 Elementary Chinese *or*  
 4 - FR 1010 Elementary French *or*  
 4 - GER 1010 Elementary German *or*  
 4 - JAPN 1010 Elementary Japanese *or*  
 4 - SPAN 1040 Basic Spanish<sup>1</sup>  
 3 - ENGL 1030 Accelerated Composition  
 1 - LIT 1270 Introduction to LIT  
 3 - MATH 1020 Intro. to Mathematical Analysis  
 4 - Natural Science Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 3 - ACCT 2010 Financial Accounting Concepts *or*  
 3 - ACCT 2020 Managerial Account. Concepts  
 4 - CHIN 1020 Elementary Chinese *or*  
 4 - FR 1020 Elementary French *or*  
 4 - GER 1020 Elementary German *or*  
 4 - JAPN 1020 Elementary Japanese *or*  
 3 - SPAN 2010 Intermediate Spanish  
 3 - MATH 2070 Multivariable Calculus  
 3 - Oral Communication Requirement<sup>2</sup>  
 2-3 - Elective
- 
- 15

<sup>1</sup>Students with no previous study of Spanish may take SPAN 1010 and 1020.

<sup>2</sup>See General Education Requirements.

## APPLIED INTERNATIONAL ECONOMICS CONCENTRATION

### Sophomore Year

#### First Semester

- 3 - AGRB 2020 Agricultural Economics
  - 3 - CHIN 2010 Intermediate Chinese *or*
  - 3 - FR 2010 Intermediate French *or*
  - 3 - GER 2010 Intermediate German *or*
  - 3 - JAPN 2010 Intermediate Japanese *or*
  - 3 - SPAN 2020 Intermediate Spanish
  - 3 - ECON 2110 Principles of Microeconomics
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 15

#### Second Semester

- 3 - AGRB 3090 Econ. of Agricultural Marketing
  - 3 - CHIN 2020 Intermediate Chinese *or*
  - 3 - FR 2020 Intermediate French *or*
  - 3 - GER 2020 Intermediate German *or*
  - 3 - JAPN 2020 Intermediate Japanese *or*
  - 3 - SPAN 3020 Intermediate Spanish Grammar and Composition *or*
  - 3 - SPAN 3060 Span. Composition for Bus.
  - 3 - MKT 3010 Principles of Marketing
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 15

### Junior Year

#### First Semester

- 3 - AGRB 3190 Agribusiness Management
  - 3 - CHIN 3050 Chinese Conv. and Comp. I *or*
  - 3 - FR 3050 Intermediate French Conversation and Composition I *or*
  - 3 - GER 3050 German Conv. and Comp. *or*
  - 3 - GER 3060 German Short Story *or*
  - 3 - JAPN 3050 Japanese Conv. and Comp. *or*
  - 3 - SPAN 3050 Intermediate Spanish Conversation and Composition I
  - 3 - ENGL 3040 Business Writing
  - 3 - MKT 3020 Consumer Behavior
  - 3 - Advanced Social Science Requirement<sup>3</sup>
- 
- 15

#### Second Semester

- 3 - CHIN 3160 Chinese for International Trade I *or*
  - 3 - FR 3160 French for International Trade I *or*
  - 3 - GER 3160 German for Int'l Trade I *or*
  - 3 - JAPN 3160 Japanese for Int'l Trade I *or*
  - 3 - SPAN 3160 Spanish for Int'l Trade I
  - 3 - MGT 2010 Principles of Management
  - 3 - Advanced Agricultural Econ. Requirement<sup>4</sup>
  - 3 - Advanced Foreign Language Requirement<sup>5</sup>
  - 3 - Elective
- 
- 15

### Summer

- 3 - LIT 4000 LIT Internship

### Senior Year

#### First Semester

- 3 - CHIN 4160 Chinese for Int'l Trade II *or*
  - 3 - FR 4160 French for International Trade II *or*
  - 3 - GER 4160 German for Int'l Trade II *or*
  - 3 - JAPN 4160 Japanese for Int'l Trade II *or*
  - 3 - SPAN 4160 Spanish for Int'l Trade II
  - 3 - ECON 3100 International Economy *or*
  - 3 - ECON 4120 International Microeconomics
  - 3 - MKT 4270 International Marketing
  - 3 - Advanced Agricultural Econ. Requirement<sup>4</sup>
  - 3 - Foreign Language Civilization Requirement<sup>6</sup>
- 
- 15

#### Second Semester

- 2 - LANG 4990 Language ePortfolio
  - 3 - MGT 4230 International Management
  - 6 - Advanced Foreign Language Requirement<sup>5</sup>
  - 3 - Advanced Social Science Requirement<sup>3</sup>
- 
- 14

122 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>Six credit hours selected from two different areas: ANTH 2010, GEOG 1030, HIST 1720, 1730, 1930, POSC 1020, 1040, PSYC 2010

<sup>3</sup>Select from 3000–4000-level courses in AGRB, ANTH, ECON, GEOG, HIST, POSC, PSYC, SOC

<sup>4</sup>AGRB 3510, 4020, 4080, 4090, 4520, 4560, or 4600

<sup>5</sup>A minimum of nine credit hours of 3000–4000-level foreign language courses is required. At least one course must be in literature. Advanced grammar is recommended for those exempting 1000–2000 levels. FR 4380 and 4390 and SPAN 4380 and 4390 may not be used to satisfy requirements for the French or Spanish Concentration. Students may not take more than one foreign language course taught in English.

<sup>6</sup>CHIN (ANTH) 4180, 4990, FR 3070, 3170, GER 3400, 4050, 4550, JAPN 3070, 3080, (ANTH) 4170, 4990, SPAN 3070, 3080, or 4350

## INTERNATIONAL TRADE CONCENTRATION

### Sophomore Year

#### First Semester

- 3 - CHIN 2010 Intermediate Chinese *or*
  - 3 - FR 2010 Intermediate French *or*
  - 3 - GER 2010 Intermediate German *or*
  - 3 - JAPN 2010 Intermediate Japanese *or*
  - 3 - SPAN 2020 Intermediate Spanish
  - 3 - ECON 2110 Principles of Microeconomics
  - 3 - MGT 2010 Principles of Management
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 15

#### Second Semester

- 3 - CHIN 2020 Intermediate Chinese *or*
  - 3 - FR 2020 Intermediate French *or*
  - 3 - GER 2020 Intermediate German *or*
  - 3 - JAPN 2020 Intermediate Japanese *or*
  - 3 - SPAN 3020 Intermediate Spanish Grammar and Composition *or*
  - 3 - SPAN 3060 Span. Composition for Bus.
  - 3 - ECON 2120 Principles of Macroeconomics
  - 3 - MKT 3010 Principles of Marketing
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 15

### Junior Year

#### First Semester

- 3 - CHIN 3050 Chinese Conv. and Comp. I *or*
  - 3 - FR 3050 Intermediate French Conversation and Composition I *or*
  - 3 - GER 3050 German Conv. and Comp. *or*
  - 3 - GER 3060 German Short Story *or*
  - 3 - JAPN 3050 Japanese Conv. and Comp. *or*
  - 3 - SPAN 3050 Intermediate Spanish Conversation and Composition I
  - 3 - ECON 3140 Intermediate Microeconomics
  - 3 - ENGL 3040 Business Writing
  - 3 - MKT 3020 Consumer Behavior
  - 3 - Advanced Social Science Requirement<sup>3</sup>
- 
- 15

#### Second Semester

- 3 - CHIN 3160 Chinese for International Trade I *or*
  - 3 - FR 3160 French for International Trade I *or*
  - 3 - GER 3160 German for Int'l Trade I *or*
  - 3 - JAPN 3160 Japanese for Int'l Trade I *or*
  - 3 - SPAN 3160 Spanish for Int'l Trade I
  - 3 - ECON 3150 Intermediate Macroeconomics
  - 3 - Advanced Foreign Language Requirement<sup>4</sup>
  - 3 - Advanced Marketing Requirement<sup>5</sup>
  - 3 - Elective
- 
- 15

### Summer

- 3 - LIT 4000 LIT Internship

### Senior Year

#### First Semester

- 3 - CHIN 4160 Chinese for Int'l Trade II *or*
  - 3 - FR 4160 French for International Trade II *or*
  - 3 - GER 4160 German for Int'l Trade II *or*
  - 3 - JAPN 4160 Japanese for Int'l Trade II *or*
  - 3 - SPAN 4160 Spanish for Int'l Trade II
  - 3 - MKT 4270 International Marketing
  - 3 - Advanced Business Requirement<sup>6</sup>
  - 3 - Foreign Language Civilization Requirement<sup>7</sup>
  - 3 - Elective
- 
- 15

#### Second Semester

- 2 - LANG 4990 Language ePortfolio
  - 3 - MGT 4230 International Management
  - 6 - Advanced Foreign Language Requirement<sup>4</sup>
  - 3 - Advanced Social Science Requirement<sup>3</sup>
- 
- 14
- 122 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>Six credit hours selected from two different areas: ANTH 2010, GEOG 1030, HIST 1720, 1730, 1930, POSC 1020, 1040, PSYC 2010

<sup>3</sup>Select from 3000–4000-level courses in AGRB, ANTH, ECON, GEOG, HIST, POSC, PSYC, SOC

<sup>4</sup>A minimum of nine hours of 3000–4000-level foreign language courses is required. At least one course must be in literature. Advanced grammar is recommended for those exempting 1000–2000 levels. FR 4380 and 4390 and SPAN 4380 and 4390 may not be used to satisfy requirements for the French or Spanish Concentration. Students may not take more than one foreign language course taught in English.

<sup>5</sup>Any 3000- or 4000-level MKT course

<sup>6</sup>Any 3000- or 4000-level AGRB, ECON, MGT or MKT course

<sup>7</sup>CHIN (ANTH) 4180, 4990, FR 3070, 3170, GER 3400, 4050, 4550, JAPN 3070, 3080, (ANTH) 4170, 4990, SPAN 3070, 3080, or 4350

**TOURISM CONCENTRATION****Sophomore Year****First Semester**

- 3 - CHIN 2010 Intermediate Chinese *or*
  - 3 - FR 2010 Intermediate French *or*
  - 3 - GER 2010 Intermediate German *or*
  - 3 - JAPN 2010 Intermediate Japanese *or*
  - 3 - SPAN 2020 Intermediate Spanish
  - 3 - ECON 2110 Principles of Microeconomics
  - 3 - PRTM 3420 Introduction to Tourism
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 15

**Second Semester**

- 3 - CHIN 2020 Intermediate Chinese *or*
  - 3 - FR 2020 Intermediate French *or*
  - 3 - GER 2020 Intermediate German *or*
  - 3 - JAPN 2020 Intermediate Japanese *or*
  - 3 - SPAN 3020 Intermediate Spanish Grammar and Composition *or*
  - 3 - SPAN 3060 Span. Composition for Bus.
  - 3 - MKT 3010 Principles of Marketing
  - 3 - PRTM 3050 Safety and Risk Mgt. in PRTM *or*
  - 3 - PRTM 3430 Spatial Aspects of Tourist Behavior *or*
  - 3 - PRTM 3440 Tourism Markets and Supply
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 15

**Junior Year****First Semester**

- 3 - CHIN 3050 Chinese Conv. and Comp. I *or*
  - 3 - FR 3050 Intermediate French Conversation and Composition I *or*
  - 3 - GER 3050 German Conv. and Comp. *or*
  - 3 - GER 3060 German Short Story *or*
  - 3 - JAPN 3050 Japanese Conv. and Comp. *or*
  - 3 - SPAN 3050 Intermediate Spanish Conversation and Composition I
  - 3 - ENGL 3040 Business Writing
  - 3 - MKT 3020 Consumer Behavior
  - 3 - Advanced PRTM Requirement<sup>3</sup>
  - 3 - Advanced Social Science Requirement<sup>4</sup>
- 15

**Second Semester**

- 3 - CHIN 3160 Chinese for International Trade I *or*
  - 3 - FR 3160 French for International Trade I *or*
  - 3 - GER 3160 German for Int'l Trade I *or*
  - 3 - JAPN 3160 Japanese for Int'l Trade I *or*
  - 3 - SPAN 3160 Spanish for Int'l Trade I
  - 3 - MGT 2010 Principles of Management
  - 3 - Advanced Foreign Language Requirement<sup>5</sup>
  - 3 - Advanced PRTM Requirement<sup>3</sup>
  - 3 - Elective
- 15

**Summer**

- 3 - L&IT 4000 L&IT Internship

**Senior Year****First Semester**

- 3 - CHIN 4160 Chinese for Int'l Trade II *or*
  - 3 - FR 4160 French for International Trade II *or*
  - 3 - GER 4160 German for Int'l Trade II *or*
  - 3 - JAPN 4160 Japanese for Int'l Trade II *or*
  - 3 - SPAN 4160 Spanish for Int'l Trade II
  - 3 - ECON 3100 International Economy *or*
  - 3 - ECON 4120 International Microeconomics
  - 3 - MKT 4270 International Marketing
  - 3 - Advanced PRTM Requirement<sup>3</sup>
  - 3 - Foreign Language Civilization Requirement<sup>6</sup>
- 15

**Second Semester**

- 2 - LANG 4990 Language ePortfolio
  - 3 - MGT 4230 International Management
  - 6 - Advanced Foreign Language Requirement<sup>5</sup>
  - 3 - Advanced Social Science Requirement<sup>4</sup>
- 14

122 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>Six credit hours selected from two different areas: ANTH 2010, GEOG 1030, HIST 1720, 1730, 1930, POSC 1020, 1040, PSYCH 2010

<sup>3</sup>See advisor.

<sup>4</sup>Select from 3000–4000-level courses in AGRB, ANTH, ECON, GEOG, HIST, POSC, PSYC, SOC

<sup>5</sup>A minimum of nine hours of 3000–4000-level foreign language courses is required. At least one course must be in literature. Advanced grammar is recommended for those exempting 1000–2000 levels. FR 4380 and 4390 and SPAN 4380 and 4390 may not be used to satisfy requirements for the French or Spanish Concentration. Students may not take more than one foreign language course taught in English.

<sup>6</sup>CHIN (ANTH) 4180, 4990, FR 3070, 3170, GER 3400, 4050, 4550, JAPN 3070, 3080, (ANTH) 4170, 4990, SPAN 3070, 3080, or 4350

**MODERN LANGUAGES****Bachelor of Arts**

The Bachelor of Arts degree in Modern Languages provides a broadly humanistic course of study in seven areas of concentration: American Sign Language, Chinese, French, German, Italian, Japanese, and Spanish. This course of study seeks to provide students with basic competence in both the relevant language and the literary and cultural heritage pertaining to that language. Moreover, students will be required to take at least two courses in cultural inquiry which are designed to sharpen their sense of cultural difference, to enhance their critical thinking skills, and to prepare them for citizenship in a global community of diverse cultural precepts and practices. In this respect, the Bachelor of Arts in Modern Languages is intended to prepare students for a wide range of careers in the international arena as well as for the kinds of graduate programs that are an appropriate starting point for such careers.

All Modern Languages students are required to study abroad with a Clemson-approved program for at least one semester in the case of Japanese and Spanish or for at least two semesters in the case of French and German.

As a condition of graduation, students in the Modern Languages program will be required to pass a noncredit examination and to submit an electronic portfolio in the relevant language to assess their competence in that language. Students should see their advisor for details. Both assessments take place in the student's last full semester of study.

**AMERICAN SIGN LANGUAGE EMPHASIS AREA****Freshman Year****First Semester**

- 4 - ASL 1010 American Sign Language
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - Mathematics Requirement<sup>1</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 16

**Second Semester**

- 4 - ASL 1020 American Sign Language
  - 3 - Mathematics or Natural Science Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>1</sup>
  - 2 - Elective
- 16

**Sophomore Year****First Semester**

- 3 - ASL 2010 American Sign Language II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Fine Arts Requirement<sup>2</sup>
  - 3 - Minor Requirement
  - 4 - Elective
- 16

**Second Semester**

- 3 - ASL 2020 American Sign Language II
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - History Requirement<sup>2</sup>
  - 3 - Minor Requirement
  - 3 - Elective
- 15

**Junior Year****First Semester**

- 3 - LANG 3030 Study Abroad Transfer<sup>2</sup>
  - 3 - Advanced Language Requirement<sup>2</sup>
  - 3 - Major Requirement<sup>3</sup>
  - 3 - Minor Requirement
  - 3 - Elective
- 15

**Second Semester**

- 3 - Advanced Arts and Humanities Requirement<sup>2</sup>
  - 3 - Major Requirement<sup>3</sup>
  - 3 - Methodology and Theory Requirement<sup>2</sup>
  - 3 - Minor Requirement
  - 3 - Elective
- 15

**Senior Year****First Semester**

- 2 - LANG 4990 Language Portfolio
  - 3 - Major Requirement<sup>3</sup>
  - 3 - Methodology and Theory Requirement<sup>2</sup>
  - 3 - Minor Requirement
  - 4 - Elective
- 15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>2</sup>  
 6 - Major Requirement<sup>3</sup>  
 3 - Methodology and Theory Requirement<sup>2</sup>  
 12

120 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>See advisor.

<sup>3</sup>Three credit hours from ASL 3020 and a minimum of 12 credit hours of ASL 3000-4000-level courses is required.

**CHINESE EMPHASIS AREA****Freshman Year****First Semester**

4 - CHIN 1010 Elementary Chinese  
 3 - ENGL 1030 Accelerated Composition  
 3 - Mathematics Requirement<sup>1</sup>  
 3 - Oral Communication Requirement<sup>1</sup>  
 3 - Social Science Requirement<sup>1</sup>

16

**Second Semester**

4 - CHIN 1020 Elementary Chinese  
 3 - Mathematics or Natural Science Requirement<sup>1</sup>  
 4 - Natural Science Requirement<sup>1</sup>  
 3 - Social Science Requirement<sup>1</sup>

2 - Elective

16

**Sophomore Year****First Semester**

3 - CHIN 2010 Intermediate Chinese  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>  
 3 - Fine Arts Requirement<sup>2</sup>  
 3 - Minor Requirement

4 - Elective

16

**Second Semester**

3 - CHIN 2020 Intermediate Chinese  
 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>  
 3 - History Requirement<sup>2</sup>  
 3 - Minor Requirement

3 - Elective

15

**Junior Year****First Semester**

3 - LANG 3030 Study Abroad Transfer<sup>2</sup>  
 3 - Advanced Language Requirement<sup>2</sup>  
 3 - Major Requirement<sup>3</sup>  
 3 - Minor Requirement

3 - Elective

15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>2</sup>  
 3 - Major Requirement<sup>3</sup>  
 3 - Methodology and Theory Requirement<sup>2</sup>  
 3 - Minor Requirement

3 - Elective

15

**Senior Year****First Semester**

2 - LANG 4990 Language Portfolio  
 3 - Major Requirement<sup>3</sup>  
 3 - Methodology and Theory Requirement<sup>2</sup>  
 3 - Minor Requirement

4 - Elective

15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>2</sup>  
 6 - Major Requirement<sup>3</sup>  
 3 - Methodology and Theory Requirement<sup>2</sup>

12

120 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>See advisor.

<sup>3</sup>Select from CHIN 3000-4000-level courses. At least one course must be in literature. No more than two courses taught in English may be taken.

**FRENCH EMPHASIS AREA****Freshman Year****First Semester**

3 - ENGL 1030 Accelerated Composition  
 4 - FR 1010 Elementary French<sup>1</sup>  
 3 - Mathematics Requirement<sup>2</sup>  
 3 - Oral Communication Requirement<sup>2</sup>  
 3 - Social Science Requirement<sup>2</sup>

16

**Second Semester**

4 - FR 1020 Elementary French<sup>1</sup>  
 3 - Mathematics or Natural Science Requirement<sup>2</sup>  
 4 - Natural Science Requirement<sup>2</sup>  
 3 - Social Science Requirement<sup>2</sup>

2 - Elective

16

**Sophomore Year****First Semester**

3 - FR 2010 Intermediate French  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>  
 3 - Fine Arts Requirement<sup>3</sup>  
 3 - Minor Requirement

4 - Elective

16

**Second Semester**

3 - FR 2020 Intermediate French  
 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>  
 3 - History Requirement<sup>3</sup>  
 3 - Minor Requirement

3 - Elective

15

**Junior Year****First Semester**

3 - FR 3050 Intermediate French Conversation and Composition  
 3 - LANG 3030 Study Abroad Transfer<sup>3</sup>  
 3 - Major Requirement<sup>4</sup>  
 3 - Minor Requirement

3 - Elective

15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>3</sup>  
 3 - Major Requirement<sup>4</sup>  
 3 - Methodology and Theory Requirement<sup>3</sup>  
 3 - Minor Requirement

3 - Elective

15

**Senior Year****First Semester**

2 - LANG 4990 Language Portfolio  
 3 - Major Requirement<sup>4</sup>  
 3 - Methodology and Theory Requirement<sup>3</sup>  
 3 - Minor Requirement

4 - Elective

15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>3</sup>  
 6 - Major Requirement<sup>4</sup>  
 3 - Methodology and Theory Requirement<sup>3</sup>

12

120 Total Semester Hours

<sup>1</sup>Students who have had previous instruction in French may take an accelerated one-semester course that covers the material presented in the standard first-year sequence. They must then take four additional elective credit hours.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>3</sup>See advisor.

<sup>4</sup>Three credit hours from FR 3000 or 3040, three credit hours from FR 3070 or 3170, and a minimum of nine credit hours of FR 3000-4000-level courses is required, of which at least one course must be in literature at the 4000 level. No more than one course taught in English may be taken.

**GERMAN EMPHASIS AREA****Freshman Year****First Semester**

4 - GER 1010 Elementary German<sup>1</sup>  
 3 - ENGL 1030 Accelerated Composition  
 3 - Mathematics Requirement<sup>2</sup>  
 3 - Oral Communication Requirement<sup>2</sup>  
 3 - Social Science Requirement<sup>2</sup>

16

**Second Semester**

4 - GER 1020 Elementary German<sup>1</sup>  
 3 - Mathematics or Natural Science Requirement<sup>2</sup>  
 4 - Natural Science Requirement<sup>2</sup>  
 3 - Social Science Requirement<sup>2</sup>

2 - Elective

16

**Sophomore Year****First Semester**

3 - GER 2010 Intermediate German  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>  
 3 - Fine Arts Requirement<sup>3</sup>  
 3 - Minor Requirement

4 - Elective

16

**Second Semester**

3 - GER 2020 Intermediate German  
 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>  
 3 - History Requirement<sup>3</sup>  
 3 - Minor Requirement

3 - Elective

15



**Junior Year****First Semester**

3 - GER 3050 Ger. Conversation and Comp. or  
3 - GER 3060 German Short Story  
3 - LANG 3030 Study Abroad Transfer<sup>3</sup>  
3 - Major Requirement<sup>4</sup>  
3 - Minor Requirement  
3 - Elective  
15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>3</sup>  
3 - Major Requirement<sup>4</sup>  
3 - Methodology and Theory Requirement<sup>3</sup>  
3 - Minor Requirement  
3 - Elective  
15

**Senior Year****First Semester**

2 - LANG 4990 Language Portfolio  
3 - Major Requirement<sup>4</sup>  
3 - Methodology and Theory Requirement<sup>3</sup>  
3 - Minor Requirement  
4 - Elective  
15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>3</sup>  
6 - Major Requirement<sup>4</sup>  
3 - Methodology and Theory Requirement<sup>3</sup>  
12  
120 Total Semester Hours

<sup>1</sup>Students who have had previous instruction in German may take an accelerated one-semester course that covers the material presented in the standard first-year sequence. They must then take four additional elective credit hours.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>3</sup>See advisor.

<sup>4</sup>A minimum of 15 credit hours of GER 3000-4000-level courses is required, of which at least two courses must be in literature. No more than one course taught in English may be taken.

**ITALIAN EMPHASIS AREA****Freshman Year****First Semester**

3 - ENGL 1030 Accelerated Composition  
4 - ITAL 1010 Elementary Italian  
3 - Mathematics Requirement<sup>1</sup>  
3 - Oral Communication Requirement<sup>1</sup>  
3 - Social Science Requirement<sup>1</sup>  
16

**Second Semester**

4 - ITAL 1020 Elementary Italian  
3 - Mathematics or Natural Science Requirement<sup>1</sup>  
4 - Natural Science Requirement<sup>1</sup>  
3 - Social Science Requirement<sup>1</sup>  
2 - Elective  
16

**Sophomore Year****First Semester**

3 - ITAL 2010 Intermediate Italian  
3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>  
3 - Fine Arts Requirement<sup>2</sup>  
3 - Minor Requirement  
4 - Elective  
16

**Second Semester**

3 - ITAL 2020 Intermediate Italian  
3 - Arts and Humanities (Literature) Requirement<sup>1</sup>  
3 - History Requirement<sup>2</sup>  
3 - Minor Requirement  
3 - Elective  
15

**Junior Year****First Semester**

3 - LANG 3030 Study Abroad Transfer<sup>2</sup>  
3 - Advanced Language Requirement<sup>2</sup>  
3 - Major Requirement<sup>3</sup>  
3 - Minor Requirement  
3 - Elective  
15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>2</sup>  
3 - Major Requirement<sup>3</sup>  
3 - Methodology and Theory Requirement<sup>2</sup>  
3 - Minor Requirement  
3 - Elective  
15

**Senior Year****First Semester**

2 - LANG 4990 Language Portfolio  
3 - Major Requirement<sup>3</sup>  
3 - Methodology and Theory Requirement<sup>2</sup>  
3 - Minor Requirement  
4 - Elective  
15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>2</sup>  
6 - Major Requirement<sup>3</sup>  
3 - Methodology and Theory Requirement<sup>2</sup>  
12  
120 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>See advisor.

<sup>3</sup>Three credit hours from ITAL 3010 or 3020 and a minimum of 12 credit hours of ITAL 3000-4000-level courses is required, of which at least one course must be in literature. No more than one course taught in English may be taken.

**JAPANESE EMPHASIS AREA****Freshman Year****First Semester**

3 - ENGL 1030 Accelerated Composition  
4 - JAPN 1010 Elementary Japanese  
3 - Mathematics Requirement<sup>1</sup>  
3 - Oral Communication Requirement<sup>1</sup>  
3 - Social Science Requirement<sup>1</sup>  
16

**Second Semester**

4 - JAPN 1020 Elementary Japanese  
3 - Mathematics or Natural Science Requirement<sup>1</sup>  
4 - Natural Science Requirement<sup>1</sup>  
3 - Social Science Requirement<sup>1</sup>  
2 - Elective  
16

**Sophomore Year****First Semester**

3 - JAPN 2010 Intermediate Japanese  
3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>  
3 - Fine Arts Requirement<sup>2</sup>  
3 - Minor Requirement  
4 - Elective  
16

**Second Semester**

3 - JAPN 2020 Intermediate Japanese  
3 - Arts and Humanities (Literature) Requirement<sup>1</sup>  
3 - History Requirement<sup>2</sup>  
3 - Minor Requirement  
3 - Elective  
15

**Junior Year****First Semester**

3 - JAPN 3050 Japanese Conversation and Comp.  
3 - LANG 3030 Study Abroad Transfer<sup>2</sup>  
3 - Major Requirement<sup>3</sup>  
3 - Minor Requirement  
3 - Elective  
15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>2</sup>  
3 - Major Requirement<sup>3</sup>  
3 - Methodology and Theory Requirement<sup>2</sup>  
3 - Minor Requirement  
3 - Elective  
15

**Senior Year****First Semester**

2 - LANG 4990 Language Portfolio  
3 - Major Requirement<sup>3</sup>  
3 - Methodology and Theory Requirement<sup>2</sup>  
3 - Minor Requirement  
4 - Elective  
15

**Second Semester**

3 - Advanced Arts and Humanities Requirement<sup>2</sup>  
6 - Major Requirement<sup>3</sup>  
3 - Methodology and Theory Requirement<sup>2</sup>  
12  
120 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>See advisor.

<sup>3</sup>Select from 3000-4000-level courses in Japanese. At least one course must be in literature. No more than two courses taught in English may be taken.

**SPANISH EMPHASIS AREA****Freshman Year****First Semester**

3 - ENGL 1030 Accelerated Composition  
4 - SPAN 1010 Elementary Spanish<sup>1</sup>  
3 - Mathematics Requirement<sup>2</sup>  
3 - Oral Communication Requirement<sup>2</sup>  
3 - Social Science Requirement<sup>2</sup>  
16

**Second Semester**

- 4 - SPAN 1020 Elementary Spanish<sup>1</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>2</sup>
  - 4 - Natural Science Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>2</sup>
  - 2 - Elective
- 
- 16

**Sophomore Year****First Semester**

- 3 - SPAN 2010 Intermediate Spanish
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 3 - Fine Arts Requirement<sup>3</sup>
  - 3 - Minor Requirement
  - 4 - Elective
- 
- 16

**Second Semester**

- 3 - SPAN 2020 Intermediate Spanish
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - History Requirement<sup>3</sup>
  - 3 - Minor Requirement
  - 3 - Elective
- 
- 15

**Junior Year****First Semester**

- 3 - LANG 3030 Study Abroad Transfer<sup>3</sup>
  - 3 - SPAN 3020 Intermediate Spanish Grammar and Composition *or*
  - 3 - SPAN 3050 Intermediate Spanish Conversation and Composition
  - 3 - Major Requirement<sup>4</sup>
  - 3 - Minor Requirement
  - 3 - Elective
- 
- 15

**Second Semester**

- 3 - Advanced Arts and Humanities Requirement<sup>3</sup>
  - 3 - Major Requirement<sup>5</sup>
  - 3 - Methodology and Theory Requirement<sup>3</sup>
  - 3 - Minor Requirement
  - 3 - Elective
- 
- 15

**Senior Year****First Semester**

- 2 - LANG 4990 Language Portfolio
  - 3 - Major Requirement<sup>5</sup>
  - 3 - Methodology and Theory Requirement<sup>3</sup>
  - 3 - Minor Requirement
  - 4 - Elective
- 
- 15

**Second Semester**

- 3 - Advanced Arts and Humanities Requirement<sup>3</sup>
  - 6 - Major Requirement<sup>5</sup>
  - 3 - Methodology and Theory Requirement<sup>3</sup>
- 
- 12

120 Total Semester Hours

<sup>1</sup>Students who have had previous instruction in Spanish may take an accelerated one-semester course that covers the material presented in the standard first-year sequence. They must then take four additional elective credit hours.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>3</sup>See advisor.

<sup>4</sup>Select from 3000- or 4000-level courses in Spanish.

<sup>5</sup>Select from 4000-level courses in Spanish.

**PAN AFRICAN STUDIES****Bachelor of Arts**

The Bachelor of Arts in Pan African Studies combines the interdisciplinary study of the African Diaspora, with an emphasis on the contributions African descendants have made to contemporary Western society. Majors learn to ask critical questions about the social, economic, political, and familial contributions Africans have made to Western society and to identify the connections between Africans in diverse cultures. An interdisciplinary curriculum that combines coursework in African and African American studies is supplemented by numerous practical work experiences and opportunities.

The major provides a strong foundation for students interested in advanced degrees in the humanities or social sciences and for students pursuing careers in law, business, government, non-profit organizations, social work, and work related to improving the lives of economically and socially disadvantaged people locally, nationally, and internationally. Students develop strong oral and written communication skills, gain exposure to different cultures, and learn the skills they need to navigate ethnically diverse environments. The program is designed to work well as a double major for students in the humanities, social sciences, education, engineering and business fields.

The program of study includes the courses stipulated in the curriculum below. The major consists of 33 credits. All students take an 18 credit core of required courses (Group I) that consists of an introductory class, Introduction to Pan African Studies (PAS 3010), and the Atlantic World (PAS 1010); African American History to 1877 (HIST 3110), African American History 1877-Present (HIST 3120); a theories and methods course (students choose from PAS 4000, 4100, or 4710), and a capstone senior seminar (PAS 4980/6980). In addition to this core, students take six credit hours from courses that focus entirely on race and ethnicity (Group II courses); six credit hours from courses that involve a substantial focus on racial issues (Group III courses); and three credit hours in approved race or ethnicity courses from the humanities or social sciences (Group IV).

Group I – PAS 1010; PAS 3010; HIST 3110; HIST 3120; PAS 4000, 4100 or 4710; and a capstone senior seminar (PAS 4980/6980)

Group II – courses focus entirely on cultural and racial issues. Select six credits from GEOG 3300, HIST 3370, 4380

Group III – courses have a substantial focus on racial issues. Select six credits from ENGL 4820, 4830, POSC 3810, SOC 4600

Group IV – Select three credits from any 3000-4000-level course in the humanities or the social sciences approved by the Director of the Pan African Studies Program

Courses must be scheduled in consultation with the appropriate advisors. Pan African Studies advisors provide other affected advisors with a list of approved courses prior to registration.

**Freshman Year****First Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 4 - Foreign Language Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 14

**Second Semester**

- 3 - PAS 1010 Africa and the Atlantic World
  - 3 - PAS 3010 Introduction to Pan African Studies
  - 4 - Foreign Language Requirement<sup>1</sup>
  - 3 - Mathematics and Natural Science Requirement<sup>2</sup>
  - 3 - Oral Communication Requirement<sup>2</sup>
- 
- 16

**Sophomore Year****First Semester**

- 3 - HIST 3120 African American History from 1877-Present
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Mathematics Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 3 - HIST 3110 African American History to 1877
  - 3 - PAS 4000 Studies in Pan African Studies *or*
  - 3 - PAS 4100 Studies in Africana Experience *or*
  - 3 - PAS 4710 Directed Studies on the Black Experience in Education
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Major Requirement (Group II)
- 
- 15

**Junior Year****First Semester**

- 3 - THEA 3170 African American Theatre I
  - 3 - Major Requirement (Group III)
  - 3 - Major Requirement (Group IV)
  - 3 - Minor Requirement
  - 3 - Elective
- 
- 15

**Second Semester**

- 3 - HIST 3380 African History to 1875 *or*
  - 3 - HIST 3390 Modern Africa, 1875 to the Present
  - 3 - Major Requirement (Group II)
  - 6 - Minor Requirement
  - 3 - Elective
- 
- 15

**Senior Year****First Semester**

- 3 - HIST 3380 African History to 1875 *or*
  - 3 - HIST 3390 Modern Africa, 1875 to the Present
  - 3 - Major Requirement (Group III)
  - 3 - Minor Requirement
  - 6 - Elective
- 
- 15

**Second Semester**

- 3 - PAS 4980 Seminar on Pan African Studies
  - 3 - Minor Requirement
  - 9 - Elective
- 
- 15

120 Total Semester Hours

<sup>1</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

## PHILOSOPHY

### Bachelor of Arts

The required course of study in Philosophy consists of the basic curriculum and either the standard Philosophy major or the Philosophy major with a Law, Liberty and Justice Emphasis Area. Philosophy majors must meet the requirements of the School of Humanities plus complete HIST 1720 and 1730 and 12 hours of 3000–4000-level coursework in one of the following areas: humanities (other than philosophy), math, science, or social science. Some courses may meet more than one requirement. All Philosophy majors must take PHIL 3990 in the junior year. Preparation of the portfolio should begin as soon as the major is declared. Specific requirements include the following:

Standard Philosophy Major—PHIL 3150, 3160, 4010 or 4020, and 24 additional credits in PHIL selected with the advice and consent of the advisor. Six of these credits may be at the 1000 level.

Law, Liberty and Justice Emphasis Area—PHIL 1020, 3150, 3160, 3040 or 3200 or 3210, 3430, 4010 or 4020, HIST 3280, 3290, and nine additional credits in philosophy selected with the advice and consent of the pre-law advisor. Three of these credits may be at the 1000 level. Students with this emphasis area are strongly advised to include POSC 4370 and/or 4380 as an elective, minor, or advanced area requirement.

Pre-law and Pre-medicine students majoring in Philosophy should consult the departmental advisor for help in tailoring the program to their needs.

### Freshman Year

#### First Semester

3 - ENGL 1030 Accelerated Composition  
3 - HIST 1720 The West and the World I  
3 - Foreign Language Requirement<sup>1</sup>  
3 - Mathematics Requirement<sup>2</sup>

4 - Natural Science Requirement<sup>2</sup>

16

#### Second Semester

3 - HIST 1730 The West and the World II  
3 - Foreign Language Requirement<sup>1</sup>  
3 - Mathematics or Natural Science Requirement<sup>2</sup>  
3 - Oral Communication Requirement<sup>2</sup>  
3 - Social Science Requirement<sup>2</sup>

15

### Sophomore Year

#### First Semester

3 - Cross-Cultural Awareness Requirement<sup>2</sup>  
3 - Science and Tech. in Society Requirement<sup>2</sup>  
3 - Major Requirement<sup>3</sup>  
3 - Minor Requirement<sup>4</sup>

3 - Elective

15

### Second Semester

3 - Arts and Humanities (Literature) Requirement<sup>2</sup>

6 - Major Requirement<sup>3</sup>

3 - Minor Requirement<sup>4</sup>

3 - Elective

15

### Junior Year

#### First Semester

6 - Advanced Area Requirement<sup>5</sup>

6 - Major Requirement<sup>3</sup>

3 - Minor Requirement<sup>4</sup>

15

#### Second Semester

2 - PHIL 3990 Philosophy Portfolio

9 - Major Requirement<sup>3</sup>

3 - Minor Requirement<sup>4</sup>

3 - Elective

17

### Senior Year

#### First Semester

6 - Advanced Area Requirement<sup>5</sup>

3 - Major Requirement<sup>3</sup>

3 - Minor Requirement<sup>4</sup>

12

#### Second Semester

6 - Major Requirement<sup>3</sup>

9 - Elective

15

120 Total Semester Hours

<sup>1</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>See major requirements in program description above.

<sup>4</sup>See page 81 for approved minors.

<sup>5</sup>Select from 3000–4000-level courses in the humanities (must be from an area other than philosophy), mathematical sciences, science, or the social sciences.

## PRODUCTION STUDIES IN PERFORMING ARTS

### Bachelor of Arts

The Production Studies in Performing Arts degree is a nationally distinctive Bachelor of Arts degree that prepares students for careers in many aspects of the arts, including but not limited to performance, design, arts administration, and arts technologies. The curriculum offers specialized study in music, theatre, and audio technology. In addition to discipline-specific concentrations, all performing arts students take classes in performance, production, history, theory, and arts technology. The Brooks Center for the Performing Arts is a living performing arts laboratory where visiting artists and industry professionals provide additional experiential educational opportunities for Clemson students. Students may choose from more than 70 minors and select elective courses to tailor their degrees to their individual interests.

The degree is rooted in the liberal arts tradition with specific training in the performing arts. It provides the background for a number of career options or advanced studies such as graduate school, professional internships, and specialized postgraduate training.

The curriculum features a senior capstone project in which students spend a semester of their final year working as a production team—writing, composing, designing, marketing, and performing a final project with a strong service component.

To be considered for admission to this program, students must undergo an interview/audition with the Department of Performing Arts. Please note that students will not be eligible for admission to Clemson University in Production Studies in Performing Arts until this interview/audition is completed. Contact the department for specific requirements.

As a requirement for graduation, all Music Concentration students will be required to demonstrate piano competence equivalent to the 1020 level, and all Audio Technology students will be required to demonstrate piano competence equivalent to the 1010 level.

## AUDIO TECHNOLOGY CONCENTRATION

### Freshman Year

#### First Semester

3 - AUD 1850 Introduction to Audio Technology

4 - MATH 1020 Precalculus and Introduction to Mathematical Analysis<sup>1</sup>

1 - MUSC 1010 Beginning Class Piano<sup>2</sup>

3 - PA 1010 Introduction to Performing Arts

1 - PA 1030 Portfolio I

3 - PHYS 2070 General Physics I *and*

1 - PHYS 2090 General Physics I Laboratory *or*

3 - PHYS 1220 Physics with Calculus I *and*

1 - PHYS 1240 Physics Laboratory I

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#### Second Semester

3 - AUD 2850 Acoustics of Music

3 - ENGL 1030 Accelerated Composition

3 - PHYS 2080 General Physics II *and*

1 - PHYS 2100 General Physics II Laboratory *or*

3 - PHYS 2210 Physics with Calculus II *and*

1 - PHYS 2230 Physics Laboratory II

3 - Foreign Language Requirement<sup>3</sup>

3 - Elective

16

### Sophomore Year

#### First Semester

3 - AUD 2800 Sound Reinforcement

3 - AUD 3800 Audio Engineering I

3 - MUSC 1420 Music Theory I<sup>4</sup>

1 - MUSC 1430 Aural Skills I<sup>4</sup>

3 - PA 2010 Career Planning and Professional Development

3 - Foreign Language Requirement<sup>3</sup>

16

#### Second Semester

3 - AUD 3850 Adv. Live Sound Reinforcement *or*

3 - AUD 3860 Electr. Comp. and Sound Design

3 - MUSC 2100 Music Appreciation: Music in the Western World

1 - PA 2790 Performing Arts Practicum I

3 - Social Science Requirement<sup>5</sup>

4 - Elective

14

**Junior Year****First Semester**

- 3 - AUD 2790 Audio Practicum
  - 1 - PA 2800 Performing Arts Practicum II
  - 3 - PA 3010 Principles of Arts Administration
  - 3 - Minor Requirement
  - 3 - Music History Requirement<sup>6</sup>
  - 3 - Social Science Requirement<sup>5</sup>
- 
- 16

**Second Semester**

- 3 - AUD 4800 Audio Engineering II
  - 3 - COMM 2500 Public Speaking
  - 3 - MUSC 3180 History of Audio Technology
  - 3 - Arts and Humanities (Literature) Requirement<sup>5</sup>
  - 3 - Minor Requirement
- 
- 15

**Senior Year****First Semester**

- 3 - AUD 4850 Production Workshop
  - 4 - PA 4010 Capstone Project
  - 1 - PA 4030 Portfolio II
  - 3 - Minor Requirement
  - 3 - Music History Requirement<sup>6</sup>
- 
- 14

**Second Semester**

- 3 - PA 3990 Internship
  - 6 - Minor Requirement
  - 3 - Music Requirement<sup>7</sup>
  - 3 - Elective
- 
- 15

122 Total Semester Hours

<sup>1</sup>MATH 1060 or 1070 may be substituted.

<sup>2</sup>Audio Technology students may demonstrate piano competence at the MUSC 1010 level with a competency test and not have to take the class. Students will still be responsible for this hour of credit by substituting another class.

<sup>3</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>4</sup>Students minoring in music must also take MUSC 1440/1450.

<sup>5</sup>See General Education Requirements.

<sup>6</sup>Must be chosen from MUSC 3080, 3090, 3110, 3120, 3130, 3140, 3170, 4150, or 4160.

<sup>7</sup>Select any 3000- or 4000-level MUSC course.

Note: Audio Concentration majors must earn a C or better in all required AUD, MUSC and PHYS courses, including those satisfying the music requirement and music history requirement.

**MUSIC CONCENTRATION****Freshman Year****First Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 1 - MUSC 1010 Beginning Class Piano
  - 3 - MUSC 1420 Music Theory I
  - 1 - MUSC 1430 Aural Skills I
  - 1 - MUSC 1530 Applied Music for Majors<sup>1</sup>
  - 3 - PA 1010 Introduction to Performing Arts
  - 1 - PA 1030 Portfolio I
  - 3 - Foreign Language Requirement<sup>2</sup>
  - 1 - Large Ensemble Requirement<sup>3</sup>
- 
- 17

**Second Semester**

- 1 - MUSC 1020 Intermediate Class Piano
  - 3 - MUSC 1440 Music Theory II
  - 1 - MUSC 1450 Aural Skills II
  - 1 - MUSC 1540 Applied Music for Majors<sup>1</sup>
  - 3 - THEA 2100 Theatre Appreciation (Humanities Non-Lit Requirement)
  - 3 - Foreign Language Requirement<sup>2</sup>
  - 1 - Large Ensemble Requirement<sup>3</sup>
  - 3 - Mathematics Requirement<sup>4</sup>
- 
- 16

**Sophomore Year****First Semester**

- 3 - MUSC 2420 Music Theory III
  - 1 - MUSC 2430 Aural Skills III
  - 1 - MUSC 2530 Applied Music for Majors<sup>1</sup>
  - 3 - PA 2010 Career Planning and Professional Dev.
  - 1 - PA 2790 Performing Arts Practicum I
  - 1 - Large Ensemble Requirement<sup>3</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>4</sup>
  - 3 - Social Science Requirement<sup>4</sup>
- 
- 16

**Second Semester**

- 1 - MUSC 2540 Applied Music for Majors<sup>1</sup>
  - 1 - PA 2800 Performing Arts Practicum II
  - 3 - Arts and Humanities (Literature) Requirement<sup>4</sup>
  - 1 - Large Ensemble Requirement<sup>3</sup>
  - 3 - Music History Requirement<sup>5</sup>
  - 4 - Natural Science Requirement<sup>4</sup>
  - 3 - Social Science Requirement<sup>4</sup>
- 
- 16

**Junior Year****First Semester**

- 3 - COMM 2500 Public Speaking
  - 1 - MUSC 3530 Applied Music for Majors<sup>1</sup>
  - 3 - MUSC 4150 Music History to 1750
  - 3 - PA 3010 Principles of Arts Administration
  - 3 - Minor Requirement
  - 2 - Elective
- 
- 15

**Second Semester**

- 3 - MUSC 1800 Introduction to Music Technology
  - 1 - MUSC 3540 Applied Music for Majors<sup>1</sup>
  - 3 - MUSC 4160 Music History Since 1750
  - 3 - MUSC 4300 Conducting
  - 3 - Minor Requirement
  - 2 - Elective
- 
- 15

**Senior Year****First Semester**

- 4 - PA 4010 Capstone Project
  - 1 - PA 4030 Portfolio II
  - 3 - Minor Requirement
  - 3 - Music History Requirement<sup>5</sup>
  - 3 - Elective
- 
- 14

**Second Semester**

- 6 - Minor Requirement
  - 6 - Elective
- 
- 12

121 Total Semester Hours

<sup>1</sup>All four credits of Applied Music must be taken on the student's primary instrument.

<sup>2</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>3</sup>Select from MUSC 3610, 3620, 3630, 3640, 3690, 3700, 3710, 3720 only. No more than two credits of MUSC 3610 and/or 3640 will count toward ensemble requirement. All four credits of Large Ensemble must be taken on the student's primary instrument. Keyboard students must take a minimum of one hour each of MUSC 3230, applied organ, and applied carillon for three of the four required ensemble credits.

<sup>4</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>5</sup>MUSC 3080, 3090, 3110, 3120, 3130, 3140, 3170, or 3180

Note: As a requirement for graduation, Music Concentration students will be required to demonstrate piano competence at the 1020 level.

**THEATRE CONCENTRATION****Freshman Year****First Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 3 - MUSC 2100 Music Appreciation
  - 3 - PA 1010 Introduction to Performing Arts
  - 1 - PA 1030 Portfolio I
  - 1 - PA 2790 Performing Arts Practicum I
  - 3 - THEA 2780 Acting I
  - 3 - Foreign Language Requirement<sup>1</sup>
- 
- 17

**Second Semester**

- 1 - PA 2800 Performing Arts Practicum II
  - 3 - THEA 2770 Production Studies in Theatre or 3 - THEA 3770 Stagecraft
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Mathematics Requirement<sup>1</sup>
  - 4 - Elective
- 
- 14

**Sophomore Year****First Semester**

- 3 - PA 2010 Career Planning and Professional Development
  - 3 - THEA 3150 Theatre History I
  - 3 - THEA (ENGL) 3470 The Structure of Drama
  - 3 - Mathematics or Natural Science Requirement<sup>2</sup>
  - 3 - Elective
- 
- 15

**Second Semester**

- 1 - THEA 2790 Theatre Practicum
  - 3 - THEA 3160 Theatre History II
  - 4 - Natural Science Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>2</sup>
  - 4 - Elective
- 
- 15

**Junior Year****First Semester**

- 3 - PA 3010 Principles of Arts Administration
  - 3 - THEA 3170 African American Theatre I or 3 - THEA 3180 African American Theatre II
  - 3 - THEA 3760 Stage Directing I
  - 3 - Minor Requirement
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 3 - Advanced Theatre Requirement<sup>3</sup>
- 3 - Dramatic Literature Requirement<sup>4</sup>
- 3 - Minor Requirement
- 6 - Elective

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- 15

**Senior Year****First Semester**

- 3 - COMM 2500 Public Speaking
- 4 - PA 4010 Capstone Project
- 1 - PA 4030 Portfolio II
- 1 - THEA 2790 Theatre Practicum
- 3 - Minor Requirement
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>

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- 15

**Second Semester**

- 1 - THEA 2790 Theatre Practicum
- 6 - Advanced Theatre Requirement<sup>3</sup>
- 6 - Minor Requirement
- 2 - Elective

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- 15

121 Total Semester Hours

<sup>1</sup>Students are expected to complete the first year of language in high school or in a Clemson summer session before the first semester of the freshman year, except for Chinese or Japanese.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirements.

<sup>3</sup>Select from 3000- or 4000-level courses in THEA. At least three hours must be at the 4000 level.

<sup>4</sup>Must be chosen from ENGL (THEA) 4290, THEA (ENGL) 4300, ENGL 4100 or 4110.

**RELIGIOUS STUDIES****Bachelor of Arts**

The Religious Studies major is an interdisciplinary humanities program that focuses on the academic study of the world's religious traditions and how they are related to various aspects of human existence (psychology, sociology, ethics, philosophy, language, economics, politics, science, etc.) The BA in Religious Studies provides grounding in the histories, scriptures, rituals, mythologies, ethics, and beliefs of religious communities as they have been situated in specific geo-political contexts throughout the past three millennia. It should be emphasized that the program is not intended to indoctrinate students into one particular religion or to teach them to become religious, but is focused rather on studying how religion both historically and theoretically motivates, provides meaning for, and helps to organize human life. The program trains students to be global thinkers with a deeper understanding of the world's cultural, political, and social differences. Historically, Religious Studies majors have gone on to pursue graduate work and employment in a number of fields, including law, medicine, ministry, non-profit and service related industries, in addition to numerous others.

In addition to completing the General Education curriculum, the Religious Studies major must meet the requirements of the School of Humanities; complete HIST 1720 and 1730; and complete six hours of 3000-4000 level coursework in Philosophy. Students are encouraged to substitute a double-major for their minor and should speak with their advisor early during their academic tenure at Clemson to ensure that both majors are completed within four years.

All majors must take REL 1020, 3000, 3990, and 4900. They must also take one course each in Judaism (REL 3010 or 3060), Christianity (REL 3020 or 3070), and Islam (REL 3030 or 3150), as well as 12 additional credits in Religious Studies at the 3000-4000 level. Students may also take ENGL 4140, HIST 3960, 4720, PHIL 3030, POSC 4070, and SOC 4320 for this last requirement. PHIL 3030 may only be used to satisfy one major requirement.

**Freshman Year****First Semester**

- 3 - ENGL 1030 Accelerated Composition
- 3 - HIST 1720 The West and the World I
- 3 - Foreign Language Requirement<sup>1</sup>
- 3 - Mathematics Requirement<sup>2</sup>
- 4 - Natural Science Requirement<sup>2</sup>

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**Second Semester**

- 3 - HIST 1730 The West and the World II
- 3 - REL 1020 World Religions
- 3 - Foreign Language Requirement<sup>1</sup>
- 3 - Mathematics or Natural Science Requirement<sup>2</sup>
- 3 - Oral Communication Requirement<sup>2</sup>

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**Sophomore Year****First Semester**

- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 6 - Major Requirement<sup>3</sup>
- 3 - Science and Technology in Society Requirement<sup>2</sup>
- 3 - Social Science Requirement<sup>2</sup>

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- 15

**Second Semester**

- 3 - REL 3000 Studying Religion
- 3 - Major Requirement<sup>3</sup>
- 3 - Minor Requirement<sup>4</sup>
- 3 - Philosophy Requirement<sup>5</sup>
- 3 - Elective

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- 15

**Junior Year****First Semester**

- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 6 - Major Requirement<sup>3</sup>
- 3 - Minor Requirement<sup>4</sup>
- 3 - Elective

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- 15

**Second Semester**

- 3 - REL 3990 Junior Research Colloquium
- 3 - Cross-Cultural Awareness Requirement<sup>2</sup>
- 3 - Major Requirement<sup>3</sup>
- 3 - Minor Requirement<sup>4</sup>
- 3 - Elective

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**Senior Year****First Semester**

- 3 - REL 4900 Senior Seminar
- 3 - Major Requirement<sup>3</sup>
- 3 - Minor Requirement<sup>4</sup>
- 6 - Elective

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- 15

**Second Semester**

- 3 - Minor Requirement<sup>4</sup>
- 3 - Philosophy Requirement<sup>5</sup>
- 9 - Elective

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- 15

121 Total Semester Hours

<sup>1</sup>The Foreign Language Requirement for the School of Humanities is proficiency requirement. Students must complete through 2020 in Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian or Spanish.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>See major requirements in program description above.

<sup>4</sup>See the CAAH list of approved minors. Students who want to minor in philosophy must complete the requisite coursework above and beyond the two required philosophy courses for the major. Students who want to double major in philosophy, on the other hand, may count these hours towards a double major.

<sup>5</sup>Any 3000- or 4000-level PHIL course.

**SPORTS COMMUNICATION****Bachelor of Arts**

The Bachelor of Arts in Sports Communication provides a thoroughly integrated yet individualized degree program that prepares students for communication careers in the sports industry. In addition, the program provides a foundation for graduates who wish to pursue advanced degrees in sports communication. Through their coursework and extracurricular experiences, Sports Communication majors develop a set of skills in oral, written, and visual communication that enables them to research, design, present, and evaluate messages across diverse contexts and from a variety of platforms, including social media and digital communication technology.

Students may change majors into the Sports Communication program based on approval of a committee of faculty from the Department of Communication Studies. The deadline for applying for a change of major during the fall semester is September 15, with decisions made by October 1. For spring semester changes of major, the deadline is February 15, with decisions made by March 1. Acceptance to the major is competitive and applicants should have completed 15 credit hours, including ENGL 1030 and COMM 2010 (with a B or better). All students requesting a transfer into the Sports Communication major must have a grade-point average of 3.0 or higher. An application form and a writing sample are also required. Detailed information is available from the Communication Studies Department, 408 Strode Tower, or on the departmental website: [www.clemson.edu/caah/communication](http://www.clemson.edu/caah/communication).

**Freshman Year****First Semester**

- 1 - COMM 1010 Communication Academic and Professional Development I
- 3 - ENGL 1030 Accelerated Composition
- 4 - Foreign Language Requirement<sup>1</sup>
- 3 - Mathematics Requirement<sup>2</sup>
- 3 - Social Science Requirement<sup>3</sup>

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**Second Semester**

- 4 - COMM 2010 Intro. to Communication Studies
  - 3 - COMM 2500 Public Speaking
  - 4 - Foreign Language Requirement<sup>1</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>3</sup>
  - 3 - Elective
- 
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**Sophomore Year****First Semester**

- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
  - 3 - Emphasis Area Requirement<sup>4</sup>
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>3</sup>
  - 3 - Social Science Requirement<sup>3</sup>
- 
- 16

**Second Semester**

- 3 - COMM 3010 Communication Theory *or*
  - 3 - COMM 3020 Mass Comm. Theory *or*
  - 3 - COMM 3150 Critical Discourse Theory
  - 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 6 - Elective
- 
- 15

**Junior Year****First Semester**

- 3 - COMM 3240 Sport, Communication, and Society
  - 3 - Emphasis Area Requirement<sup>4</sup>
  - 6 - Minor Requirement
  - 3 - Elective
- 
- 15

**Second Semester**

- 3 - COMM 3060 Discourse, Criticism and Soc. *or*
  - 3 - COMM 3100 Quantitative Research Methods in Communication Studies *or*
  - 3 - COMM 3110 Qualitative Research Methods in Communication Studies
  - 3 - COMM 3250 Survey of Sports Communication
  - 3 - Minor Requirement
  - 3 - Emphasis Area Requirement<sup>4</sup>
  - 3 - Elective
- 
- 15

**Senior Year****First Semester**

- 3 - COMM 4250 Advanced Sports Communication
  - 3 - Emphasis Area Requirement<sup>4</sup>
  - 3 - Minor Requirement
  - 6 - Elective
- 
- 15

**Second Semester**

- 3 - COMM 4950 Senior Capstone Seminar
  - 1 - COMM 4980 Communication Academic and Professional Development II
  - 3 - Minor Requirement
  - 6 - Elective
- 
- 13

120 Total Semester Hours

<sup>1</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>2</sup>STAT 2220 or 2300

<sup>3</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness Requirement and, if STAT 2220 is not selected, the Science and Technology in Society Requirement.

<sup>4</sup>See advisor. Emphasis area consists of 12 credit hours at the 3000-4000 level that fit an approved theme. Nine credit hours must be sports communication courses.

**VISUAL ARTS****Bachelor of Fine Arts**

The Bachelor of Fine Arts degree is the recognized professional undergraduate degree in the visual arts. The program offers students a balanced curriculum of academic coursework, studio art and art history courses in preparation for careers in studio related areas of the visual arts. The department offers coursework in a number of studio disciplines, including ceramics, drawing, painting, printmaking, photography, sculpture and the new media arts.

First-year art students participate in a foundations program comprised of four studio classes. These classes expose first-year art students to 2-D, 3-D, and 4-D studio practices; utilize traditional and new media; and place special emphasis on drawing. Near the end of the freshmen year, students exhibit their work in a mandatory Foundations Review.

In the sophomore year, students take studio courses in six disciplines, which provides an overview of the studio arts and exposes students to a broad range of studio experiences. Upon completion of this core of courses, students identify one studio discipline as their emphasis area in the Bachelor of Fine Arts program.

In the junior year, students fulfill requirements in their emphasis area in preparation for the Senior Studio experience. Requirements include intermediate and advanced courses in their chosen studio discipline.

The Senior Studio experience is comprised of three courses and provides students an opportunity to focus on and refine their personal art concepts and skills, produce a cohesive body of artworks for their BFA exhibition, and develop their portfolio for graduate study or a career in studio-related art professions.

**Freshman Year****First Semester**

- 3 - AAH 1010 Survey of Art and Arch. History I
  - 3 - ART 1050 Foundation Drawing I
  - 3 - ART 1510 Foundations in Visual Art I
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - Mathematics Requirement<sup>1</sup>
- 
- 15

**Second Semester**

- 3 - AAH 1020 Survey of Art and Arch. History II
  - 3 - ART 1060 Foundation Drawing II
  - 3 - ART 1520 Foundations in Visual Art II
  - 3 - ART 2210 Beginning New Media
  - 4 - Natural Science Requirement<sup>1</sup>
- 
- 16

**Sophomore Year****First Semester**

- 3 - AAH 2050 History and Theory of Art I
  - 9 - Art 2000 Requirement<sup>2</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>1</sup>
- 
- 15

**Second Semester**

- 3 - AAH 2060 History and Theory of Art II
  - 9 - Art 2000 Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 
- 15

**Junior Year****First Semester**

- 3 - AAH 3050 Contemporary Art History
  - 3 - Art 3000 Emphasis Area Requirement<sup>3</sup>
  - 3 - Art 3000/4000 Requirement<sup>4</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 
- 15

**Second Semester**

- 3 - Art 4000 Emphasis Area Requirement<sup>3</sup>
  - 3 - Art 3000/4000 Requirement<sup>4</sup>
  - 3 - Studio Requirement<sup>5</sup>
  - 3 - Social Science Requirement<sup>1</sup>
  - 3 - Elective
- 
- 15

**Senior Year****First Semester**

- 3 - ART 4710 BFA Senior Studio I
  - 3 - ART 4730 Sr. Sem. in Professional Career Prep.
  - 3 - Art 3000/4000 Requirement<sup>4</sup>
  - 3 - Studio Requirement<sup>5</sup>
  - 3 - Elective
- 
- 15

**Second Semester**

- 4 - ART 4720 BFA Senior Studio II
  - 1 - ART 4750 Senior Exhibition Internship
  - 3 - Art 3000/4000 Requirement<sup>4</sup>
  - 6 - Elective
- 
- 14

120 Total Semester Hours

<sup>1</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>Select from ART 2050, 2070, 2090, 2110, 2130 and 2170

<sup>3</sup>Select an emphasis area from one of the studio disciplines included in the required core courses.

<sup>4</sup>Any 3000-4000-level ART course

<sup>5</sup>Any ART course or other course approved by advisor

**WOMEN'S LEADERSHIP****Bachelor of Arts**

The Bachelor of Arts in Women's Leadership combines the interdisciplinary study of women's experience and representation with an emphasis on the key principles and practice of leadership. Students learn to ask critical questions about women's lives in social, economic, political, and familial contexts, and to see connections in women's lives across diverse cultures. This interdisciplinary curriculum combines coursework in women's studies and leadership studies and is supplemented by a semester-long internship that provides students with practical work experience and opportunities to test leadership skills and strategies.

The major provides a solid foundation for students interested in advanced degrees in the humanities or social sciences, and for students pursuing careers in law, business, government, non-profit organizations, and work related to improving the lives of women locally, nationally, and internationally. Students

develop strong oral and written communication skills, gain exposure to different leadership styles and paths to leadership, and learn the competitive skills they need to lead ethically in a rapidly changing global environment. The program is designed to work well as a double-major for students in the humanities, social sciences, and business fields.

The major consists of 33 credits and the program of study includes the courses stipulated in the curriculum map below. All students take a 12-credit core of required courses (Group I), which consists of an introductory women's studies course (WS 1030 or 3010); a women and leadership course (WS 2300); a theories and methods course (WS 3490, 4230, 4360, or 4590); and a capstone senior seminar (WS 4010). In addition to this core, students select six credit hours from courses that focus entirely on women or gender (Group II); six credit hours from courses that involve a substantial focus on women and gender issues (Group III); and six credit hours from approved leadership courses (Group IV). In addition, students complete a three-credit internship. While program faculty and staff help with internship placement, it is each student's responsibility to identify and secure an internship in line with her or his career goals.

#### Group I—Core Courses (12 hours)

- WS 1030 or 3010 (students may count only one of these toward the major)
- WS 2300 (required of all majors)
- One of WS 3490, 4230, 4360, or 4590 (students who take more than one of these may apply the others toward the Group II distribution requirement)
- WS 4010

#### Group II—Courses that focus entirely on women or gender issues (six hours).

Select from ANTH 4230 COMM 4550, ENGL 3800, ENGL 4360, FR 4990, HIST 3180, 3190, 3530, HLTH 3100, PHIL 3490, POSC 4800, PRTM 3250, PSYC 3080, 4990, SOC 4610, SPAN 4030, THEA 3170, 3180, WS 3490, 4230, 4360, 4590, 4900, 4950. Special topics courses in various departments may qualify as Group II courses. Students should consult an advisor.

#### Group III—Courses with a substantial focus on women or gender issues (six hours).

Select from AAH 3050, COMM 3060, 3070, 3150, 4800, ENGL 3530, 4320, 4560, FR 4100, HIST 3160, 3520, PHIL 3280, PSYC 3060, 4620, SOC 3100, 3110, 4600, 4840. Special topics courses in various departments may qualify as Group III courses. Students should consult an advisor.

#### Group IV—Approved leadership courses (six hours).

Select from HEHD 4000, 4100, 4200, ED 1900, ELE 3010, ML 1010, NPL 3000, POSC 4580.

### Freshman Year

#### First Semester

- 3 - ENGL 1030 Accelerated Composition
- 4 - Foreign Language Requirement<sup>1</sup>
- 4 - Natural Science Requirement<sup>2</sup>
- 3 - Social Science Requirement<sup>2</sup>

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### Second Semester

- 3 - WS 1030 Women in Global Perspective *or*
  - 3 - WS 3010 Introduction to Women's Studies
  - 3 - Oral Communication Requirement<sup>2</sup>
  - 4 - Foreign Language Requirement<sup>1</sup>
  - 3 - Mathematics and Natural Science Requirement<sup>2</sup>
  - 3 - Elective
- 16

### Sophomore Year

#### First Semester

- 3 - Theory Requirement<sup>3</sup>
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Mathematics Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 15

#### Second Semester

- 3 - WS 2300 Women and Leadership
  - 3 - Distribution Requirement (Group II)
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Elective
- 15

### Junior Year

#### First Semester

- 3 - Leadership Requirement (Group IV)
  - 3 - Distribution Requirement (Group III)
  - 3 - Minor Requirement
  - 3 - Cross Cultural Awareness Requirement<sup>2</sup>
  - 3 - Elective
- 15

#### Second Semester

- 3 - Leadership Requirement (Group IV)
  - 3 - Distribution Requirement (Group II)
  - 6 - Minor Requirement
  - 3 - Elective
- 15

### Senior Year

#### First Semester

- 3 - WS 3900 Women's Studies Internship
  - 3 - Distribution Requirement (Group III)
  - 3 - Minor Requirement
  - 3 - Science & Tech. in Society Requirement<sup>2</sup>
  - 3 - Elective
- 15

#### Second Semester

- 3 - WS 4010 Senior Seminar
  - 3 - Minor Requirement
  - 9 - Elective
- 15

120 Total Semester Hours

<sup>1</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian, or Spanish.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>Select from WS 3490, 4230, 4360, or 4590.

## WORLD CINEMA

### Bachelor of Arts

As an interdisciplinary program, the Bachelor of Arts in World Cinema allows students to study cinema, along with related media, within a broad approach, incorporating fields such as art, history, philosophy, theatre, languages, communications, literary and film studies. The major prepares students to analyze cinema as a venue of global exchange where art, communication and information move across borders. The curriculum offers students access to audio-visual literacy with an international perspective. Students engage in a summer study-abroad program or an internship to gain exposure to diverse cinematic traditions and specific film-related practices.

In the World Cinema major, students acquire skills in visual analysis, project planning and presentation, and creative video/digital practice, and gain awareness of the cultural, economic and historical forces that impact the course of cinematic production, distribution and exhibition. The major is designed to initiate theoretical and practical training for students who want to pursue advanced degrees in arts and humanities or enter careers in teaching, journalism, filmmaking, digital media, audio-visual archives and libraries, tourism, advertising, film criticism, industrial video documentation, and community outreach.

The program of study consists of 39 credits. All students take a 15-credit core of required courses that consists of an introduction to world cinema (LANG 2540); an upper-division introductory course to film studies (ENGL 3570); a film theory and criticism course (ENGL 4510); a capstone seminar (WCIN 4960); and three credit hours of an internship or study abroad experience (WCIN 4990 or WCIN 4040). In addition, to students take nine credit hours of the Critical Approaches to Film and Media Requirement (Group I), nine credit hours of the Film in International Context Requirement (Group II); and six credit hours of the Creative Approaches Requirement (Group III).

**Group I – Critical Approaches to Film and Media Requirement** (nine hours): COMM 4000, COMM 4020, COMM 4040, ENGL 4500, ENGL 4520, ENGL 4530, ENGL 4420, ENGL 4430, HIST 4200, LANG 4620, PHIL 4750, THEA 3150. Special topics courses in various departments may be substituted for Group I courses. Students should check the program website for a complete list of Group I courses in a given semester.

**Group II – Film in International Context Requirement** (nine hours): ENGL (LANG) 4540, FR 4120, GER 4550, ITAL 4000, ITAL 4450, LANG 4600, SPAN 4070, WCIN 4550, WCIN 4570, WCIN 4580, WCIN 4620. Special topics courses in various departments may be substituted for Group II courses. Students should check the program website for a complete list of Group II courses in a given semester.

**Group III – Creative Approaches Requirement** (six hours): ART 1030, ART 2130, DPA 3070, DPA 4000, DPA 4020, ENGL 3480, ENGL 4480, THEA 2100, THEA 2790, WCIN 4760. Special topics courses in various departments may be substituted for Group III courses. Students should check the program website for a complete list of Group III courses in a given semester.

**Freshman Year****First Semester**

3 - ENGL 1030 Accelerated Composition  
 3 - LANG 2540 Introduction to World Cinemas  
 3 - Cross-Cultural Awareness Requirement<sup>1</sup>  
 4 - Foreign Language Requirement<sup>2</sup>  
 3 - Mathematics Requirement<sup>3</sup>  
 16

**Second Semester**

3 - Arts and Humanities (Literature) Requirement<sup>4</sup>  
 4 - Foreign Language Requirement<sup>2</sup>  
 4 - Natural Science with Lab Requirement<sup>3</sup>  
 3 - Social Science Requirement<sup>3</sup>  
 14

**Sophomore Year****First Semester**

3 - COMM 1500 Intro. to Human Comm. *or*  
     3 - COMM 2500 Public Speaking *or*  
     3 - HON 2230 Studies in Communications  
 3 - ENGL 3570 Film  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>5</sup>  
 3 - Foreign Language Requirement<sup>2</sup>  
 3 - Mathematics or Natural Science Requirement<sup>3</sup>  
 15

**Second Semester**

3 - ENGL (COMM) 4510 Film Theory and  
 Criticism  
 3 - Foreign Language Requirement<sup>2</sup>  
 3 - Major Requirement<sup>6</sup>  
 3 - Minor Requirement  
 3 - Science and Tech. in Society Requirement<sup>3</sup>  
 15

**Junior Year****First Semester**

3 - WCIN 4990 World Cinema Practicum *or*  
     3 - WCIN 4040 Study Abroad Transfer  
 6 - Major Requirement<sup>6</sup>  
 3 - Minor Requirement  
 3 - Elective  
 15

**Second Semester**

6 - Major Requirement<sup>6</sup>  
 3 - Minor Requirement  
 3 - Social Science Requirement<sup>3</sup>  
 3 - Elective  
 15

**Senior Year****First Semester**

6 - Major Requirement<sup>6</sup>  
 3 - Minor Requirement  
 6 - Elective  
 15

**Second Semester**

3 - WCIN 4960 Capstone Seminar  
 3 - Major Requirement<sup>6</sup>  
 3 - Minor Requirement  
 6 - Elective  
 15

120 Total Semester Hours

<sup>1</sup>Select from ANTH 2010, GEOG 1030, HIST 1730, 1930.

<sup>2</sup>The foreign language requirement is a proficiency requirement. Students must complete through 2020 in American Sign Language, Arabic, Chinese, French, German, Italian, Japanese, Latin, Portuguese, Russian or Spanish.

<sup>3</sup>See General Education Requirements.

<sup>4</sup>Select from ENGL 2020, 2120, 2130, 2140, 2150.

<sup>5</sup>Any General Education Arts and Humanities (Non-Lit.) course except ENGL 3570, ENGL (LANG) 4540, THEA 2100, 2790.

<sup>6</sup>See course lists in Groups I, II and III.



## MINORS

Following are minors acceptable for students in the College of Architecture, Arts and Humanities. Students cannot major and minor in the same field or acquire a minor that is not allowed by the degree program.

Accounting	Human Resource Management
Adult/Extension Education	Legal Studies
Aerospace Studies	Management
Agricultural Business Management	Management Information Systems
Agricultural Mechanization and Business	Mathematical Sciences
American Sign Language Studies	Microbiology
Animal and Veterinary Sciences	Military Leadership
Anthropology	Modern Languages— <i>not open to Language and International Trade majors</i>
Architecture	Music
Art	Natural Resource Economics
Athletic Leadership	Nonprofit Leadership
Biochemistry	Nuclear Engineering and Radiological Sciences
Biological Sciences	Packaging Science
British and Irish Studies	Pan African Studies
Business Administration	Park and Protected Area Management
Chemistry	Philosophy
Cluster	Physics
Communication Studies	Plant Pathology
Computer Science	Political Science
Crop and Soil Environmental Science	Precision Agriculture
Digital Production Arts	Psychology
East Asian Studies	Public Policy
Economics	Recreational Therapy
Education	Religion— <i>not open to Religious Studies majors</i>
English	Russian Area Studies
Entomology	Science and Technology in Society
Entrepreneurship	Screenwriting
Environmental Science and Policy	Sociology
Equine Industry	Spanish-American Area Studies
Film Studies	Sustainability
Financial Management	Theatre
Food Science	Travel and Tourism
Forest Products	Turfgrass
Forest Resource Management	Urban Forestry
Gender, Sexuality and Women's Studies	Wildlife and Fisheries Biology
Genetics	Women's Leadership
Geography	Writing
Geology	
Global Politics	See pages 40-43 for details.
Great Works	
History	
Horticulture	

# COLLEGE OF BUSINESS AND BEHAVIORAL SCIENCE

Students in the College of Business and Behavioral Science seek to understand and organize human behavior in a business, economic, and social context. The College promotes scholarship with broad awareness of the individual, cultural, political, and global levels and develops distinctive leaders in industry, higher education, professional and public service. The College includes the School of Accountancy and Finance, and the Departments of Aerospace Studies, Economics, Graphic Communications, Management, Marketing, Military Leadership, Political Science, Psychology, and Sociology and Anthropology.

All College of Business and Behavioral Science majors, and other non-majors taking 3000- and 4000-level courses offered by the College, are required to pay a major and course fee to fund significant infrastructure and program enhancements. Additional information about this fee and the benefits derived from it is available at [www.clemson.edu/cbbs/academics/fees](http://www.clemson.edu/cbbs/academics/fees).

## BUSINESS AND PROFESSIONAL PROGRAMS

Bachelor of Science degrees are offered in Accounting, Economics, Financial Management, Graphic Communications, Management, and Marketing. With the exception of Graphic Communications, these programs share a common curriculum during the first year, allowing the student maximum flexibility in choosing an appropriate major. The Business programs in Accounting, Financial Management, Management, and Marketing are accredited by AACSB International (Association to Advance Collegiate Schools of Business). The Accounting program has earned additional accounting accreditation by AACSB International. All business and professional curricula prepare students for a variety of careers and furnish an education that recognizes the need for an understanding of the basic principles of science, appreciation for the nature of human interaction, and the comprehension of the economic, political, and social environment.

### Pre-Business Program

The Pre-Business program provides students planning to earn Bachelor of Science degrees in Accounting, Economics, Financial Management, Management, and Marketing with a sound academic preparation for these degrees. All Pre-Business students complete a common curriculum during the freshman year. All new Business students (including transfer students) are admitted into the Pre-Business program until the following core classes are satisfactorily completed and the grade-point average requirement is met: BUS 1010, ECON 2110, 2120, MATH 1020, 2070 or acceptable sequence, ENGL 1030, and a natural science with laboratory requirement.

### Change of Major into Pre-Business

Students who change majors into Pre-Business must have completed at least 12 credit hours at Clemson and must have a 2.0 minimum cumulative grade-point average.

### Freshman Curriculum

#### First Semester

- 1 - BUS 1010 Business Foundations<sup>1</sup>
- 3 - ECON 2110 Principles of Microeconomics<sup>1</sup>
- 3 - MATH 1020 Intro. to Math. Analysis<sup>1,2</sup> or
  - 4 - MATH 1060 Calculus of One Variable<sup>1,2</sup>
- 3 - PSYC 2010 Introduction to Psychology or
  - 3 - SOC 2010 Introduction to Sociology
- 4 - Natural Science Requirement<sup>1,3</sup>
- 1 - Elective
- 15

#### Second Semester

- 3 - COMM 1500 Intro. to Human Comm. or
  - 3 - COMM 2500 Public Speaking
- 3 - ECON 2120 Principles of Macroeconomics<sup>1</sup>
- 3 - ENGL 1030 Accelerated Composition<sup>1</sup>
- 3 - MATH 2070 Multivariable Calculus<sup>1,2</sup> or
  - 4 - MATH 1080 Calculus of One Variable II<sup>1,2</sup>
- 3 - Science and Tech. in Society Requirement<sup>3</sup>
- 15

<sup>1</sup>Freshman core curriculum class. Students must complete core classes before submitting a change-of-major request from Pre-Business to a business major.

<sup>2</sup>The following sequences are acceptable: MATH 1020/2070, 1060/1080, 1060/2070. For each of the four-credit-hour courses taken, one credit will be applied toward the elective credit-hour requirement. Students considering a graduate degree in Economics or related fields should take MATH 1060/1080.

<sup>3</sup>See General Education Requirements.

### Admission to Business Degree Programs

To be eligible for admission into the Bachelor of Science degree programs in Accounting, Economics, Financial Management, or Management, students must have completed the courses outlined in the freshman core curriculum and have a cumulative grade-point average of 2.0 or higher. Students wishing to enter the Marketing Program must have completed the freshman core curriculum and have a Clemson/Bridge cumulative grade-point average of 3.0 or higher.

Students should initiate a Request to Change Academic Program form with the College of Business and Behavioral Science Academic Advising Center in G-02 Sistine Hall after completing the freshman core curriculum. Students who fail to meet the requirements for admission to a degree-granting business program may remain in Pre-Business until those requirements are met, but only until 64 semester hours of coursework have been completed. Students who exceed 64 credit hours and still do not meet the requirements for admission into a degree program must declare another major.

### Transfer Credit Policy

For upper level undergraduates business courses (3000- and 4000-level courses with the rubrics of ACCT, BUS, ELE, FIN, LAW, MGT and MKT) transfer credits will only be accepted from AACSB International and/or EQUIS accredited institutions. Transfer credits from non-US institutions that do not hold either accreditation may be evaluated on a case-by-case basis.

## BEHAVIORAL AND SOCIAL SCIENCE PROGRAMS

Bachelor of Arts degrees are offered in Anthropology, Economics, Political Science, Psychology, and Sociology. Bachelor of Science degrees are also offered in Anthropology, Political Science, Psychology, and Sociology. These programs are designed to meet the needs of students seeking a broad general education as preparation for intelligent citizenship, commercial and industrial life, government service, research, and teaching. These curricula also provide an excellent background for the study of law, journalism, and medicine.

To achieve depth as well as breadth in the educational experience, students select a major consisting of courses above the sophomore level. Students also choose a minor consisting of additional credit hours. Students should contact their advisor for additional information and approval before pursuing a minor. See page 93 for a list of acceptable minors.

Students in Bachelor of Arts programs who plan to teach in public schools may elect education courses required for certification by the South Carolina State Department of Education. Such courses are to be approved by their own department advisors.

## ROTC PROGRAMS

### Aerospace Studies (AFROTC)

Air Force Reserve Officer Training Corps (AFROTC) is designed to "develop quality leaders for the Air Force." Students can earn a minor in Aerospace Studies and a commission as Second Lieutenants while pursuing a bachelor's degree. Clemson's program has won numerous local and national awards for excellence. The program includes courses in foundations of the Air Force, air power history, leadership and management, and national security affairs. In addition to courses, students participate in a weekly leadership laboratory. "Lead Lab" provides students a training environment to practice leadership principles in a cadet-led Air Force wing. Throughout the program, cadets hone their communication skills through various leadership positions, briefings, and papers. The first year of the program, *Foundations of the United States Air Force*, introduces students to the Air Force and AFROTC. It provides an overview of the basic characteristics, missions, and organization of the Air Force. The second year, *The Evolution of USAF Air and Space Power*, features topics on Air Force heritage and leaders; and introduces air and space power through examination of distinct capabilities and functions. The third year, *Air Force Leadership Studies*, teaches cadets advanced skills and knowledge in management and leadership. Special emphasis is placed on enhancing leadership skills. Cadets have an opportunity to try out these leadership and management techniques in a supervised environment as juniors and seniors. The fourth year, *National Security Affairs and Preparation for Active Duty*, is designed for college seniors and gives them the foundation to understand their role as military officers in American society. It is an overview of complex social and political issues facing the military profession and requires a measure of sophistication commensurate with the senior college level. Seniors are also prepared to enter active duty as they transition from student to Air Force Officer. For additional information, contact the Department of Aerospace Studies.

## Military Leadership (Army ROTC)

Army Reserve Officer Training Corps (Army ROTC) is all about leadership. Students that complete the entire program may earn a commission as a Lieutenant in the Army Reserve, National Guard, or Active Army. The first two years of the program are open to all students. During the freshman year, the focus is on learning individual leadership skills such as time management, leadership character, values, setting goals, and conducting meetings. The sophomore year emphasizes teamwork, team leading, communication/briefings, decision making, team values, and organizational culture and vision. Juniors primarily learn how to plan and conduct training for large groups and are evaluated in leadership positions. Seniors focus on organizational leadership. They plan and run the organization, conduct individual counseling, and evaluate the juniors' performance in leadership positions. This prepares them for their career as an Army Officer once they graduate. A minor in Military Leadership can be earned by completing the program. Enrollment requires no military obligation until the sophomore year for those on an Army scholarship or the junior year for those without a scholarship. Additional information is available from the Military Leadership Department.

## ACCOUNTING

### Bachelor of Science

The program leading to the Bachelor of Science degree in Accounting prepares students for careers as professional accountants. Students completing this program are well prepared to begin professional careers in corporate accounting or internal auditing or to continue study at the graduate level.

Students planning to become Certified Public Accountants should note that the requirements for certification in South Carolina include 150 hours of collegiate education and completion of a bachelor's degree. Other states have similar requirements. The Accounting faculty of the School of Accountancy and Finance believes these requirements are best met with a bachelor's degree in Accounting and completion of the Master of Professional Accountancy (MPAcc) degree program. The MPAcc program also enhances the preparation of students pursuing accounting careers in areas of specialization such as assurance services and taxation.

Admission to the MPAcc program is separate from admission to the undergraduate program. It is based on the student's undergraduate record and score on the Graduate Management Admissions Test (GMAT). For information, contact the School of Accountancy and Finance, 300 Sistine Hall.

In addition to accounting and business courses, the Bachelor of Science curriculum is devoted to English, public speaking, mathematics, natural and social sciences, and the humanities. Thus, students in the accounting program obtain a broad-based education that not only gives them accounting expertise but also contributes to their proficiency in analytical, communication, and interpersonal skills. Along with the general business accreditation held by the College, the Accounting degree programs offered by the School of Accountancy and Finance are separately accredited by AACSB International,

the only accrediting agency for accounting programs. Students wishing to change majors into the accounting program must have a 2.0 or higher Clemson/Bridge cumulative grade-point average.

## Sophomore Year

### First Semester

- 3 - ACCT 2010 Financial Accounting Concepts
  - 3 - MGT 2010 Principles of Management
  - 3 - STAT 3090 Introductory Business Statistics
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Elective
- 15

### Second Semester

- 3 - MGT 2180 Management Personal Computer Applications
  - 3 - MKT 3010 Principles of Marketing
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Cross-Cultural Awareness Requirement<sup>1</sup>
  - 4 - Elective
- 16

## Junior Year

### First Semester

- 3 - ACCT 3110 Intermediate Financial Acct. I
  - 3 - ACCT 3220 Accounting Information Systems
  - 3 - ENGL 3040 Business Writing
  - 3 - FIN 3110 Financial Management I
  - 3 - Fine Arts Requirement<sup>2</sup>
- 15

### Second Semester

- 3 - ACCT 3120 Intermediate Financial Acct. II
  - 3 - ACCT 4150 Auditing
  - 3 - FIN 3120 Financial Management II
  - 3 - LAW 3220 Legal Environment of Business
  - 3 - PHIL 3440 Business Ethics
  - 1 - Elective
- 16

## Senior Year

### First Semester

- 3 - ACCT 3030 Cost Accounting
  - 3 - ACCT 3130 Intermediate Financial Acct. III
  - 3 - ACCT 4040 Individual Taxation<sup>3</sup> *or*  
3 - ACCT 4060 Business Taxation<sup>3</sup>
  - 3 - MGT 3100 Intermediate Business Statistics
  - 3 - International Business Requirement<sup>4</sup>
- 15

### Second Semester

- 3 - ACCT 3990 Internship in Accounting<sup>5</sup> *or*  
3 - Business Requirement<sup>6</sup>
  - 3 - ACCT 4100 Contemporary Reporting and Management Control Systems
  - 3 - MGT 4150 Business Strategy<sup>7</sup>
  - 6 - Business Requirement<sup>6</sup>
- 15

122 Total Semester Hours

<sup>1</sup>See General Education Requirements. *Note:* Cross-Cultural Awareness Requirement may also be satisfied by some of these courses.

<sup>2</sup>ART 2100, MUSC 2100, or THEA 2100

<sup>3</sup>Students planning to pursue the Master of Professional Accountancy degree program should take ACCT 4040.

<sup>4</sup>ECON 3100, FIN 4110, LAW 4200, MGT 4230, or MKT 4270

<sup>5</sup>Internship may be completed in the summer between junior and senior years with ACCT 4100, MGT 4150, and six hours of Business Requirement completed in the second semester of the senior year; or internship may be completed in the second semester of the senior year with ACCT 4100, MGT 4150, and six hours of Business Requirement completed during the summer sessions.

<sup>6</sup>Any three-credit 3000-, 4000- or 8000-level course in ACCT or any three-credit 3000- or 4000-level course in ECON, FIN, LAW or MGT.

<sup>7</sup>MGT 4150 must be taken at Clemson University.

*Note:* At least 50 percent of the total credits taken in ACCT, ECON, FIN, LAW, MGT, and MKT must be taken at Clemson University.

## ANTHROPOLOGY

### Bachelor of Arts

The Anthropology BA major prepares students for a variety of professional careers related to human resources, international business, public relations, museum and park service interpretation, health services, and other people-oriented positions in the public and private sector. In addition, the degree provides excellent preparation for graduate training in anthropology, law, health care, and business. The degree requires a total of 124-125 semester hours, including 39 credit hours in anthropology and sociology, as identified below. In addition, students take a foreign language and nine additional hours of social science or humanities courses related to Anthropology (from a department-approved list). These additional courses provide students with a greater depth and broader diversity of interdisciplinary knowledge useful for the direct application of an anthropological perspective to potential career paths. Courses used to fulfill General Education Requirements and Departmental Social Science and Humanities courses may be used to fulfill minor requirements.

Students wishing to change majors into the Anthropology BA program must have a 2.0 or higher Clemson/Bridge cumulative grade-point average.

### Bachelor of Arts

#### Freshman Year

##### First Semester

- 3 - ANTH 2010 Introduction to Anthropology
  - 3 - MATH 1010 Essential Mathematics for the Informed Society *or*  
3 - MATH 1020 Intro. to Mathematical Analysis *or*  
4 - MATH 1060 Calculus of One Variable I
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>2</sup>
  - 3 - Elective
- 16-17

##### Second Semester

- 3 - COMM 1500 Intro. to Human Comm. *or*  
3 - COMM 2500 Public Speaking
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - STAT 2300 Statistical Methods I
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 15

**Sophomore Year****First Semester**

3 - Science and Technology in Society Requirement<sup>2</sup>  
 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>  
 3 - Arts and Humanities (Non-Lit) Requirement<sup>2</sup>  
 6-7 - Subfield Requirement<sup>5</sup>  
 15-16

**Second Semester**

2 - ANTH 2050 Professional Development  
 3 - Departmental Humanities/Social Science Requirement<sup>4</sup>  
 6 - Minor Requirement<sup>3</sup>  
 3-4 - Subfield Requirement<sup>5</sup>  
 14-15

**Junior Year****First Semester**

6 - Anthropology Requirement  
 3 - Departmental Humanities/Social Science Requirement<sup>4</sup>  
 6 - Elective  
 15

**Second Semester**

6 - ANTH 4040 Anthropological Theories *and/or* Anthropology Requirement  
 3 - Departmental Humanities/Social Science Requirement<sup>4</sup>  
 6 - Minor Requirement<sup>3</sup>  
 15

**Summer Semester**

3 - Practicing Anthropology Requirement<sup>6</sup>  
 3

**Senior Year****First Semester**

3 - Anthropology Requirement  
 3 - Minor Requirement<sup>3</sup>  
 9 - Elective  
 15

**Second Semester**

6 - ANTH 4040 Anthropological Theories *and/or* Anthropology Requirement  
 3 - Minor Requirement<sup>3</sup>  
 6 - Elective  
 15

124-125 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in the same modern foreign language are required.

<sup>2</sup>See General Education Requirements. (Note: Social Science Requirement must be in an area other than anthropology.)

<sup>3</sup>See page 93 for approved minors.

<sup>4</sup>Departmental Humanities and Social Sciences must be from a department-approved list.

<sup>5</sup>Subfield courses include ANTH 3010, 3310 or 3510.

<sup>6</sup>Field Experience courses could include ANTH 4950, 4980, or an approved Field School, Internship, or Study Abroad experience.

**ANTHROPOLOGY****Bachelor of Science**

The Anthropology B.S. major prepares students for a variety of professional careers related to museum and park service interpretation, forensic science, health services, and other scientifically-oriented positions in the public and private sector. In addition, the

Bachelor's degree provides excellent preparation for graduate training in anthropology, medicine, and human factors engineering. The degree requires a total of 124 semester hours, including 39 credit hours in anthropology and sociology, as identified below. In addition, students take 15 hours of math and/or science courses (from a department-approved list). These additional courses provide students with a greater depth and broader diversity of interdisciplinary knowledge useful for the direct application of an anthropological perspective to potential career paths. Courses used to fulfill General Education Requirements and Departmental Science and Math courses may be used to fulfill minor requirements.

Students wishing to change majors into the Anthropology BS program must have a 2.0 or higher Clemson/Bridge cumulative grade-point average.

**Bachelor of Science****Freshman Year****First Semester**

3 - ANTH 2010 Introduction to Anthropology  
 3 - MATH 1010 Essential Mathematics for the Informed Society *or*  
 3 - MATH 1020 Intro. to Mathematical Analysis *or*  
 4 - MATH 1060 Calculus of One Variable I  
 4 - Natural Science Requirement<sup>1</sup>  
 3 - Social Science Requirement<sup>1</sup>  
 3 - Elective  
 16-17

**Second Semester**

3 - COMM 1500 Intro. to Human Comm. *or*  
 3 - COMM 2500 Public Speaking  
 3 - ENGL 1030 Accelerated Composition  
 3 - STAT 2300 Statistical Methods I  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 3 - Elective  
 15

**Sophomore Year****First Semester**

3 - Arts and Humanities (Literature) Requirement<sup>1</sup>  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 3 - Minor Requirement<sup>3</sup>  
 6-7 - Subfield Requirement<sup>5</sup>  
 15-16

**Second Semester**

2 - ANTH 2050 Professional Development  
 3 - Arts and Humanities (Non-Lit) Requirement<sup>1</sup>  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 3 - Science and Technology in Society Requirement<sup>1</sup>  
 3-4 - Subfield Requirement<sup>5</sup>  
 14-15

**Junior Year****First Semester**

6 - Anthropology Requirement  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 6 - Elective  
 15

**Second Semester**

6 - ANTH 4040 Anthropological Theories *and/or*  
 6 - Anthropology Requirement  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 6 - Minor Requirement<sup>3</sup>  
 15

**Summer Semester**

3 - Practicing Anthropology Requirement<sup>2</sup>  
 3

**Senior Year****First Semester**

3 - Anthropology Requirement  
 3 - Minor Requirement<sup>3</sup>  
 9 - Elective  
 15

**Second Semester**

6 - ANTH 4040 Anthropological Theories *and/or*  
 6 - Anthropology Requirement  
 3 - Minor Requirement<sup>3</sup>  
 6 - Elective  
 15

124-125 Total Semester Hours

<sup>1</sup>See General Education Requirements. (Note: Social Science Requirement must be in an area other than anthropology.)

<sup>2</sup>Departmental Science and Math courses must be from a department-approved list.

<sup>3</sup>See page 93 for approved minors.

<sup>4</sup>Subfield courses include ANTH 3010, 3310 or 3510.

<sup>5</sup>Practicing Anthropology courses could include ANTH 4950, 4980, or an approved Field School, Internship, or Study Abroad experience.

**ECONOMICS**

A bachelor's degree in Economics provides a thorough understanding of business, society, and public policy and prepares students for a wide range of careers. By combining general education courses and a strong course of study in economics, students can prepare for graduate studies in business, law, or any of the social sciences, as well as for careers in business and government.

The Department of Economics offers two undergraduate degree paths. The Bachelor of Arts degree emphasizes foreign language skills and offers students maximum freedom to tailor their course of study to their specific interests and career goals. A broad choice of minors is available for this program. The Bachelor of Arts program requires 30 credit hours in economics, which should be satisfied by completing ECON 2110, 2120, and 24 credits of coursework above the sophomore level. Bachelor of Arts majors must complete ECON 3140 and 3150. ECON 4050 is strongly recommended but not required.

The Bachelor of Science program emphasizes business applications. It requires 31 credit hours in economics, which should be satisfied by completing ECON 2110, 2120, and 25 credits of coursework above the sophomore level. Bachelor of Science majors must complete ECON 4050 in addition to 3140 and 3150. Students wishing to change majors into the Bachelor of Science program in Economics must have a 2.0 or higher Clemson/Bridge cumulative grade-point average.

**Minors**

A minor field is required of students in both the Bachelor of Arts and the Bachelor of Science degree programs. Economics majors may choose, in consultation with their advisors, any University-approved minor (see page 93).

Students who wish to combine the curriculum in Economics with secondary-school teaching should take the degree in Education with a teaching area in Economics. The courses taken will be those required for teaching certification as specified by the South Carolina Department of Education, as well as those required for an Economics major.

### Combined Bachelor's/Master's Plan

The Department of Economics allows students to count up to 12 hours of graduate credit (8000-level courses) toward both the bachelor's and master's degrees. Students participating in this program must have a minimum grade-point average of 3.4 and be admitted to the Graduate School prior to registering for graduate courses. Details of the suggested curriculum and program information are available from the Department of Economics.

### Dual Degree Program with Université Catholique de Louvain in Belgium

The Economics Department has a dual degree program with the Université Catholique de Louvain in Belgium. Students spend one semester taking courses at the University of Maastricht in The Netherlands and two semesters at UCL in Louvain la Neuve, Belgium. The instruction at Maastricht is in English, and the instruction at UCL is in French. After returning to Clemson to complete their studies, students will earn bachelor degrees from both Clemson and UCL. Students must be proficient in French to participate in the program. Interested students should contact the Department of Economics for information.

### Change of Major into Bachelor of Arts in Economics

Students who change majors into Bachelor of Arts in Economics must have a 2.0 minimum Clemson/Bridge cumulative grade-point average.

### Bachelor of Arts

#### Freshman Year

##### First Semester

- 3 - ECON 2110 Principles of Microeconomics
  - 3 - MATH 1020 Intro. to Mathematical Analysis<sup>1</sup>
  - 3 - Foreign Language Requirement<sup>2</sup>
  - 4 - Natural Science Requirement<sup>3</sup>
  - 2 - Elective
- 
- 15

##### Second Semester

- 3 - ECON 2120 Principles of Macroeconomics
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - MATH 2070 Multivariable Calculus<sup>1</sup>
  - 3 - Foreign Language Requirement<sup>2</sup>
  - 3 - Science and Tech. in Society Requirement<sup>4</sup>
- 
- 15

#### Sophomore Year

##### First Semester

- 3 - ECON 3140 Intermediate Microeconomics
  - 3 - MATH 3020 Stats. for Science and Engineering<sup>5</sup> or 3 - STAT 3090 Introductory Business Statistics
  - 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
  - 3 - Elective
- 
- 15

#### Second Semester

- 3 - ECON 3150 Intermediate Macroeconomics
  - 3 - HIST 1730 The West and the World II<sup>6</sup>
  - 3 - Major Requirement<sup>7</sup>
  - 3 - Minor Requirement
  - 3 - Elective
- 
- 15

#### Junior Year

##### First Semester

- 3 - COMM 1500 Intro. to Human Comm. or 3 - COMM 2500 Public Speaking
  - 3 - Major Requirement<sup>7</sup>
  - 3 - Minor Requirement
  - 6 - Elective
- 
- 15

##### Second Semester

- 6 - Major Requirement<sup>7</sup>
  - 3 - Minor Requirement
  - 6 - Elective
- 
- 15

#### Senior Year

##### First Semester

- 3 - Major Requirement<sup>7</sup>
  - 3 - Minor Requirement
  - 9 - Elective
- 
- 15

##### Second Semester

- 3 - Major Requirement<sup>7</sup>
  - 3 - Minor Requirement
  - 9 - Elective
- 
- 15

120 Total Semester Hours

<sup>1</sup>The following sequences are also acceptable: MATH 1060/1080; and MATH 1060/2070. Students considering a graduate degree in Economics should begin with MATH 1060.

<sup>2</sup>Two semesters (through 2020) in the same modern foreign language are required.

<sup>3</sup>See General Education Requirements.

<sup>4</sup>See General Education Requirements. This requirement may be satisfied by other courses in the curriculum. In this case, elective hours must be substituted.

<sup>5</sup>Students considering a graduate degree in Economics or related fields should take MATH 3020.

<sup>6</sup>This course satisfies the cross-cultural requirement.

<sup>7</sup>Three credit hours must be selected from ECON 3440, 3500, 3600, 4020, 4040, 4100, 4240, 4260, 4350, 4550. Note: Only ECON courses numbered 3160 and above may be used to satisfy the Major Requirement.

## ECONOMICS

### Bachelor of Science

#### Sophomore Year

##### First Semester

- 3 - ACCT 2010 Financial Accounting Concepts<sup>1</sup>
  - 3 - ECON 3140 Intermediate Microeconomics
  - 3 - MATH 3020 Stats. for Science and Engineering<sup>2</sup> or 3 - STAT 3090 Introductory Business Statistics
  - 3 - MGT 2010 Principles of Management
  - 3 - Elective
- 
- 15

#### Second Semester

- 3 - ACCT 2020 Managerial Accounting Concepts
  - 3 - ECON 3150 Intermediate Macroeconomics
  - 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
  - 3 - Cross-Cultural Awareness Requirement<sup>3</sup>
- 
- 15

#### Junior Year

##### First Semester

- 4 - ECON 4050 Introduction to Econometrics
  - 3 - FIN 3060 Corporation Finance<sup>1,4</sup>
  - 3 - Major Requirement<sup>5</sup>
  - 3 - Minor Requirement
  - 3 - Elective
- 
- 16

##### Second Semester

- 3 - Major Requirement<sup>5</sup>
  - 6 - Minor Requirement
  - 6 - Elective
- 
- 15

#### Senior Year

##### First Semester

- 3 - Major Requirement<sup>5</sup>
  - 3 - Minor Requirement
  - 9 - Elective
- 
- 15

##### Second Semester

- 6 - Major Requirement<sup>5</sup>
  - 3 - Minor Requirement
  - 5 - Elective
- 
- 14

120 Total Semester Hours

<sup>1</sup>Students who complete a minor in Accounting or Financial Management must complete three hours of electives to replace the ACCT 2010 or FIN 3060 requirement in the Economics major.

<sup>2</sup>Students considering a graduate degree in Economics or related fields should take MATH 3020.

<sup>3</sup>See General Education Requirements. Note: Cross-Cultural Awareness Requirement may be satisfied by other General Education courses, by the International Studies Requirement, or through the use of elective hours.

<sup>4</sup>FIN 3110 is recommended for Students minoring in Financial Management.

<sup>5</sup>Three credit hours must be selected from ECON 3440, 3500, 3600, 4020, 4040, 4100, 4240, 4260, 4350, 4550. Note: Only ECON courses numbered 3160 and above may be used to satisfy the Major Requirement.

Note: At least 50 percent of the total credits taken in ACCT, ECON, FIN, LAW, MGT, and MKT must be taken at Clemson University.

## FINANCIAL MANAGEMENT

### Bachelor of Science

The Bachelor of Science in Financial Management is designed to develop an understanding of financial markets in the contemporary economy, the operation of financial institutions, and the financial management of business operations. The curriculum prepares students for careers in such areas as corporate finance, banking, investments, financial planning, insurance, and real estate. Governments of all levels also employ finance graduates in many of their divisions. The curriculum also provides excellent preparation for students interested in graduate studies or law school.

The core of the curriculum provides a broad range of subjects with an emphasis on technical and communication skills. Students then have the flexibility to tailor courses to their own needs by choosing emphasis areas that will enhance career preparation in specific areas of finance. Students who complete a specific set of courses are eligible to sit for the certified financial planner (CFP®) examination.

Students wishing to change majors into the financial management program must have a 2.0 or higher Clemson/Bridge cumulative grade-point average.

## Sophomore Year

### First Semester

- 3 - ACCT 2010 Financial Accounting Concepts
  - 3 - CPSC 2200 Microcomputer Applications *or*  
3 - MGT 2180 Mgt. Personal Computer Appl.
  - 3 - MGT 2010 Principles of Management
  - 3 - STAT 3090 Introductory Business Statistics
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 
- 15

### Second Semester

- 3 - MGT 3100 Intermediate Business Statistics
  - 3 - MKT 3010 Principles of Marketing
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Cross-Cultural Awareness Requirement<sup>2</sup>
  - 4 - Elective
- 
- 16

## Junior Year

### First Semester

- 3 - ACCT 3110 Intermediate Financial Acct. I
  - 3 - ENGL 3040 Business Writing
  - 3 - FIN 3110 Financial Management I
  - 3 - LAW 3220 Legal Environment of Business
  - 3 - Elective
- 
- 15

### Second Semester

- 3 - ACCT 3120 Intermediate Financial Acct. II
  - 3 - FIN 3050 Investment Analysis
  - 3 - FIN 3070 Principles of Real Estate
  - 3 - FIN 3120 Financial Management II
  - 3 - Emphasis Area Requirement<sup>3</sup>
- 
- 15

## Senior Year

### First Semester

- 3 - ACCT 3030 Cost Accounting
  - 3 - ACCT 3130 Intermediate Financial Acct. III
  - 3 - FIN 3080 Financial Institutions and Markets
  - 6 - Emphasis Area Requirement<sup>3</sup>
- 
- 15

### Second Semester

- 3 - MGT 4150 Business Strategy<sup>4</sup>
  - 6 - Emphasis Area Requirement<sup>3</sup>
  - 6 - Elective
- 
- 15

121 Total Semester Hours

<sup>1</sup>See General Education Requirements. *Note:* Cross-Cultural Awareness Requirement may also be satisfied by some of these courses.

<sup>2</sup>If this requirement is met through the completion of another General Education requirement, students will have three additional elective hours. Students must complete 121 hours total.

<sup>3</sup>Fifteen credit hours from one of the following emphasis areas are required. Emphasis area should be selected before the end of the junior year in consultation with the advisor (not all courses are offered every semester):

*Corporate Finance*—FIN 4110, two courses from: FIN 4010, 4020, 4030, 4040; plus two courses from FIN 3040, 3990 (three credits), or any three-credit 4000-level FIN courses, and any 3000- or 4000-level ACCT course. Credit will only be given for one of FIN 4030 or 4040. Only one 3000-4000-level ACCT course may count toward the emphasis area and no course required by the major may be used to fulfill the emphasis area requirements.

*Financial Planning*—ACCT 4040 (should be taken spring of Junior year), 4080, FIN 3040, 4050, 4090 (due to CFP board requirements, no substitutions are allowed).

*Financial Services*—FIN 4050, 4060, 4080, 4110, and one course from FIN 3040 or 4170. Completion of three hours of FIN 3990, 4980, 4990, or a 3000- or 4000-level ACCT course not already required by the major may substitute for one of FIN 3040 or 4170.

*Real Estate*—FIN 4150, 4160, 4170, LAW 3330, plus one course from: ACCT 4040, 4060, CRP 4010, ECON 3060, or 3400 or any 4000-level three-credit ACCT course. Completion of three hours of FIN 3990 may be substituted for the additional 4000-level course requirement.

<sup>4</sup>MGT 4150 must be taken at Clemson University.

### Notes:

1. Financial Management majors are required to have a minimum grade-point average of 2.0 in all FIN-designated courses to graduate. Only the last grade for courses that are repeated is used in computing this grade-point average.
2. At least 50 percent of the total credits taken in ACCT, ECON, FIN, LAW, MGT, and MKT must be taken at Clemson University.

## GRAPHIC COMMUNICATIONS

### Bachelor of Science

The Bachelor of Science degree in Graphic Communications prepares students for professional careers in printing, publishing, packaging, and related industries. The core curriculum assures graduates of having the skills and knowledge required by most entry-level jobs. The major requirements allow each student to select courses that enhance career preparation in specific segments of graphic communications. Coursework is heavily oriented around individual laboratory performance, which stresses the development of problem-solving skills in a broad cross-section of manufacturing areas. Applications include all major processes and a variety of industry segments, including commercial printing, publishing, package production, specialty printing, and industrial applications of printing technology beyond communications. The most common career opportunities are in printing management, production planning and supervision, and commercial and technical sales.

The Graphic Communications program is designed to be completed in four years (eight semesters and one or two summers). While students must take one internship during a fall or spring semester, one or two summers are typically used to make up for that semester. The department schedules courses in summers for that purpose. Taking a reduced load per term or other circumstances could extend the time needed to meet graduation requirements.

## Policy on Advancement in Graphic Communications

Graphic Communications majors must earn a C or better in prerequisite GC courses before enrolling in the next level GC course. Registration priority is given to those students for whom the course is a requirement.

## Change of Major into Graphic Communications

Students who change majors into Graphic Communications must have completed at least 12 credit hours at Clemson, must have a 2.0 minimum cumulative grade-point average, and must have earned a B or better in GC 1020.

## Freshman Year

### First Semester

- 1 - GC 1010 Orientation to Graphic Comm.
  - 4 - GC 1020 Foundations in Graphic Comm.
  - 3 - PSYC 2010 Introduction to Psychology
  - 4 - Approved Laboratory Science Requirement<sup>1</sup>
  - 3 - Major Requirement<sup>2</sup>
- 
- 15

### Second Semester

- 3 - ENGL 1030 Accelerated Composition
  - 4 - GC 1040 Graphic Communications I
  - 3 - STAT 2300 Statistical Methods I<sup>3</sup> *or*  
3 - STAT 3090 Intro. Business Statistics *or*  
3 - STAT 3300 Statistical Methods II
  - 4 - Approved Laboratory Science Requirement<sup>1</sup>
  - 1 - Elective
- 
- 15

## Sophomore Year

### First Semester

- 3 - ACCT 2010 Financial Accounting Concepts
  - 4 - GC 2070 Graphic Communications II
  - 3 - MGT 2010 Principles of Management
  - 2 - PKGS 1020 Intro. to Packaging Science
  - 3 - Arts and Humanities (Literature) Requirement<sup>4</sup>
- 
- 15

### Second Semester

- 3 - ACCT 2020 Managerial Accounting Concepts
  - 3 - ECON 2000 Economic Concepts *or*  
3 - ECON 2110 Principles of Microeconomics
  - 3 - ENSP 2000 Intro. to Environmental Science
  - 4 - GC 3400 Digital Imaging and eMedia
  - 3 - GC 3460 Ink and Substrates
- 
- 16

## Summer

- 0 - COOP 2010 Cooperative Education<sup>5</sup>
  - 1 - GC 3500 Graphic Comm. Internship I<sup>5</sup>
- 
- 1

## Junior Year

### First Semester

- 3 - COMM 1500 Intro. to Human Comm. *or*  
3 - COMM 2500 Public Speaking
  - 4 - GC 4060 Package and Specialty Printing
  - 3 - MKT 3010 Principles of Marketing
  - 6 - Major Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 3 - ENGL 3140 Technical Writing
  - 4 - GC 4400 Commercial Printing
  - 3 - Major Requirement<sup>2</sup>
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>6</sup>
  - 3 - Elective
- 
- 16

**Summer**

- 0 - COOP 2020 Cooperative Education<sup>5</sup>
  - 1 - GC 4500 Graphic Comm. Internship II<sup>5</sup>
- 
- 1

**Senior Year****First Semester**

- 4 - GC 4440 Current Dev. and Trends in GC
  - 3 - MGT 3070 Human Resource Management *or*
    - 3 - PSYC 3640 Industrial Psychology *or*
    - 3 - PSYC 3680 Organizational Psychology
  - 3 - Graphic Communication Technical Req.<sup>2</sup>
  - 3 - Major Requirement<sup>2</sup>
  - 2 - Elective
- 
- 15

**Second Semester**

- 3 - GC 4480 Planning and Controlling Printing Functions
  - 2 - GC 4800 Senior Seminar in Graphic Comm.
  - 3 - Major Requirement<sup>2</sup>
  - 4 - Elective
- 
- 12
- 122 Total Semester Hours

<sup>1</sup>Must include four credit hours in chemistry (CH 1010 or 1050) and four credit hours in physics (PHYS 1220/1240 or 2070/2090).

<sup>2</sup>Must be approved prior to registration. See advisor.

<sup>3</sup>Students who wish to minor in Business Administration may not select STAT 2300.

<sup>4</sup>Select any ENGL course from General Education Arts and Humanities (Literature) Requirement.

<sup>5</sup>One internship must be in a fall or spring semester (summer—at least 12 weeks; fall/spring—at least 15 weeks). GC 4550 will not substitute for 4500.

<sup>6</sup>See General Education Requirements. This course or three elective credit hours must also satisfy the Cross-Cultural Awareness Requirement.

**MANAGEMENT****Bachelor of Science**

The Bachelor of Science degree in Management prepares students for careers as professional managers in corporations, governmental organizations, and small businesses. In addition, the program provides a foundation for graduates who wish to pursue advanced degrees in business and public administration, law, and the social sciences.

The curriculum gives students a broad exposure to the functional areas of business and allows each to select an emphasis area in a subject that is germane to individual career interests. The Management curriculum provides an examination of the social, legal, political, and economic environments in which organizations must operate; an understanding of the functional areas of business and their interrelationships; and a knowledge of behavioral science, applied statistics, and mathematics as they relate to organizational problem solving. The program is accredited by AACSB International.

Students wishing to change majors into the management program must have a 2.0 or higher Clemson/Bridge cumulative grade-point average.

**Combined Bachelor of Science/  
Master of Science Degree Program**

Under this plan, students may reduce the time necessary to earn both degrees by applying graduate credits to both undergraduate and graduate program requirements. Students may apply up to 12 hours of graduate credits to both the BS and MS degrees. To be eligible for this program, students must have a 3.4 or higher grade-point average, have completed at least 90 credits of coursework and have been admitted to the Graduate School prior to registering for graduate courses. Students in this program are conditionally accepted to the graduate program until they have completed all BS degree requirements.

**Sophomore Year****First Semester**

- 3 - ACCT 2010 Financial Accounting Concepts
  - 3 - MGT 2010 Principles of Management<sup>1</sup>
  - 3 - MGT 2180 Mgt. Personal Computer Appl.<sup>1</sup>
  - 3 - STAT 3090 Introductory Business Statistics
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 3 - ACCT 2020 Managerial Accounting Concepts
  - 3 - MGT 3100 Intermediate Business Statistics<sup>1</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - Cross Cultural Awareness Requirement<sup>2</sup>
  - 3 - Elective
- 
- 15

**Junior Year****First Semester**

- 3 - MGT 3180 Management of Info. Systems<sup>1</sup>
  - 3 - MGT 3900 Operations Management<sup>1</sup>
  - 3 - MKT 3010 Principles of Marketing
  - 3 - Emphasis Area Requirement<sup>1,3</sup>
  - 3 - Support Area Requirement<sup>4</sup>
- 
- 15

**Second Semester**

- 3 - LAW 3220 Legal Environment of Business
  - 3 - MGT 3070 Human Resource Management<sup>1</sup> *or*
    - 3 - MGT 4000 Mgt. of Organizational Behavior<sup>1</sup>
  - 3 - MGT 3120 Decision Models for Management<sup>1</sup>
  - 3 - Emphasis Area Requirement<sup>1,3</sup>
  - 3 - Support Area Requirement<sup>4</sup>
- 
- 15

**Senior Year****First Semester**

- 3 - FIN 3060 Corporation Finance *or*
    - 3 - FIN 3110 Financial Management I
  - 3 - Emphasis Area Requirement<sup>1,3</sup>
  - 6 - Support Area Requirement<sup>4</sup>
  - 3 - Elective
- 
- 15

**Second Semester**

- 3 - MGT 4150 Business Strategy<sup>1,5</sup>
  - 3 - MGT 4230 International Business Management<sup>1</sup>
  - 3 - Emphasis Area Requirement<sup>1,3</sup>
  - 3 - Support Area Requirement<sup>4</sup>
  - 3 - Elective
- 
- 15
- 120 Total Semester Hours

<sup>1</sup>Grade of C or better in this course is required for graduation.

<sup>2</sup>See General Education Requirements. If this requirement is met through the completion of another General Education requirement, students will have three additional elective hours. Students must complete 120 total hours. *Note:* Cross-Cultural Awareness Requirement may also be satisfied by some of these courses.

<sup>3</sup>Management majors must complete an emphasis area consisting of twelve hours beyond the coursework required by the management curriculum and the support area requirement. Students should choose ONE of the following ways to satisfy this requirement:

*Entrepreneurship*—ELE 3010, MGT (ELE) 3150 plus two courses from ECON (ELE) 3210, ELE 4010, 4990, MGT 4400, 4970, MKT (ELE) 3140, MKT 4200, 4250, 4260, 4270, 4280, 4290, 4300, SOC (ELE, POSC, PSYC) 3560.

*Human Resource Management*—Any four of the following courses, including at least two management courses not already taken in the basic curriculum: MGT 3070, 4000, 4160, 4250, 4310, 4350, 4360, 4400, PSYC 3640, 3680, 4350, 4710.

*International Management*—Any four of the following courses: ECON 3100, FIN 4110, LAW 4200, MGT 4240, 4440, MKT 4270, POSC 3610, 3620, 3670, 4290, and any international business courses approved in advance and taken as part of a study abroad experience.

*Management Information Systems*—MGT 4110, 4520; and two courses from CPSC 4620, MGT 4300 (topic must be approved in advance by advisor), 4540, 4550, 4560.

*Operations Management*—MGT 4020; and two courses from MGT 4080, 4110, 4270; and one course from MGT 4040, 4120, 4440.

*Supply Chain Management*—MGT 4120, 4240; and two courses from MGT 3050, 3170, 4020, 4080, 4270, 4440, MKT 4260.

*General Management*—Any four 3000- or 4000-level management courses.

<sup>4</sup>Management majors must complete a support area consisting of fifteen hours beyond the coursework required by the management curriculum and the management emphasis area requirement. Students should choose ONE of the following two ways to satisfy this requirement: (1) Declare and complete a minor requiring AT LEAST 15 hours of additional coursework; *or* (2) Complete 15 hours of coursework selected from the approved list of management support courses.

<sup>5</sup>MGT 4150 must be taken at Clemson University.

*Note:* At least 50 percent of the total credits taken in ACCT, ECON, ELE, FIN, LAW, MGT, and MKT must be taken at Clemson University.

**MARKETING****Bachelor of Science**

The Bachelor of Science degree program in Marketing develops an understanding of various aspects of marketing. The curriculum prepares students for professional marketing careers in industry, government, or the nonprofit sector. Graduates are also well prepared for entrance into the Master of Business Administration, law, or other graduate programs. For students who want a general perspective of marketing, the curriculum provides a broad range of subjects with the flexibility to tailor courses by choosing areas that enhance career preparation in various areas of marketing. Subjects include promotional strategy, professional selling, sales management, public and nonprofit marketing, entrepreneurship, marketing research, product management, marketing management, and international marketing. The Marketing curriculum provides the conceptual, quantitative, and analytical skills necessary to function in a dynamic business environment. The Marketing degree is accredited by AACSB International.

Students wishing to change majors into the Marketing program must have a Clemson/Bridge cumulative grade-point average of 3.0 or higher. Students must also have completed the Pre-Business Program.

**Sophomore Year****First Semester**

3 - ACCT 2010 Financial Accounting Concepts  
 3 - MGT 2010 Principles of Management  
 3 - MKT 3010 Principles of Marketing  
 3 - STAT 3090 Introductory Business Statistics  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>  
 15

**Second Semester**

3 - ACCT 2020 Managerial Accounting Concepts  
 3 - MKT 3310 Marketing Metrics and Analytics  
 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>  
 3 - Cross-Cultural Awareness Requirement<sup>1</sup>  
 3 - Professional Development Requirement<sup>2</sup>  
 15

**Junior Year****First Semester**

3 - ENGL 3040 Business Writing  
 3 - LAW 3220 Legal Environment of Business  
 3 - MKT 3020 Consumer Behavior  
 3 - MKT 4310 Marketing Research<sup>3</sup>  
 3 - Support Course Requirement<sup>4</sup>  
 15

**Second Semester**

3 - FIN 3060 Corporation Finance  
 3 - MKT 4200 Professional Selling  
 3 - Marketing Requirement<sup>5</sup>  
 3 - Support Course Requirement<sup>4</sup>  
 4 - Elective  
 16

**Senior Year****First Semester**

3 - MGT 4150 Business Strategy<sup>3</sup>  
 3 - MKT 4270 International Marketing  
 3 - Marketing Requirement<sup>5</sup>  
 3 - Support Course Requirement<sup>4</sup>  
 3 - Elective  
 15

**Second Semester**

3 - MKT 4500 Strategic Marketing Management<sup>3</sup>  
 3 - Marketing Requirement<sup>5</sup>  
 6 - Support Course Requirement<sup>4</sup>  
 3 - Elective  
 15

121 Total Semester Hours

<sup>1</sup>See General Education Requirements. *Note:* Cross-Cultural Awareness Requirement may also be satisfied by other General Education courses.

<sup>2</sup>See Advisor. May include GC 1990, INT 1010 or 2010, MKT 3980, 3990, 4980, or 4990, or other professional development courses approved by a department advisor. Courses cannot count toward both Support Course Requirement and Professional Development Requirement.

<sup>3</sup>Must be taken at Clemson University.

<sup>4</sup>Chosen jointly by the student and the advisor. Certain minors may be used to satisfy the Support Courses Requirement. A maximum of six hours can be from MKT 2980, 3980, 3990, 4980, and 4990. See advisor.

<sup>5</sup>Select from any MKT 3000- and 4000-level content courses except for MKT 3980, 3990, 4980, or 4990.

*Note:* At least 50 percent of the total credits taken in ACCT, ECON, FIN, LAW, MGT, and MKT must be taken at Clemson University.

**POLITICAL SCIENCE**

The Department of Political Science offers two degree programs: a Bachelor of Arts and a Bachelor of Science, requiring 120–121 credit hours. Both prepare students for a wide range of graduate programs and career opportunities. The Bachelor of Arts program provides broad coverage of the political science discipline and emphasizes communication skills and humanities. The Bachelor of Science program is recommended for those with an aptitude for mathematics and/or an interest in political economy, public administration, public policy, or other fields requiring advanced quantitative skills. Both programs are appropriate for pre-law students and for students interested in either American or global politics. Note that the Bachelor of Arts degree requires a minor, and the Bachelor of Science degree requires a field of concentration and, depending on the concentration, requires or allows a minor.

**Bachelor of Arts**

The requirements for a Bachelor of Arts degree in Political Science consist of POSC 1010, 1020 or 1040, 1030, 1990, 4990, and at least 24 additional credit hours in political science at the 3000–4000 level, including at least one course from each of the following fields:

**American Government**—POSC 4030, 4050, 4160, 4360, 4420

**Comparative Politics**—POSC 3710, 3720, 4660, 4710, 4760, 4770, 4780

**International Relations**—POSC 3610, 3620, 3630, 3750, 4290, 4470, 4480

**Political Theory**—POSC 4490, 4500, 4530, 4550

**Public Policy and Public Administration**—POSC 3020, 3210, 4210, 4230, 4240, 4300

The student's additional coursework in political science is chosen with the consent and advice of the departmental advisor to ensure an appropriate balance of breadth and specialization within the field of political science. In addition to the courses listed above, the department offers a wide range of specialized courses in each of the subfields of the political science discipline.

The Bachelor of Arts degree in Political Science also requires additional arts and humanities courses beyond the basic General Education Requirements.

*Note:* No more than three hours credit from POSC 3050, 3100, 3110, 3120, 3130, 4090, and 4100 may be applied toward a Political Science major.

**Freshman Year****First Semester**

3 - POSC 1010 American National Government  
 1 - POSC 1990 Introduction to Political Science  
 3 - Foreign Language Requirement<sup>1</sup>  
 3 - History Requirement<sup>2</sup>  
 3 - Mathematics Requirement<sup>3</sup>  
 1 - Elective  
 14

**Second Semester**

3 - ENGL 1030 Accelerated Composition  
 3 - POSC 1020 Intro. to International Relations or  
 3 - POSC 1040 Intro. to Comparative Politics  
 3 - POSC 1030 Introduction to Political Theory  
 3 - Foreign Language Requirement<sup>1</sup>  
 4 - Natural Science Requirement<sup>4</sup>  
 16

**Sophomore Year****First Semester**

3 - Arts and Humanities (Literature) Requirement<sup>3</sup>  
 3 - Major Requirement<sup>5</sup>  
 3 - Mathematics or Natural Science Requirement<sup>3</sup>  
 3 - Oral Communication Requirement<sup>3</sup>  
 3 - Elective  
 15

**Second Semester**

3 - Arts and Humanities (Literature) Requirement<sup>3</sup>  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>  
 3 - History Requirement<sup>2</sup>  
 3 - Major Requirement<sup>5</sup>  
 3 - Minor Requirement<sup>6</sup>  
 15

**Junior Year****First Semester**

3 - ECON 2110 Principles of Microeconomics  
 3 - Major Requirement<sup>5</sup>  
 3 - Minor Requirement<sup>6</sup>  
 3 - Science and Tech. in Society Requirement<sup>3</sup>  
 3 - Elective  
 15

**Second Semester**

3 - ECON 2120 Principles of Macroeconomics  
 3 - Major Requirement<sup>5</sup>  
 3 - Minor Requirement<sup>6</sup>  
 6 - Elective  
 15

**Senior Year****First Semester**

1 - POSC 4990 Professional Dev. in Political Sci.  
 3 - Fine Arts Requirement<sup>7</sup>  
 6 - Major Requirement<sup>5</sup>  
 3 - Minor Requirement<sup>6</sup>  
 2 - Elective  
 15

**Second Semester**

6 - Major Requirement<sup>5</sup>  
 3 - Minor Requirement<sup>6</sup>  
 6 - Elective  
 15

120 Total Semester Hours

<sup>1</sup>Students must complete six hours (through 2020) in Arabic, Chinese, French, German, Italian, Japanese, Portuguese or Spanish.

<sup>2</sup>HIST 1010, 1020, 1720, 1730, 1930

<sup>3</sup>See General Education Requirements. Biology 1090 may not be used to satisfy the Natural Science requirement.

<sup>4</sup>Any University-approved General Education Natural Science course except BIOL 1090.

<sup>5</sup>See major requirements in program description above.

<sup>6</sup>See list of approved minors on page 93.

<sup>7</sup>Any course in AAH, ART, DANC, MUSC, or THEA not already used to satisfy a General Education Requirement.



**POLITICAL SCIENCE****Bachelor of Science**

The requirements for a Bachelor of Science degree in Political Science consist of POSC 1010, 1020 or 1040, 1030, 1990, 3410, 4990, and at least 21 additional credit hours in political science at the 3000-4000 level, including one upper-level American politics course and one upper-level global politics course.

In consultation with the departmental advisor, students choose one of the following concentrations: American Politics, Global Politics, Political Economy, Public Administration, or Public Policy.

Note: No more than three hours credit from POSC 3050, 3100, 3110, 3120, 3130, 4090, and 4100 may be applied toward a Political Science major.

**Freshman Year****First Semester**

3 - POSC 1010 American National Government  
1 - POSC 1990 Introduction to Political Science  
3 - Foreign Language Requirement<sup>1</sup>  
3 - Mathematics Requirement<sup>2</sup>  
4 - Natural Science Requirement<sup>3</sup>  
14

**Second Semester**

3 - ENGL 1030 Accelerated Composition  
3 - POSC 1020 Intro. to International Relations or  
3 - POSC 1040 Intro. to Comparative Politics  
3 - POSC 1030 Introduction to Political Theory  
3 - Foreign Language Requirement<sup>1</sup>  
4 - Natural Science Requirement<sup>3</sup>  
16

**Sophomore Year****First Semester**

3 - ECON 2110 Principles of Microeconomics  
3 - American Politics Requirement<sup>4</sup>  
3 - Arts and Humanities (Non-Lit.) Requirement<sup>5</sup>  
3 - Mathematics Requirement<sup>2</sup>  
3 - Philosophy of Science Requirement<sup>6</sup>  
15

**Second Semester**

3 - ECON 2120 Principles of Macroeconomics  
3 - Advanced Political Science Requirement<sup>7</sup>  
3 - Arts and Humanities (Literature) Requirement<sup>5</sup>  
3 - Global Politics Requirement<sup>8</sup>  
3 - Mathematics Requirement<sup>2</sup>  
15

**AMERICAN POLITICS  
CONCENTRATION****Junior Year****First Semester**

3 - POSC 3410 Quantitative Methods in Pol. Sci.  
3 - American Politics Requirement<sup>4</sup>  
3 - Oral Communication Requirement<sup>5</sup>  
6 - Elective  
15

**Second Semester**

3 - American Politics Requirement<sup>4</sup>  
3 - Minor Requirement<sup>9</sup>  
3 - Science and Tech. in Society Requirement<sup>5</sup>  
7 - Elective  
16

**Senior Year****First Semester**

1 - POSC 4990 Professional Dev. in Political Sci.  
3 - American Politics Requirement<sup>4</sup>  
6 - Minor Requirement<sup>9</sup>  
5 - Elective  
15

**Second Semester**

3 - American Politics Requirement<sup>4</sup>  
6 - Minor Requirement<sup>9</sup>  
6 - Elective  
15  
121 Total Semester Hours

**GLOBAL POLITICS  
CONCENTRATION****Junior Year****First Semester**

3 - POSC 3410 Quantitative Methods in Pol. Sci.  
3 - Global Politics Requirement<sup>8</sup>  
3 - Oral Communication Requirement<sup>5</sup>  
6 - Elective  
15

**Second Semester**

3 - Global Politics Requirement<sup>8</sup>  
3 - Minor Requirement<sup>9</sup>  
3 - Science and Tech. in Society Requirement<sup>5</sup>  
7 - Elective  
16

**Senior Year****First Semester**

1 - POSC 4990 Professional Dev. in Political Sci.  
3 - Global Politics Requirement<sup>8</sup>  
6 - Minor Requirement<sup>9</sup>  
5 - Elective  
15

**Second Semester**

3 - Global Politics Requirement<sup>8</sup>  
6 - Minor Requirement<sup>9</sup>  
6 - Elective  
15  
121 Total Semester Hours

**POLITICAL ECONOMY  
CONCENTRATION****Junior Year****First Semester**

3 - ECON 3140 Intermediate Microeconomics  
3 - POSC 3410 Quantitative Methods in Pol. Sci.  
3 - Oral Communication Requirement<sup>5</sup>  
6 - Elective  
15

**Second Semester**

3 - ECON 3500 Moral and Ethical Aspects of a  
Market Economy  
3 - POSC 4480 International Political Economy  
3 - Science and Tech. in Society Requirement<sup>5</sup>  
7 - Elective  
16

**Senior Year****First Semester**

3 - POSC 4490 Political Theory of Capitalism  
1 - POSC 4990 Professional Dev. in Political Sci.  
3 - Advanced Political Science Requirement<sup>7</sup>  
3 - Economics Requirement<sup>10</sup>  
5 - Elective  
15

**Second Semester**

3 - ECON 3600 Public Choice  
3 - Advanced Political Science Requirement<sup>7</sup>  
3 - Economics Requirement<sup>10</sup>  
6 - Elective  
15  
121 Total Semester Hours

**PUBLIC ADMINISTRATION  
CONCENTRATION****Junior Year****First Semester**

3 - POSC 3210 Public Administration  
3 - POSC 3410 Quantitative Methods in Pol. Sci.  
3 - Oral Communication Requirement<sup>5</sup>  
6 - Elective  
15

**Second Semester**

3 - Advanced Political Science Requirement<sup>7</sup>  
6 - Public Administration Requirement<sup>11</sup>  
3 - Science and Tech. in Society Requirement<sup>5</sup>  
4 - Elective  
16

**Senior Year****First Semester**

3 - POSC 4210 Public Policy  
1 - POSC 4990 Professional Dev. in Political Sci.  
6 - Public Administration Requirement<sup>11</sup>  
5 - Elective  
15

**Second Semester**

3 - Policy/Administration Requirement<sup>12</sup>  
6 - Public Administration Requirement<sup>11</sup>  
6 - Elective  
15  
121 Total Semester Hours

**PUBLIC POLICY  
CONCENTRATION****Junior Year****First Semester**

3 - POSC 3410 Quantitative Methods in Pol. Sci.  
3 - POSC 4210 Public Policy  
3 - Oral Communication Requirement<sup>5</sup>  
6 - Elective  
15

**Second Semester**

3 - Advanced Political Science Requirement<sup>7</sup>  
6 - Public Policy Requirement<sup>11</sup>  
3 - Science and Tech. in Society Requirement<sup>5</sup>  
4 - Elective  
16

**Senior Year****First Semester**

3 - POSC 3210 Public Administration  
 1 - POSC 4990 Professional Dev. in Political Sci.  
 6 - Public Policy Requirement<sup>11</sup>  
 5 - Elective  
 15

**Second Semester**

3 - Policy/Administration Requirement<sup>12</sup>  
 6 - Public Policy Requirement<sup>11</sup>  
 6 - Elective  
 15

121 Total Semester Hours

<sup>1</sup>Six hours (through 2020) in Arabic, Chinese, French, German, Italian, Japanese, Portuguese or Spanish.

<sup>2</sup>MATH 1020 or 1060; MATH 1080 or 2070; STAT 2300 or 3090 or 3300.

<sup>3</sup>See General Education Requirements.

<sup>4</sup>POSC 3020, 3210, 3430, 3810, 4030, 4050, 4070, 4090, 4160, 4210, 4230, 4240, 4300, 4360, 4370, 4380, 4420, 4530, 4540, 4550, 4610, 4800, or 4820

<sup>5</sup>See General Education Requirements. (Note: Arts and Humanities (Non-Literature) Requirement must be satisfied by a course in PHIL or REL)

<sup>6</sup>PHIL 1020, 2250, 3230, 3250, or 3270

<sup>7</sup>Any 3000- or 4000-level POSC course

<sup>8</sup>POSC 3610, 3620, 3630, 3670, 3710, 3720, 3750, 4100, 4280, 4290, 4470, 4480, 4560, 4570, 4590, 4660, 4710, 4760, 4770, 4780, or (LANG) 4850

<sup>9</sup>See list of approved minors on page 93.

<sup>10</sup>ECON 3010, 3020, 3090, 3100, 3150, 3190, 4020, 4040, 4100, 4120, 4130, 4190, 4200, 4220, 4250, 4270, 4280, 4400 or HIST 3250, 3270.

<sup>11</sup>See advisor.

<sup>12</sup>POSC 3020, 4240, or 4300

**PSYCHOLOGY**

Psychology is the study of human and animal behavior and the biological, psychological, and social processes related to that behavior. The Bachelor's degree in Psychology prepares students for a variety of professional careers related to human resources, personnel, counseling, and other people-oriented positions in human services, business, and industry. Additionally, the Bachelor's degree provides excellent preparation for graduate training in such areas as clinical, counseling, industrial, experimental, cognitive, social, biological, health, developmental, and school psychology. The program also provides excellent preparation for students who intend to pursue professional training in medicine, physical or occupational therapy, dentistry, pharmacy, veterinary science, or law. Further information is available at [www.clemson.edu/psych/](http://www.clemson.edu/psych/).

**Change of Major into Psychology**

Students who change majors into Psychology must have completed at least 12 credit hours at Clemson or in the Bridge Program and must have a 2.4 minimum Clemson/Bridge cumulative grade-point average.

**Bachelor of Arts**

The Bachelor of Arts program requires PSYC 2010, 2020, 3090, 3100, 4920, and 19 additional credits selected from PSYC 2750 and/or 3000-4000-level psychology courses arranged as follows:

At least six credits from **Biological and Cognitive** courses: PSYC 3240, 3330, 4220

At least three credits from each of the following:  
**Applied**—PSYC 2750, 3640, 3680, 3830, 4350, 4560, 4800, 4880

**Individuals and Groups**—PSYC 3400, 3520, 3700

At least one credit from **Laboratory/Research** courses: PSYC 3250, 3340, 4230, 4560, 4710, 4900, 4930, 4950, 4970, 4980

At least six credits must be from 4000-level psychology courses, with at least three of those credits from psychology courses numbered between 4000 and 4890. BIOL 4700 may be taken in lieu of one elective psychology course. Students satisfying both the Applied and Laboratory requirements with PSYC 4560 must still satisfy the requirement for 19 additional credits in Psychology (see above). Students should consult their advisors for other degree requirements and course recommendations.

**Freshman Year****First Semester**

3 - PSYC 2010 Introduction to Psychology  
 1 - PSYC 2020 Introductory Psychology Lab.  
 3 - Foreign Language Requirement<sup>1</sup>  
 3 - Mathematics Requirement<sup>2</sup>  
 3 - Social Science Requirement<sup>3</sup>  
 1 - Elective  
 14

**Second Semester**

3 - ENGL 1030 Accelerated Composition  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>  
 3 - Foreign Language Requirement<sup>1</sup>  
 3 - Major Requirement<sup>4</sup>  
 4 - Natural Science with Lab Requirement<sup>2</sup>  
 16

**Sophomore Year****First Semester**

4 - PSYC 3090 Introductory Experimental Psych.  
 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>  
 3 - Cross-Cultural Awareness Requirement<sup>2</sup>  
 3 - Mathematics or Natural Science Requirement<sup>2</sup>  
 2 - Elective  
 15

**Second Semester**

4 - PSYC 3100 Advanced Experimental Psych.  
 3 - Departmental Math. or Science Requirement<sup>5</sup>  
 3 - Major Requirement<sup>4</sup>  
 5 - Elective  
 15

**Junior Year****First Semester**

4 - Major Requirement<sup>4</sup>  
 3 - Minor Requirement<sup>6</sup>  
 3 - Science and Tech. in Society Requirement<sup>2</sup>  
 5 - Elective  
 15

**Second Semester**

3 - Major Requirement<sup>4</sup>  
 3 - Minor Requirement<sup>6</sup>  
 3 - Oral Communication Requirement<sup>2</sup>  
 6 - Elective  
 15

**Senior Year****First Semester**

1 - PSYC 4920 Senior Laboratory in Psychology  
 3 - Major Requirement<sup>4</sup>  
 3 - Minor Requirement<sup>6</sup>  
 8 - Elective  
 15

**Second Semester**

3 - Major Requirement<sup>4</sup>  
 6 - Minor Requirement<sup>6</sup>  
 6 - Elective  
 15

120 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in the same modern foreign language are required.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>See General Education Requirements. Social Science Requirement must be in an area other than psychology.

<sup>4</sup>See major requirements in program description above.

<sup>5</sup>Three credit hours, in addition to the Mathematics and Natural Science General Education Requirements, are required. Select any mathematics or natural science course that satisfies the General Education Requirement, any MATH or STAT course at the 3000-level or higher, any natural or physical science course on the departmental list of acceptable courses, or any relevant course with the approval of the Psychology Department Chair.

<sup>6</sup>Select any minor listed on page 93.

**PSYCHOLOGY****Bachelor of Science**

The Bachelor of Science program in Psychology requires PSYC 2010, 2020, 3090, 3100, 4920, and 19 additional credits selected from PSYC 2750 and/or 3000-4000-level psychology courses arranged as follows:

At least six credits from the **Biological and Cognitive** menu: PSYC 3240, 3330, 4220

At least three credits from each of the following menu:

**Applied**—PSYC 2750, 3640, 3680, 3830, 4350, 4560, 4800, 4880

**Foundations of Science**—GW 4020, PHIL 3260, 3270, PSYC 4150

**Individuals and Groups**—PSYC 3400, 3520, 3700

At least one credit from the **Laboratory/Research** menu—PSYC 3250, 3340, 4230, 4560, 4710, 4900, 4930, 4950, 4970, 4980

At least six credits must be from 4000-level psychology courses, with at least three of those credits from psychology courses numbered between 4000 and 4890. BIOL 4700 may be taken in lieu of one elective psychology course. Students satisfying both the Applied and Laboratory/Research requirements with PSYC 4560 must still satisfy the requirement for 19 additional credits in Psychology (see above). Students should consult their advisors for other degree requirements and course recommendations.

**Freshman Year****First Semester**

3 - PHIL 1020 Introduction to Logic  
 3 - PSYC 2010 Introduction to Psychology  
 1 - PSYC 2020 Introductory Psychology Lab.  
 3 - Mathematics Requirement<sup>1</sup>  
 4 - Natural Science Requirement<sup>1</sup>  
 14

**Second Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 4 - Departmental Math. or Science Requirement<sup>2</sup>
  - 3 - Major Requirement<sup>3</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>1</sup>
  - 3 - Elective
- 
- 16

**Sophomore Year****First Semester**

- 4 - PSYC 3090 Introductory Experimental Psych.
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 4 - Departmental Math. or Science Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>4</sup>
- 
- 14

**Second Semester**

- 4 - PSYC 3100 Advanced Experimental Psychology
  - 3 - Cross-Cultural Awareness Requirement<sup>1</sup>
  - 3 - Departmental Math. or Science Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>4</sup>
  - 3 - Elective
- 
- 16

**Junior Year****First Semester**

- 3 - Departmental Math. or Science Requirement<sup>2</sup>
  - 3 - Major Requirement<sup>3</sup>
  - 3 - Minor Requirement<sup>5</sup>
  - 3 - Science and Tech. in Society Requirement<sup>1</sup>
  - 3 - Elective
- 
- 15

**Second Semester**

- 2 - Departmental Math. or Science Requirement<sup>2</sup>
  - 4 - Major Requirement<sup>3</sup>
  - 3 - Minor Requirement<sup>5</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
  - 3 - Elective
- 
- 15

**Senior Year****First Semester**

- 1 - PSYC 4920 Senior Laboratory in Psychology
  - 6 - Major Requirement<sup>3</sup>
  - 3 - Minor Requirement<sup>5</sup>
  - 5 - Elective
- 
- 15

**Second Semester**

- 3 - Major Requirement<sup>3</sup>
  - 6 - Minor Requirement<sup>5</sup>
  - 6 - Elective
- 
- 15

120 Total Semester Hours

<sup>1</sup>See General Education Requirements.<sup>2</sup>Sixteen credit hours, in addition to the Mathematics and Natural Science General Education Requirements, are required. Select any mathematics or natural science course that satisfies the General Education Requirement, any MATH or STAT course at the 3000-level or higher, any natural or physical science course on the departmental list of acceptable courses, or any relevant course with the approval of the Psychology Department Chair.<sup>3</sup>See major requirements in program description above.<sup>4</sup>See General Education Requirements. PSYC 2010 and two additional non-psychology social science courses (from the same or different fields) satisfy General Education and departmental requirements.<sup>5</sup>Select any minor listed on page 93.**SOCIOLOGY**

The Sociology major offers two degree programs: a Bachelor of Arts and a Bachelor of Science. Both degrees prepare students for a variety of professional careers related to human resources, management, public relations, social services, criminal justice, health services, social research, and other people-oriented positions in the public and private sector. In addition, the Bachelor's degree provides excellent preparation for graduate training in sociology, anthropology, social services, law, and business. Both degrees require a total of 121 semester hours, including 36 credit hours in sociology and/or anthropology, as identified below. Courses used to fulfill General Education Requirements may be used to fulfill minor requirements.

**Change of Major into Sociology**

Students who change majors into Sociology must have completed at least 12 credit hours at Clemson and must have a 2.0 minimum Clemson/Bridge cumulative grade-point average.

**Emphasis Areas in Sociology**

**Community Studies**—RS (SOC) 4590, SOC 3310, (RS) 4950; and six credits from all courses offered in anthropology or sociology not already taken to fulfill requirements.

**Criminal Justice**—SOC 3880, 3890; and nine credits selected from SOC 3910, 3920, 3970, 3980, 4680, 4860, 4910, 4930, 4940; and ANTH 3530. No more than three hours of SOC 4860 may be taken to satisfy concentration electives.

**General Sociology**—Three credit hours selected from SOC 3110, 3300, 4320, and 4440; three credit hours selected from SOC 3500, 3510, 3910, 4030, and 4330; and nine credit hours selected from any courses offered in anthropology or sociology not already taken to fulfill requirements.

**Social Services**—SOC 3800, 4140, (RS) 4950; and six credits from all courses offered in anthropology or sociology not already taken to fulfill requirements.

At least 12 of the total credits must be from 4000-level sociology, rural sociology, and/or anthropology courses; no more than nine credit hours may be taken in courses at the 1000 or 2000 level, except with approval of the department chair. Additional electives are added to meet the minimum of 121 hours required for graduation.

**Bachelor of Arts****Freshman Year****First Semester**

- 3 - MATH 1010 Essential Math. for Informed Soc. *or*
  - 3 - MATH 1020 Intro. to Mathemat. Analysis *or*
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - SOC 2010 Introduction to Sociology *or*
  - 3 - SOC 2020 Social Problems
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>2</sup>
  - 3 - Elective
- 
- 16-17

**Second Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 3 - STAT 2300 Statistical Methods I
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
  - 3 - Elective
- 
- 15

**Sophomore Year****First Semester**

- 3 - COMM 1500 Intro. to Human Comm. *or*
  - 3 - COMM 2500 Public Speaking
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - Cross-Cultural Awareness Requirement<sup>2</sup>
  - 6 - Elective
- 
- 15

**Second Semester**

- 1 - SOC 2050 Sociology Lab.
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 6 - Minor Requirement<sup>3</sup>
  - 3 - Science and Tech. in Society Requirement<sup>2</sup>
  - 3 - Elective
- 
- 16

**Junior Year****First Semester**

- 3 - ENGL 3040 Business Writing *or*
  - 3 - ENGL 3120 Advanced Composition *or*
  - 3 - ENGL 3140 Technical Writing *or*
  - 3 - ENGL 3160 Writing and International Trade
  - 3 - SOC 3020 Social Research Methods I
  - 3 - SOC 3600 Social Class and Poverty *or*
  - 3 - SOC 4600 Race and Ethnicity *or*
  - 3 - SOC 4610 Sociology of Sex and Gender
  - 3 - Advanced Humanities Requirement<sup>4</sup>
  - 3 - Emphasis Area Requirement<sup>5</sup>
- 
- 15

**Second Semester**

- 4 - SOC 3040 Social Research Methods II
  - 3 - Advanced Humanities Requirement<sup>4</sup>
  - 3 - Emphasis Area Requirement<sup>5</sup>
  - 6 - Minor Requirement<sup>3</sup>
- 
- 16

**Senior Year****First Semester**

- 3 - SOC 3600 Social Class and Poverty *or*
  - 3 - SOC 4600 Race and Ethnicity *or*
  - 3 - SOC 4610 Sociology of Sex and Gender
  - 3 - Advanced Humanities Requirement<sup>4</sup>
  - 6 - Emphasis Area Requirement<sup>5</sup>
  - 3 - Elective
- 
- 15

**Second Semester**

- 3 - SOC 4040 Sociological Theory
  - 1 - SOC 4970 Sociology Senior Lab.
  - 3 - Advanced Humanities Requirement<sup>4</sup>
  - 3 - Emphasis Area Requirement<sup>5</sup>
  - 3 - Minor Requirement<sup>3</sup>
- 
- 13

121-122 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in the same modern foreign language are required.<sup>2</sup>See General Education Requirements. (Note: Social Science Requirement must be in an area other than sociology.)<sup>3</sup>See page 93 for approved minors.<sup>4</sup>Humanities courses numbered 3000 or higher (ART 2100, MUSC 2100, THEA 2100 are accepted). The humanities for this purpose include art and architectural history, communication studies (except 3640 and 3680), English (except 3040, 3120, 3140, 3160, 3330, 4850, 4900, 4950), languages, music, philosophy, religion, theatre (except 3770, 4870, 4970), and women's studies, as well as courses entitled Humanities.<sup>5</sup>See emphasis area requirements in program description above.

**SOCIOLOGY****Bachelor of Science****Freshman Year****First Semester**

3 - MATH 1010 Essential Math. for Informed Soc. *or*  
 3 - MATH 1020 Intro. to Mathemat. Analysis *or*  
 4 - MATH 1060 Calculus of One Variable I  
 3 - SOC 2010 Introduction to Sociology *or*  
 3 - SOC 2020 Social Problems  
 4 - Natural Science Requirement<sup>1</sup>  
 3 - Social Science Requirement<sup>1</sup>  
 3 - Elective  
 16-17

**Second Semester**

3 - COMM 1500 Intro. to Human Comm. *or*  
 3 - COMM 2500 Public Speaking  
 3 - ENGL 1030 Accelerated Composition  
 3 - STAT 2300 Statistical Methods I  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 3 - Elective  
 15

**Sophomore Year****First Semester**

3 - Arts and Humanities (Literature) Requirement<sup>1</sup>  
 3 - Cross-Cultural Awareness Requirement<sup>1</sup>  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 3 - Minor Requirement<sup>3</sup>  
 3 - Elective  
 15

**Second Semester**

1 - SOC 2050 Sociology Lab.  
 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 6 - Minor Requirement<sup>3</sup>  
 3 - Science and Tech. in Society Requirement<sup>1</sup>  
 16

**Junior Year****First Semester**

3 - SOC 3020 Social Research Methods I  
 3 - SOC 3600 Social Class and Poverty *or*  
 3 - SOC 4600 Race and Ethnicity *or*  
 3 - SOC 4610 Sociology of Sex and Gender  
 3 - Advanced Humanities Requirement<sup>4</sup>  
 3 - Advanced Writing Requirement<sup>5</sup>  
 3 - Emphasis Area Requirement<sup>6</sup>  
 15

**Second Semester**

4 - SOC 3040 Social Research Methods II  
 3 - Advanced Humanities Requirement<sup>4</sup>  
 3 - Departmental Math. or Science Requirement<sup>2</sup>  
 3 - Emphasis Area Requirement<sup>6</sup>  
 3 - Minor Requirement<sup>3</sup>  
 16

**Senior Year****First Semester**

3 - SOC 3600 Social Class and Poverty *or*  
 3 - SOC 4600 Race and Ethnicity *or*  
 3 - SOC 4610 Sociology of Sex and Gender  
 6 - Departmental Math. or Science Requirement<sup>2</sup>  
 3 - Emphasis Area Requirement<sup>6</sup>  
 3 - Elective  
 15

**Second Semester**

3 - SOC 4040 Sociological Theory  
 1 - SOC 4970 Sociology Senior Lab.  
 6 - Emphasis Area Requirement<sup>6</sup>  
 3 - Minor Requirement<sup>3</sup>  
 13

121-122 Total Semester Hours

<sup>1</sup>See General Education Requirements. (Note: Social Science Requirement must be in an area other than sociology.)<sup>2</sup>See advisor. At least nine of the 18 hours must be at the 3000 level or above.<sup>3</sup>See page 93 for approved minors.<sup>4</sup>Humanities courses numbered 3000 or higher (ART 2100, MUSC 2100, THEA 2100 are accepted). The humanities for this purpose include art and architectural history, communication studies (except 3640 and 3680), English (except 3040, 3120, 3140, 3160, 3330, 4850, 4900, 4950), languages, music, philosophy, religion, theatre (except 3770, 4870, 4970), and women's studies, as well as courses entitled Humanities.<sup>5</sup>ENGL 3040, 3120, 3140, or 3160<sup>6</sup>See emphasis area requirements in program description above.

## MINORS

Following are minors acceptable for students in the College of Business and Behavioral Science. Students cannot major and minor in the same field or acquire a minor that is not allowed by the degree program.

Accounting	Horticulture
Adult/Extension Education	Human Resources Management— <i>not open to Management majors</i>
Aerospace Studies	Legal Studies
Agricultural Business Management	Management
Agricultural Mechanization and Business	Management Information Systems— <i>not open to Management Majors</i>
American Sign Language Studies	Mathematical Sciences
Animal and Veterinary Sciences	Microbiology
Anthropology	Military Leadership
Architecture	Modern Languages
Art	Music
Athletic Leadership— <i>not open to Marketing majors</i>	Natural Resource Economics
Biochemistry	Nonprofit Leadership
Biological Sciences	Nuclear Engineering and Radiological Sciences
British and Irish Studies	Packaging Science
Business Administration— <i>not open to Accounting, BS Economics (except students pursuing a second degree in a business related field), Financial Management, Management, or Marketing majors</i>	Pan African Studies
Chemistry	Park and Protected Area Management
Cluster	Philosophy
Communication Studies	Physics
Computer Science	Plant Pathology
Crop and Soil Environmental Science	Political Science
Digital Production Arts	Precision Agriculture
East Asian Studies	Psychology
Economics	Public Policy— <i>not open to Political Science majors</i>
Education— <i>not open to Graphic Communications majors</i>	Recreational Therapy
English	Religion
Entomology	Russian Area Studies
Entrepreneurship— <i>not open to Accounting, BS Economics, Financial Management, Management, or Marketing majors</i>	Science and Technology in Society
Environmental Science and Policy	Screenwriting
Equine Industry	Sociology
Film Studies	Spanish-American Area Studies
Financial Management	Sustainability
Food Science	Theatre
Forest Products	Travel and Tourism
Forest Resource Management	Turfgrass
Gender, Sexuality, and Women's Studies	Urban Forestry
Genetics	Wildlife and Fisheries Biology
Geography	Women's Leadership
Geology	Writing
Global Politics— <i>not open to Political Science majors</i>	
Great Works	
History	

See pages 40-43 for details.

# COLLEGE OF ENGINEERING AND SCIENCE

The College of Engineering and Science offers a broad range of rigorous and stimulating baccalaureate programs that provide unexcelled educational opportunities. The innovative combination of engineering and science disciplines that comprises the College, facilitates study and research in fields transcending the traditional disciplines. Students enjoy close interaction with a distinguished faculty committed to excellence in undergraduate education, as well as in research. Additional information on the College and its programs is available at [www.clemson.edu/ces](http://www.clemson.edu/ces).

## Minors

Engineering and science students can complement their majors by selecting minor concentrations of study. Available minors include International Engineering and Science, and one in each of the science majors (see page 113).

## International Programs

The world economy has become very tightly integrated, making it highly important that engineering and science students prepare themselves for this global environment. The College offers a minor in International Engineering and Science coupled with several programs that provide opportunities for students to gain international experience. These include study abroad at many locations around the world and EPIC (an international co-op program). In addition, engineering and science students are encouraged to pursue study of a foreign language. A Certificate in International Engineering and Science, that combines language study and an international practicum, is also offered. Information is available in the Undergraduate Studies Office (107 Riggs Hall) and at [www.clemson.edu/ces/students/global](http://www.clemson.edu/ces/students/global).

## ENGINEERING PROGRAMS

The Bachelor of Science engineering degree programs in Bioengineering, Biosystems Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Environmental Engineering, Industrial Engineering, Materials Science and Engineering (Inorganic Materials), Materials Science and Engineering (Polymeric Materials) and Mechanical Engineering are each accredited by the Engineering Accreditation Commission (EAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone: (410) 347-7700.

All engineering programs have the common goal of producing engineering graduates who are able to:

- apply knowledge of math, science, and engineering
- identify, formulate, and solve engineering problems
- design and conduct experiments and analyze data
- design systems or components to meet needs within realistic constraints
- function on multidisciplinary teams
- communicate effectively
- conduct themselves professionally and ethically

- understand engineering's global, economic, environmental, and societal context
- understand contemporary engineering issues
- apply modern engineering methods and tools
- appreciate the need for life-long learning

Each engineering program has objectives specific to the discipline. All prepare students for a wide range of career opportunities and provide sound preparation for graduate study. Each curriculum provides opportunities for students to pursue individual areas of interest.

## Admission Requirements

The University admission requirements are given under the section entitled *Admission*. Engineering applicants are strongly advised to include the following in their high school programs:

**Mathematics**—Four units, including geometry, trigonometry, and introductory calculus

**Laboratory Science**—At least three units, including both chemistry and physics

**Computing**—At least one unit, including introduction to a programming language. Applicants should have good keyboarding skills.

## General Engineering Program

All new engineering students (including transfer students who have not completed all courses in the freshman engineering curriculum) are admitted into General Engineering. The General Engineering Program provides students an opportunity to explore various engineering fields while getting a sound academic preparation for engineering study.

## Freshman Curriculum

### First Semester

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I
- 1 - ENGR 1060 Engineering Disciplines and Skills II
- 4 - MATH 1060 Calculus of One Variable I
- 3 - General Education Requirement<sup>1</sup>

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### Second Semester

- 1 - ENGR 1070 Programming and Problem Solving I<sup>2</sup>
- 1 - ENGR 1080 Programming and Problem Solving II<sup>2</sup>
- 1 - ENGR 1090 Programming and Problem Solving Applications<sup>2</sup>
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I
- 3-5 - Departmental Science or other Requirement(s)<sup>3</sup>
- 3 - General Education Requirement<sup>1</sup>

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<sup>1</sup>See Policy on General Education Requirements for Engineering Curricula below.

<sup>2</sup>Students who plan to pursue a Chemical Engineering degree should consult an advisor for requirements.

<sup>3</sup>See advisor for specific engineering major requirements.

## Admission into Engineering Degree Programs

To transfer into an engineering degree program, a student must have completed the following courses in the freshman engineering curriculum with a grade of C or better:

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I<sup>1</sup>
- 1 - ENGR 1060 Engineering Disciplines and Skills II<sup>1</sup>
- 1 - ENGR 1070 Programming and Problem Solving I<sup>1</sup>
- 1 - ENGR 1080 Programming and Problem Solving II<sup>1</sup>
- 1 - ENGR 1090 Programming and Problem Solving Applications<sup>1</sup>
- 4 - MATH 1060 Calculus of One Variable I
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I

<sup>1</sup>Chemical Engineering requirements vary; please see an advisor for details.

In addition, the student must have the minimum grade-point average specified by the engineering degree program for admission.

Students should initiate a change-of-major request prior to the registration period during the semester when they expect to complete the freshman curriculum. Students who fail to meet the requirements for admission into a degree program may remain in General Engineering until those requirements are met; however, General Engineering majors are not permitted to take 3000- or 4000-level engineering courses. Engineering departments may allow General Engineering majors to enroll in selected 2000-level engineering courses (policy varies by department). Students admitted into an engineering degree program will follow the curriculum in effect at the time of admission into General Engineering, unless otherwise approved by the specific engineering department.

## General Education Requirements for Engineering Curricula

Engineers have an obligation to practice their profession in a socially responsible manner. The education of engineers must prepare them for this responsibility and make them aware of the constraints imposed by societal and cultural factors. Thus, the humanities and social sciences are an important component of the engineering curricula. Further, the program of study must include educational experiences addressing the intersection of science and technology with society and cross-cultural awareness.

In addition to the University General Education Requirements, some engineering majors are required to complete additional credit hours from a college approved list. Individual engineering curricula may have more specific requirements. For a complete list of acceptable courses, please speak with an advisor.

## Electives for Engineering Curricula

Advisors must approve any course taken for elective credit in the Engineering curricula. Courses excluded for elective credit include PHYS 2000, 2070/2090, 2080/2100.

## Registration Requirements

A cumulative grade-point average of 2.0 or higher is required for registration in engineering courses numbered 3000 or higher. Priority for registration in engineering courses is given to those majors for whom the course is a degree requirement. Exceptions to this requirement may be granted by the department offering the course.

## Graduation Requirements

In addition to other institutional requirements, candidates for a baccalaureate degree in Engineering are required to have a 2.0 or higher cumulative grade-point average in all engineering courses taken at Clemson. All courses with "Engineering" in the course designator (e.g., ENGR 1300, ME 4530, etc.) are used in this calculation.

The baccalaureate programs in Engineering are designed to be completed in four years (eight regular semesters). Taking a reduced load or participating in cooperative education will extend this time. On average, Clemson engineering students take about four and one-half years to complete the requirements for graduation.

## BIOENGINEERING

### Bachelor of Science

The undergraduate program in Bioengineering is built upon a rigorous engineering science foundation that is, in turn, based upon a broad curriculum of applied and life sciences, mathematics, electives in humanities, social science, and design. Students select a formal focus that concentrates in a subfield of interest in bioengineering: Bioelectrical Concentration or Biomaterials Concentration.

The curriculum provides undergraduates with a solid background in engineering and life sciences in preparation for advanced studies. Through the Bioengineering program, graduates acquire an understanding of biology, biochemistry, and physiology and the capability to apply advanced mathematics, including differential equations and statistics, science, and engineering, to solve the problems at the interface of engineering and biology. Graduates also have an ability to make measurements on and interpret data from living systems, addressing the problems associated with the interaction between living and nonliving materials and systems.

### Combined Bachelor's/Master's Plan

Bioengineering undergraduates may begin a Master of Science degree program or a Master of Engineering degree program while completing the Bachelor of Science degree and use a limited number of courses to satisfy the requirements of both the undergraduate and graduate degrees. Details are available from the Department of Bioengineering.

## BIOELECTRICAL CONCENTRATION

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I
- 1 - ENGR 1060 Engineering Disciplines and Skills II
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>

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### Second Semester

- 4 - CH 1020 General Chemistry
- 1 - ENGR 1070 Programming and Problem Solving I
- 1 - ENGR 1080 Programming and Problem Solving II
- 1 - ENGR 1090 Programming and Problem Solving Applications
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I<sup>2</sup>
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>
- 1 - Biology Requirement<sup>3</sup>

### Sophomore Year

#### First Semester

- 3 - BIOE 2010 Intro. to Biomedical Engineering
- 2 - ECE 2010 Logic and Computing Devices
- 3 - ECE 2020 Electric Circuits I
- 1 - ECE 2090 Logic and Computing Devices Lab.
- 1 - ECE 2110 Electrical Engineering Lab. I
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II<sup>2</sup>

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#### Second Semester

- 0 - BIOE 2000 Bioengineering Professional Development
- 3 - CE 2010 Statics
- 1 - ECE 2120 Electrical Engineering Lab. II
- 3 - ECE 2620 Electric Circuits II
- 2 - ENGR 2080 Engineering Graphics and Machine Design
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
- 3 - MSE 2100 Introduction to Materials Science

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### Junior Year

#### First Semester

- 4 - BIOL 3150 Functional Human Anatomy
- 3 - CH 2010 Survey of Organic Chemistry<sup>2</sup> and
- 1 - CH 2020 Survey of Organic Chemistry Lab.<sup>2</sup>
- 1 - ECE 3110 Electrical Engineering Lab. III
- 3 - ECE 3200 Electronics I
- 3 - ECE 3300 Signals, Systems, and Transforms

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#### Second Semester

- 3 - BCHM 3050 Essential Elements of Biochem.
- 0 - BIOE 3000 Bioengineering Ethics and Entrepreneurship
- 3 - BIOE 3020 Biomaterials
- 3 - BIOE 3700 Bioinstrumentation and Bioimaging
- 3 - ECE 3800 Electromagnetics
- 3 - BIOE or ECE Technical Requirement<sup>3</sup>

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### Senior Year

#### First Semester

- 3 - BIOE 3200 Biomechanics
- 3 - BIOE 4010 Bioengineering Design Theory
- 3 - BIOL 4610 Cell Biology
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>
- 3 - BIOE or ECE Technical Requirement<sup>3</sup>

15

### Second Semester

- 1 - BIOE 4000 Bioengineering Leadership and MedTech Commercialization
- 3 - BIOE 4030 Applied Biomedical Design
- 3 - BIOE 4480 Tissue Engineering
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>
- 6 - BIOE or ECE Technical Requirement<sup>3</sup>

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128 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>Students planning to enter medical school should take CH 2230/2270 instead of CH 2010/2020 and take CH 2240/2280 as an additional course sequence. Students planning to enter medical school should also take physics laboratories as additional courses ((PHYS 1220 course with PHYS 1240 lab and PHYS 2210 course with PHYS 2230 lab).

<sup>3</sup>Select from department-approved list.

Notes:

1. To transfer from General Engineering into the Bioengineering degree program, students must have a minimum cumulative grade-point average of 3.0 in courses taken at Clemson and must have earned a C or better in each course in the General Engineering freshman curriculum, including the Arts and Humanities/Social Science Requirements.
2. A student is allowed to enroll in ECE courses (excluding ECE 2070, 2080, 3080) only when all prerequisites have been passed with a grade of C or better.
3. All Bioelectrical Concentration students must have a cumulative engineering grade-point average of 2.0 to enroll in any 3000- or 4000-level ECE courses.
4. No student may exceed a maximum of two attempts, excluding a W, to complete successfully any ECE course.

## BIOMATERIALS CONCENTRATION

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I
- 1 - ENGR 1060 Engineering Disciplines and Skills II
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>

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#### Second Semester

- 4 - CH 1020 General Chemistry
- 1 - ENGR 1070 Programming and Problem Solving I
- 1 - ENGR 1080 Programming and Problem Solving II
- 1 - ENGR 1090 Programming and Problem Solving Applications
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I<sup>2</sup>
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>
- 1 - Biology Requirement<sup>3</sup>

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**Sophomore Year****First Semester**

- 3 - BIOE 2010 Intro. to Biomedical Engineering
- 3 - CH 2010 Survey of Organic Chemistry<sup>2</sup>
- 1 - CH 2020 Survey of Organic Chemistry Lab.<sup>2</sup>
- 4 - MATH 2060 Calculus of Several Variables
- 3 - MSE 2100 Introduction to Materials Science
- 3 - PHYS 2210 Physics with Calculus II<sup>2</sup>

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**Second Semester**

- 0 - BIOE 2000 Bioengineering Professional Development
- 3 - BIOE 3020 Biomaterials
- 3 - CE 2010 Statics
- 2 - ECE 2070 Basic Electrical Engineering
- 1 - ECE 2080 Electrical Engineering Lab. I
- 2 - ENGR 2080 Engineering Graphics and Machine Design
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations

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**Junior Year****First Semester**

- 3 - BIOE 3200 Biomechanics
- 4 - BIOL 3150 Functional Human Anatomy
- 3 - MSE 3190 Materials Processing I
- 3 - MSE 3260 Thermodynamics of Materials
- 3 - MSE 3270 Transport Phenomena

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**Second Semester**

- 3 - BCHM 3050 Essential Elements of Biochem.
- 0 - BIOE 3000 Bioengineering Ethics and Entrepreneurship
- 3 - BIOE 3210 Biofluid Mechanics
- 3 - BIOE 3700 Bioinstrumentation and Bioimaging
- 3 - MATH 3020 Statistics for Science and Engr.
- 3 - Bioengineering Technical Requirement<sup>3</sup>

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**Senior Year****First Semester**

- 3 - BIOE 4010 Bioengineering Design Theory
- 3 - BIOL 4610 Cell Biology
- 3 - MSE 4150 Intro. to Polymer Science and Engr.
- 3 - Arts and Humanities Requirement<sup>1</sup> or 3 - Social Science Requirement<sup>1</sup>
- 3 - Bioengineering Technical Requirement<sup>3</sup>

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**Second Semester**

- 1 - BIOE 4000 Bioengineering Leadership and MedTech Commercialization
- 3 - BIOE 4030 Applied Biomedical Design
- 3 - BIOE 4480 Tissue Engineering
- 3 - Arts and Humanities Requirement<sup>1</sup> or 3 - Social Science Requirement<sup>1</sup>
- 6 - Bioengineering Technical Requirement<sup>3</sup>

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128 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>Students planning to enter medical school should take CH 2230/2270 instead of CH 2010/2020 and take CH 2240/2280 as an additional course sequence. Students planning to enter medical school should also take physics laboratories as additional courses (PHYS 1220 course with PHYS 1240 lab and PHYS 2210 course with PHYS 2230 lab).

<sup>3</sup>Select from department-approved list.

Note: To transfer from General Engineering into the Bioengineering degree program, students must have a minimum cumulative grade-point average of 3.0 in courses taken at Clemson and must have earned a C or better in each course in the General Engineering freshman curriculum including the Arts and Humanities/Social Science Requirements.

**BIOSYSTEMS ENGINEERING****Bachelor of Science**

Biosystems engineering is the field of engineering most closely allied with advances in biology. Biosystems engineers apply engineering design and analysis to biological systems and incorporate fundamental biological principles to engineering designs to achieve ecological balance.

The Biosystems engineering program emphasizes two main areas – sustainable bioprocess engineering, with its basis in microbiology, and ecological engineering, with its basis in ecology. Bioprocess engineering focuses on the sustainable production of biorefinery compounds - biofuels, nutraceuticals, bioactive molecules, and biomaterials - using metabolic pathways found in nature and green processing technologies. Ecological engineering focuses on the design of sustainable communities utilizing low-impact development strategies such as bioretention basins, rainwater harvesting, and bioswales for stormwater retention, treatment, and management. Both emphasis areas interface with ecologically-sound food and energy-crop and feedstock production systems.

Biosystems engineers lead teams to:

- Design bioprocesses and systems for biofuels (biodiesel, hydrogen, ethanol), biopharmaceutical, bioplastics, and food processing industries
- Develop ecological designs (permeable pavement, bioswales, green infrastructure) to integrate stormwater management into the landscape
- Integrate biological sustainability into energy, water and food systems
- Provide engineering expertise for agriculture, food processing, and manufacturing industries.

Biosystems engineering graduates are highly qualified to pursue graduate studies in biosystems engineering, biomedical engineering or ecological engineering fields, or medical or veterinary school.

Students are urged to complete a minor and participate in the Cooperative Education, Biosystems Engineering Intern, and/or Study Abroad Programs. Those interested in medical school can fulfill requirements with the Biosystems Engineering BS degree.

Additional information is available from the departmental offices or at: <http://www.clemson.edu/majors/biosystems-engineering>.

**Combined Bachelor's/Master's Program**

Under this plan, students may reduce the time necessary to earn both degrees by applying graduate credits to both undergraduate and graduate program requirements.

Undergraduate students in Biosystems Engineering may begin a Master of Science or a Master of Engineering Degree in Environmental Engineering and Science or Master of Science Degree in Bioengineering while completing the BS degree.

Students are encouraged to obtain the specific requirements for the dual degree from the academic departments involved as early as possible in their undergraduate program. See *Academic Regulations* in this catalog for enrollment guidelines and procedures.

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I
- 1 - ENGR 1060 Engineering Disciplines and Skills II
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities Requirement<sup>1</sup> or 3 - Social Science Requirement<sup>1</sup>

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**Second Semester**

- 4 - CH 1020 General Chemistry
- 1 - ENGR 1070 Programming and Problem Solving I
- 1 - ENGR 1080 Programming and Problem Solving II
- 1 - ENGR 1090 Programming and Problem Solving Applications
- 2 - ENGR 2100 Computer-Aided Design and Engineering Applications
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I

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**Sophomore Year****First Semester**

- 2 - BE 2120 Fundamentals of Biosystems Engr.
- 3 - CE 2010 Statics<sup>2</sup>
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II
- 4 - Biology Requirement<sup>3</sup>

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**Second Semester**

- 2 - BE 2100 Intro. to Biosystems Engineering
- 2 - CE 2080 Dynamics<sup>2</sup>
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
- 3 - ME 3100 Thermodynamics and Heat Transfer
- 4 - MICR 3050 General Microbiology

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**Junior Year****First Semester**

- 3 - BE 3200 Principles and Practices of Geomatics
- 3 - BE 4100 Biol. Kinetics and Reactor Modeling
- 3 - BIOL 4410 Ecology
- 4 - CE 3410 Introduction to Fluid Mechanics
- 2 - ECE 2070 Basic Electrical Engineering
- 1 - ECE 2080 Electrical Engineering Lab. I

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**Second Semester**

- 3 - BE 3220 Small Watershed Hydrology and Sedimentology
  - 3 - BE 4120 Heat and Mass Transport in Biosystems Engineering
  - 4 - BE 4150 Instrumentation and Process Control for Biosystems Engineering
  - 3 - BE 4380 Bioprocess Engineering Design
  - 3 - CH 2230 Organic Chemistry
  - 1 - CH 2270 Organic Chemistry Laboratory
- 

<sup>1</sup>Students should choose courses to fulfill General Education requirements including Humanities, Social Science, Cross-Cultural Awareness and Science and Technology in society components. See *Undergraduate Announcements* and academic advisor for details.

<sup>2</sup>ME 2010 may be substituted for CE 2010 and 2080

<sup>3</sup>BIOL 1030/1050 or 1100

## BIOPROCESS ENGINEERING EMPHASIS AREA

**Senior Year****First Semester**

- 3 - BCHM 3050 Biochemistry
  - 3 - BE 4280 Biochemical Engineering
  - 2 - BE 4740 Biosystems Engr. Design/Project Mgt.
  - 2 - BE 4750 Biosystems Engr. Capstone Design
  - 2 - BIOL 4340 Biol. Chemical Lab. Techniques
  - 4 - CE 2060 Structural Mechanics
- 

**Second Semester**

- 9 - Arts and Humanities Requirement<sup>1</sup> or 9 - Social Science Requirement<sup>1</sup>
  - 3 - Engineering Requirement<sup>4</sup>
  - 3 - Global Sustainability Requirement<sup>5</sup>
- 

127 Total Semester Hours

<sup>4</sup>Any 3000-level or higher ENGR or other approved course.

<sup>5</sup>Select from Sustainability Minor course list or other approved course.

## ECOLOGICAL ENGINEERING EMPHASIS AREA

**Senior Year****First Semester**

- 2 - BE 4210 Engineering Systems for Soil Water Management
  - 2 - BE 4740 Biosystems Engr. Design/Project Mgt.
  - 2 - BE 4750 Biosystems Engr. Capstone Design
  - 4 - CE 2060 Structural Mechanics
  - 3 - Arts and Humanities Requirement<sup>1</sup> or 3 - Social Science Requirement<sup>1</sup>
  - 3 - Ecological Requirement<sup>4</sup>
- 

**Second Semester**

- 3 - BE 4240 Ecological Engineering
  - 6 - Arts and Humanities Requirement<sup>1</sup> or 6 - Social Science Requirement<sup>1</sup>
  - 3 - Engineering Requirement<sup>5</sup>
  - 3 - Global Sustainability Requirement<sup>6</sup>
- 

127 Total Semester Hours

<sup>4</sup>Ecological Requirement: Choose from BIOL, FOR, HORT, MICR, PES,WFB 3000-level or above or other approved course.

<sup>5</sup>Any 3000-level or higher ENGR or other approved course.

<sup>6</sup>Select from Sustainability Minor course list or other approved course.

*Notes for Bioprocess and Ecological Engineering emphasis areas:*

1. The following must be completed with C or better: CE 2010, 2060, 2080, 3410; MATH 2060, 2080; ME 3100; PHYS 2210.
2. Biosystems Engineering students are encouraged to complete a Minor, Coop Ed program, internship (BE 3700) and/or a Study Abroad Program.
3. Departmental Honors Thesis (BE 3000/3010/4000) is available for qualifying Junior/Senior students.

## CHEMICAL ENGINEERING

**Bachelor of Science**

The Department of Chemical and Biomolecular Engineering offers the Bachelor of Science degree in Chemical Engineering. Chemical Engineering students select one of several emphasis areas (such as energy studies or environmental engineering), a concentration in Biomolecular Engineering (to prepare them for medical school or a career in biotechnology), or any approved minor.

Chemical engineering is based on chemistry, biology, physics, and mathematics. The curriculum at Clemson includes classroom and laboratory instruction and emphasizes broadly applicable fundamental principles and current technology to prepare graduates for professional practice and professional growth. The Educational Objective of the BS degree program is for graduates to have careers characterized by:

- success in chemical engineering practice, post-graduate education, or other areas making use of engineering skills, as defined by accomplishments and/or job satisfaction;
- demonstrated success in the design of chemical processes and/or identification, formulation, and solution of chemical engineering problems;
- ethical behavior in all endeavors;
- demonstrated effectiveness in teamwork, communication, and service to society through professional contributions;
- demonstrated technical and/or managerial leadership; and
- demonstrated commitment to lifelong learning.

Chemical engineers are involved in the research, manufacture, sales, and use of commodity and specialty chemicals, fuels, pharmaceuticals, electronic components, synthetic fibers and textiles, food and consumer goods, and many other products. They work on environmental pollution prevention and remediation and apply engineering science to solve medical and health-related problems.

### Combined Bachelor of Science/ Master of Science

Qualified students can reduce the time to earn a Master's Degree by applying graduate credits to both the Bachelor's and Master's program requirements. Undergraduate Chemical and Biomolecular Engineering students who have earned a grade-point average of 3.4 or above and completed 90 credit hours can begin work toward a Master of Science in Chemical Engineering or a Master of Science in Environmental Engineering and Science by selecting approved graduate courses for their emphasis area.

Details are available in the ChBE Undergraduate Handbook, which can be found at [www.clemson.edu/ces/chbe](http://www.clemson.edu/ces/chbe).

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 1 - ENGR 1050 Engineering Disciplines and Skills I
  - 1 - ENGR 1060 Engineering Disciplines and Skills II
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or 3 - Social Science Requirement<sup>1</sup>
- 

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 2 - CHE 1300 Chemical Engineering Tools
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 1220 Physics with Calculus I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or 3 - Social Science Requirement<sup>1</sup>
- 

**Sophomore Year****First Semester**

- 3 - CH 2230 Organic Chemistry
  - 4 - CHE 2110 Intro. to Chemical Engineering
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2210 Physics with Calculus II
  - 3 - Arts and Humanities Requirement<sup>1</sup> or 3 - Social Science Requirement<sup>1</sup>
- 

**Second Semester**

- 3 - CH 2240 Organic Chemistry
  - 1 - CH 2290 Organic Chemistry Lab.
  - 3 - CHE 2200 Chemical Engr. Thermodynamics I
  - 4 - CHE 2300 Fluids/Heat Transfer
  - 4 - MATH 2080 Intro. to Ordinary Diff. Equations
- 

**Junior Year****First Semester**

- 1 - CH 3390 Physical Chemistry Lab.
  - 3 - CHE 3070 Unit Operations Lab. I
  - 3 - CHE 3190 Engineering Materials
  - 2 - ECE 2070 Basic Electrical Engineering
  - 1 - ECE 2080 Electrical Engineering Lab. I
  - 3 - STAT 4110 Statistical Methods for Process Development and Control
  - 3 - Biochemistry Option<sup>2</sup> or 3 - Emphasis Area<sup>3</sup>
- 

**Second Semester**

- 3 - CH 3320 Physical Chemistry
  - 1 - CH 3400 Physical Chemistry Lab.
  - 3 - CHE 3210 Chemical Engr. Thermodynamics II
  - 4 - CHE 3300 Mass Transfer and Separation Proc.
  - 3 - Arts and Humanities Requirement<sup>1</sup> or 3 - Social Science Requirement<sup>1</sup>
  - 3 - Biochemistry Option<sup>2</sup> or 3 - Emphasis Area<sup>3</sup>
-

**Senior Year****First Semester**

- 3 - CHE 4070 Unit Operations Lab. II
  - 3 - CHE 4310 Chemical Process Design I
  - 1 - CHE 4430 Chemical Engr. Senior Seminar I
  - 3 - CHE 4500 Chemical Reaction Engineering
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
  - 3 - Emphasis Area Requirement<sup>3</sup>
- 

**Second Semester**

- 3 - CHE 3530 Process Dynamics and Control
  - 3 - CHE 4330 Process Design II
  - 1 - CHE 4440 Chemical Engr. Senior Seminar II
  - 3 - MICR 4130 Industrial Microbiology
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
  - 3 - Emphasis Area Requirement<sup>3</sup>
- 

129 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>Select one course from BCHM 3050, BMOL 4250, or CH 3600.

<sup>3</sup>See advisor for details. Nine credit hours devoted to completion of an emphasis area or approved minor are required. Emphasis areas are Applied Engineering, Mathematics and Science; Biomolecular Science and Engineering; Business Management; Environmental Engineering; Polymeric Materials; Energy Studies.

Note: No student may exceed a maximum of two attempts, including a W, to complete successfully any CHE course.

**BIOMOLECULAR ENGINEERING CONCENTRATION****Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 1 - ENGR 1050 Engineering Disciplines and Skills I
  - 1 - ENGR 1060 Engineering Disciplines and Skills II
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 2 - CHE 1300 Chemical Engineering Tools
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 1220 Physics with Calculus I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 

**Sophomore Year****First Semester**

- 5 - BIOL 1100 Principles of Biology I
  - 3 - CH 2230 Organic Chemistry
  - 4 - CHE 2110 Intro. to Chemical Engineering
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 

**Second Semester**

- 2 - BIOL 4340 Biological Chem. Lab. Techniques
  - 3 - CH 2240 Organic Chemistry
  - 1 - CH 2290 Organic Chemistry Lab.
  - 3 - CHE 2200 Chemical Engr. Thermodynamics I
  - 4 - CHE 2300 Fluids/Heat Transfer
  - 3 - Biochemistry Option<sup>2</sup>
- 

**Junior Year****First Semester**

- 3 - BIOE 3020 Biomaterials
  - 3 - BCHM 4310 Physical Approach to Biochem.
  - 3 - CHE 3070 Unit Operations Lab. I
  - 3 - CHE 3190 Engineering Materials
  - 4 - MATH 2080 Intro. to Ordinary Diff. Equations
- 

**Second Semester**

- 3 - BMOL 4250 Biomolecular Engineering
  - 3 - CHE 3210 Chemical Engr. Thermodynamics II
  - 4 - CHE 3300 Mass Transfer and Separation Proc.
  - 3 - PHYS 2210 Physics with Calculus II
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 

**Senior Year****First Semester**

- 3 - CHE 4070 Unit Operations Lab. II
  - 3 - CHE 4310 Chemical Process Design I
  - 1 - CHE 4430 Chemical Engr. Senior Seminar I
  - 3 - CHE 4500 Chemical Reaction Engineering
  - 3 - STAT 4110 Statistical Methods for Process Development and Control
  - 3 - Engineering Requirement<sup>3</sup>
- 

**Second Semester**

- 3 - CHE 3530 Process Dynamics and Control
  - 3 - CHE 4330 Process Design II
  - 1 - CHE 4440 Chemical Engr. Senior Seminar II
  - 6 - Arts and Humanities Requirement<sup>1</sup> or  
6 - Social Science Requirement<sup>1</sup>
  - 3 - Engineering Requirement<sup>3</sup>
- 

131 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>Select from BCHM 3050 or CH 3600.

<sup>3</sup>Select from CHE 4010 or BMOL 4030, 4230, 4260, 4270, BE 4280, MICR 4130.

Note: No student may exceed two attempts, including a W, to complete successfully any CHE course.

**CIVIL ENGINEERING****Bachelor of Science**

Civil Engineering involves the planning, design, construction management, operation, and maintenance of facilities and systems in the built environment, including bridges, buildings, airports, water supply systems, ports, dams, and highways.

The Bachelor of Science degree program in Civil Engineering includes the common educational goals listed on page 94 for the College of Engineering and Science. The complete objectives of the program can be found at [www.clemson.edu/ce](http://www.clemson.edu/ce).

The first two years provide students with building blocks necessary to be successful civil engineers, including proficiency in calculus, engineering mechanics, physics, and chemistry. During the junior year, students receive a broad introduction to the fundamental areas of civil engineering (structures, hydraulics, geotechnical, transportation, environmental, construction materials, and construction engineering and management). Design experiences are integrated throughout the curriculum, culminating in the senior year with a major capstone design project. In addition, during the senior year, students can select from available emphasis areas that serve to strengthen their undergraduate background.

The Civil Engineering program prepares students to work immediately upon graduation in most areas of civil engineering or to pursue graduate degrees. Students are also exposed to issues related to professional practice, including professional registration, life-long learning, and communication and team skills. Because a concerned society demands a realistic consideration of the impacts of engineering projects, civil engineering students are also educated in the broad areas of the humanities and social sciences.

To be eligible for admission into the Bachelor of Science degree program in Civil Engineering, students must have completed the courses outlined in the freshman core curriculum and have a cumulative grade-point average of 2.6 or higher.

The Department of Civil Engineering allows eligible students to count up to six hours of graduate credit (6000- and 8000-level courses) toward both the bachelor's and master's degrees. Students participating in this program must have completed the junior year, must have earned a minimum 3.4 grade-point average, and must be approved by the department. Details of the suggested curriculum and program information are available from the department.

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 1 - ENGR 1050 Engineering Disciplines and Skills I
  - 1 - ENGR 1060 Engineering Disciplines and Skills II
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 

**Second Semester**

- 1 - ENGR 1070 Programming and Problem Solving I
  - 1 - ENGR 1080 Programming and Problem Solving II
  - 1 - ENGR 1090 Programming and Problem Solving Applications
  - 2 - ENGR 2100 Computer-Aided Design and Engineering Applications
  - 3 - GEOL 1010 Physical Geology
  - 1 - GEOL 1030 Physical Geology Lab.
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Lab. I
-

**Sophomore Year****First Semester**

- 3 - CE 2010 Statics
- 3 - CE 2550 Geomatics
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II
- 1 - PHYS 2230 Physics Lab. II
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>

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**Second Semester**

- 4 - CE 2060 Structural Mechanics
- 2 - CE 2080 Dynamics
- 2 - CE 3520 Economic Evaluation of Projects
- 3 - COMM 2500 Public Speaking
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations

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**Junior Year****First Semester**

- 3 - CE 3010 Structural Analysis
- 3 - CE 3310 Construction Engineering and Mgt.
- 4 - CE 3410 Introduction to Fluid Mechanics
- 4 - CE 3510 Civil Engineering Materials
- 3 - MATH 3020 Statistics for Engineering and Science

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**Second Semester**

- 3 - CE 3110 Transportation Engineering Planning and Design
- 4 - CE 3210 Geotechnical Engineering
- 3 - CE 3420 Applied Hydraulics and Hydrology
- 1 - CE 3530 Professional Seminar
- 3 - EES 4010 Environmental Engineering
- 3 - Design Technical Requirement<sup>2</sup>

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**Senior Year****First Semester**

- 3 - ENGL 3140 Technical Writing
- 3 - Design Technical Requirement<sup>2</sup>
- 6 - Technical Requirement<sup>3</sup>
- 3 - Technical Requirement Restricted<sup>3</sup>

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**Second Semester**

- 3 - CE 4590 Capstone Design Project
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 3 - Technical Requirement<sup>3</sup>
- 3 - Elective

15

129 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>See advisor for approved list.

<sup>3</sup>See advisor for approved list. Technical Requirements and electives may be used to complete an emphasis area in one or more of the following fields: Applied Fluid Mechanics, Construction, Environmental Engineering, Geotechnical/Geoenvironmental Engineering, Structural Engineering, or Transportation Engineering.

**Notes:**

1. Civil Engineering students may neither enroll in nor receive credit for any CE or EM course unless they have a 2.0 Engineering grade-point average.

2. Civil Engineering students enrolling in any CE course (except CE 4590) must have a grade of C or better in the prerequisites for that course.

**COMPUTER ENGINEERING****Bachelor of Science**

Computer engineers have excellent career opportunities in the design and application of hardware and software components for a variety of computer applications. These include mainframe, desktop, and embedded microprocessor platforms, as well as the networking of various types of computers and peripherals.

Based on a strong foundation in mathematics, computer science, and the physical sciences, the Computer Engineering program includes engineering science and design in circuits, electronics, computer organizations and design, peripheral interfacing, and software engineering. Emphasis is placed on hands-on experience with networked computer systems, micro-, mini-, and mainframe computers, and the solution of a wide range of practical problems using engineering principles. In addition to these technical skills, students learn to communicate effectively and to develop interpersonal, teamwork, and management skills, all of which contribute to success in a professional engineering career. The program is also an excellent preparation for graduate study.

Information on the program and its objectives is available at [www.clemson.edu/ces/departments/ece/](http://www.clemson.edu/ces/departments/ece/).

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I
- 1 - ENGR 1060 Engineering Disciplines and Skills II
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>

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**Second Semester**

- 1 - ENGR 1070 Programming and Problem Solving I
- 1 - ENGR 1080 Programming and Problem Solving II
- 1 - ENGR 1090 Programming and Problem Solving Applications
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I
- 6 - Arts and Humanities Requirement<sup>1</sup> or  
6 - Social Science Requirement<sup>1</sup>

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**Sophomore Year****First Semester**

- 3 - CPSC 1110 Elementary Computer Programming in C/C++
- 2 - ECE 2010 Logic and Computing Devices
- 3 - ECE 2020 Electric Circuits I
- 1 - ECE 2090 Logic and Computing Devices Lab.
- 1 - ECE 2110 Electrical Engineering Lab. I
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II

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**Second Semester**

- 1 - ECE 2120 Electrical Engineering Lab. II
- 3 - ECE 2220 Systems Programming Concepts for Computer Engineering
- 3 - ECE 2620 Electric Circuits II
- 3 - ECE 2720 Computer Organization
- 1 - ECE 2730 Computer Organization Laboratory
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations

15

**Junior Year****First Semester**

- 3 - ECE 2230 Computer Systems Engineering
- 1 - ECE 3110 Electrical Engineering Lab. III
- 3 - ECE 3200 Electronics I
- 3 - ECE 3300 Signals, Systems, and Transforms
- 3 - ECE 3710 Microcontroller Interfacing
- 1 - ECE 3720 Microcontroller Interfacing Lab.
- 3 - MATH 3110 Linear Algebra

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**Second Semester**

- 3 - ECE 3170 Random Signal Analysis
- 3 - ECE (CPSC) 3220 Intro. to Operating Systems
- 3 - ECE 3270 Digital Computer Design
- 3 - ECE 3520 Programming Systems
- 3 - MATH 4190 Discrete Math. Structures I

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**Senior Year****First Semester**

- 3 - COMM 1500 Intro. to Human Comm. or  
3 - COMM 2500 Public Speaking
- 3 - ECE 4090 Continuous and Discrete Sys. Design
- 2 - ECE 4950 Integrated System Design I
- 3 - ENGL 3140 Technical Writing
- 6 - Computer Engineering Technical Requirement<sup>2</sup>

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**Second Semester**

- 2 - ECE 4960 Integrated System Design II
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 6 - Computer Engineering Technical Requirement<sup>2</sup>
- 3 - Special Requirement<sup>3</sup>

14

127 Total Semester Hours

<sup>1</sup>See General Education section of the *Undergraduate Announcements*. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>Select from department-approved list.

<sup>3</sup>Three additional credits of university or college approved Arts and Humanities or Social Science courses; or ELE 3010 or 4010; or any additional three-credit, 4000-level course from the departmental Computer Engineering Technical Requirement list or Electrical Engineering Technical Requirement list; or one additional course selected from MATH 4120, 4340, 4350, 4400, 4410, or 4530.

**Notes:**

1. A student is allowed to enroll in ECE courses (excluding ECE 2070, 2080, 3080) only when all prerequisites have been passed with a grade of C or better.

2. All Computer Engineering students must have a cumulative engineering grade-point average of 2.0 to enroll in any 3000- or 4000-level ECE courses.

3. No student may exceed a maximum of two attempts, excluding a W, to complete successfully any ECE course.

## ELECTRICAL ENGINEERING

### Bachelor of Science

Electrical engineers are in high demand for a wide range of influential positions. Professional duties range from analytical problem solving to the design of components and systems. The scope of employment requires a unique breadth and depth of knowledge and technical skills, which are reflected in the Electrical Engineering program. This program also offers an excellent preparation for graduate education. Detailed information can be found at [www.clemson.edu/ces/departments/ece/](http://www.clemson.edu/ces/departments/ece/).

Building on a foundation of mathematical and physical sciences, students progress into the application of these in the engineering science areas of circuits, electronics, communications, controls, power, and electromagnetics. In these subjects, students also begin to apply the concepts and techniques learned to the design of circuits and systems. Senior technical design courses offer the opportunity to further develop expertise in a selected area.

In addition to these technical skills, students learn to communicate effectively, both orally and with the written word. Because engineers work for the benefit of society, the curriculum includes a strong component of humanities and social science courses. Also, many project design assignments enable the development of interpersonal, teamwork, and management skills, which are necessary for success in a professional engineering career.

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I
- 1 - ENGR 1060 Engineering Disciplines and Skills II
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
\_\_\_ 3 - Social Science Requirement<sup>1</sup>

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#### Second Semester

- 4 - CH 1020 General Chemistry
- 1 - ENGR 1070 Programming and Problem Solving I
- 1 - ENGR 1080 Programming and Problem Solving II
- 1 - ENGR 1090 Programming and Problem Solving Applications
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
\_\_\_ 3 - Social Science Requirement<sup>1</sup>

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### Sophomore Year

#### First Semester

- 3 - CPSC 1110 Elementary Computer Programming in C/C++
- 2 - ECE 2010 Logic and Computing Devices
- 3 - ECE 2020 Electric Circuits I
- 1 - ECE 2090 Logic and Computing Devices Lab.
- 1 - ECE 2110 Electrical Engineering Lab. I
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II

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#### Second Semester

- 1 - ECE 2120 Electrical Engineering Lab. II
- 3 - ECE 2620 Electric Circuits II
- 3 - ECE 2720 Computer Organization
- 1 - ECE 2730 Computer Organization Laboratory
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
\_\_\_ 3 - Social Science Requirement<sup>1</sup>

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### Junior Year

#### First Semester

- 1 - ECE 3110 Electrical Engineering Lab. III
- 3 - ECE 3200 Electronics I
- 3 - ECE 3300 Signals, Systems, and Transforms
- 3 - ECE 3600 Electric Power Engineering
- 3 - ECE 3800 Electromagnetics
- 3 - Advanced Mathematics Requirement<sup>2</sup>

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#### Second Semester

- 1 - ECE 3120 Electrical Engineering Lab. IV
- 3 - ECE 3170 Random Signal Analysis
- 3 - ECE 3210 Electronics II
- 3 - ECE 3710 Microcontroller Interfacing
- 1 - ECE 3720 Microcontroller Interfacing Lab.
- 3 - ECE 3810 Fields, Waves, and Circuits
- 3 - ENGL 3140 Technical Writing

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### Senior Year

#### First Semester

- 3 - COMM 1500 Intro. to Human Comm. or  
3 - COMM 2500 Public Speaking
- 3 - ECE 4090 Continuous and Discrete Syst. Des.
- 3 - ECE 4270 Communications Systems
- 2 - ECE 4950 Integrated Systems Design I
- 3 - Electrical Engineering Technical Requirement<sup>3</sup>

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#### Second Semester

- 2 - ECE 4960 Integrated System Design II
- 3 - Arts and Humanities Requirement or  
3 - Social Science Requirement
- 6 - Electrical Engineering Technical Requirement<sup>3</sup>
- 3 - Special Requirement<sup>4</sup>

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126 Total Semester Hours

<sup>1</sup>See General Education section of the *Undergraduate Announcements*. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>MATH 4190, 4340, 4350, 4530, or 4540

<sup>3</sup>Select from department-approved list.

<sup>4</sup>Three additional credits of university or college approved Arts and Humanities or Social Science courses; or ELE 3010 or 4010; or any additional three-credit, 4000-level course from the departmental Computer Engineering Technical Requirement list or Electrical Engineering Technical Requirement list; or one additional course selected from MATH 3110, 4120, 4190, 4340, 4350, 4400, 4410, 4530, or 4540.

#### Notes:

1. A student is allowed to enroll in ECE courses (excluding ECE 2070, 2080, 3080) only when all prerequisites have been passed with a grade of C or better.
2. All Electrical Engineering students must have a cumulative engineering grade-point average of 2.0 to enroll in any 3000- or 4000-level ECE courses.
3. No student may exceed a maximum of two attempts, excluding a W, to complete successfully any ECE course.

## ENVIRONMENTAL ENGINEERING

### Bachelor of Science

Our complex world faces many challenges, including contaminated water supplies, hazardous wastes, an increasing population and limited resources. Environmental engineers help to solve many of the environmental problems faced by society using the principles of biology, chemistry, physics, mathematics and earth sciences. An undergraduate degree in Environmental Engineering opens the door to a variety of rewarding career options. Environmental engineers protect water quality by designing water and wastewater treatment systems; ensure public safety by managing solid, hazardous and radioactive wastes; improve air quality by controlling emissions from mobile and stationary sources; reduce human health risks by tracking contaminants as they move through the environment; clean up toxic waste spills and restore historically contaminated sites; and design a more sustainable future by understanding our use of resources.

The curriculum for the Bachelor of Science degree in Environmental Engineering consists of 127 credit hours. All students participate in one professional seminar course and complete a capstone design project.

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I
- 1 - ENGR 1060 Engineering Disciplines and Skills II
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
\_\_\_ 3 - Social Science Requirement<sup>1</sup>

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#### Second Semester

- 4 - CH 1020 General Chemistry
- 1 - ENGR 1070 Programming and Problem Solving I
- 1 - ENGR 1080 Programming and Problem Solving II
- 1 - ENGR 1090 Programming and Problem Solving Applications
- 3 - HIST 1240 Environmental History Survey<sup>2</sup>
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I

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### Sophomore Year

#### First Semester

- 3 - BIOL 1030 General Biology<sup>3</sup>
- 1 - BIOL 1050 General Biology Lab<sup>3</sup>
- 3 - CE 2010 Statics
- 3 - EES 2010 Environmental Engineering Fund. I
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II

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#### Second Semester

- 2 - CE 2080 Dynamics
- 3 - CH 2010 Survey of Organic Chemistry<sup>4</sup>
- 4 - EES 2020 Environmental Engineering Fund. II
- 2 - ENGR 2100 Computer-Aided Design and Engineering Applications<sup>5</sup>
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations

15

**Junior Year****First Semester**

- 2 - EES 3030 Water Treatment
- 2 - EES 3040 Wastewater Treatment
- 1 - EES 3050 Water and Wastewater Treatment Lab
- 3 - MATH 3020 Statistics for Science and Engineering
- 4 - MICR 3050 General Microbiology
- 3 - Arts and Humanities Requirement<sup>1</sup> *or*
- 3 - Social Science Requirement<sup>1</sup>

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**Second Semester**

- 4 - CE 3410 Introduction to Fluid Mechanics
- 3 - EES 4840 Municipal Solid Waste Mgt.
- 3 - EES 4850 Hazardous Waste Management
- 3 - GEOL 1010 Physical Geology<sup>6</sup>
- 1 - GEOL 1030 Physical Geology Lab<sup>6</sup>
- 3 - ME 3100 Thermodynamics and Heat Transfer

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**Senior Year****First Semester**

- 3 - EES 4300 Air Pollution Engineering
- 1 - EES 4500 Environ. Engr. Senior Seminar
- 3 - EES 4800 Environmental Risk Assessment
- 3 - EES 4860 Environmental Sustainability
- 2 - Engineering Economics Requirement<sup>7</sup>
- 3 - Engineering or Science Requirement<sup>8</sup>

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**Second Semester**

- 3 - EES 4750 Capstone Design Project
- 6 - Engineering or Science Requirement<sup>8</sup>
- 6 - Arts and Humanities Requirement<sup>1</sup> *or*
- 6 - Social Science Requirement<sup>1</sup>

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127 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Three of these credit hours must also satisfy the Cross-Cultural Awareness General Education requirement. Students are encouraged (but not required) to take PHIL 3450 (Environmental Ethics) to fulfill the non-literature humanities requirement.

<sup>2</sup>HIST 1240 satisfies three credit hours of the social science requirement and the Science and Technology in Society General Education requirement. If a student is unable to enroll in the second semester of the freshman year, this course may be taken at another time.

<sup>3</sup>May substitute BIOL 1100 for BIOL 1030 and BIOL 1050; BIOL 1100 is five hours.

<sup>4</sup>May substitute CH 2230.

<sup>5</sup>May substitute ENGR 2080.

<sup>6</sup>May substitute PES 2020 for GEOL 1010 and GEOL 1030.

<sup>7</sup>Select CE 3520 or IE 3840.

<sup>8</sup>Select any combination of engineering and/or science courses from a department-approved list.

**Notes:**

1. The following courses must be completed with a C or better: CE 2010, CE 2080, CE 3410, MATH 2060, MATH 2080, PHYS 2210.

**INDUSTRIAL ENGINEERING****Bachelor of Science**

Industrial engineers design, install, and improve the complex systems that provide goods and services vital to our society and economy. These systems place unique demands for breadth of preparation on industrial engineers. The Industrial Engineering baccalaureate program prepares graduates to: (1) design, develop, implement, and improve integrated systems that include people, materials, information, equipment, and energy using appropriate analytical, computational and experimental practices; (2) apply information technologies to the practice of industrial engineering; (3) conduct themselves in a professional and ethical manner; and (4) work and communicate effectively with colleagues at every level in the organization.

The traditional arenas for the practice of industrial engineering are the manufacturing facilities of industry; however, many practicing industrial engineers are employed in non-manufacturing institutions such as hospitals, banks, and government agencies. In addition to numerous employment opportunities in professional practice, industrial engineering graduates may further their formal education. The Department of Industrial Engineering offers programs leading to the Master of Science and Doctor of Philosophy degrees.

The Department of Industrial Engineering allows students to count up to 12 hours of graduate credit (approved 6000- and 8000-level courses) toward both bachelor's and master's degrees. Moreover, the total number of hours for both the BS and MS degree must be at least 150; most BSIE students cannot double-count more than six units. To be eligible, the student must have completed the bachelor's curriculum through the junior year (minimum 90 credits) and have a minimum overall grade-point average of 3.4. Details of the suggested curriculum and program information are available from the Industrial Engineering Department.

Detailed curriculum and department information is available at <http://www.clemson.edu/ces/departments/ie/>

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry<sup>1</sup>
- 3 - ENGL 1030 Accelerated Composition<sup>1</sup>
- 1 - ENGR 1050 Engineering Disciplines and Skills I<sup>1</sup>
- 1 - ENGR 1060 Engineering Disciplines and Skills II<sup>1</sup>
- 4 - MATH 1060 Calculus of One Variable I<sup>1</sup>
- 3 - Arts and Humanities Requirement<sup>2</sup> *or*
- 3 - Social Science Requirement<sup>2</sup>

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**Second Semester**

- 1 - ENGR 1070 Programming and Problem Solving I<sup>1</sup>
- 1 - ENGR 1080 Programming and Problem Solving II<sup>1</sup>
- 1 - ENGR 1090 Programming and Problem Solving Applications<sup>1</sup>
- 4 - MATH 1080 Calculus of One Variable II<sup>1</sup>
- 3 - PHYS 1220 Physics with Calculus I<sup>1</sup>
- 3 - Arts and Humanities Requirement *or*<sup>2</sup>
- 3 - Social Science Requirement<sup>2</sup>
- 4 - Lab Science Requirement<sup>3</sup>

17

**Sophomore Year****First Semester**

- 1 - IE 2000 Sophomore Seminar in IE
- 4 - IE 3010 System Design I
- 3 - IE 2800 Methods of Operational Research I
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II
- 1 - PHYS 2230 Physics Lab. II<sup>4</sup>

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**Second Semester**

- 3 - CE 2010 Statics<sup>5</sup>
- 2 - ENGR 2080 Engineering Graphics and Machine Design *or*
- 2 - ENGR 2090 Introduction to Engineering/Computer Graphics
- 3 - IE 2100 Design and Analysis of Work Systems
- 3 - IE 3840 Engineering Economic Analysis
- 3 - MSE 2100 Introduction to Materials Science
- 3 - Arts and Humanities Requirement<sup>2</sup> *or*
- 3 - Social Science Requirement<sup>2</sup>

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**Junior Year****First Semester**

- 3 - IE 3600 Design and Control of Industrial Sys. I
- 1 - IE 3680 Professional Practice in IE
- 3 - IE 4400 Decision Support Systems in IE
- 6 - Arts and Humanities Requirement<sup>2</sup> *or*
- 6 - Social Science Requirement<sup>2</sup>
- 3 - Ethics and Professional Practice Requirement<sup>3</sup>

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**Second Semester**

- 2 - ECE 2020 Electric Circuits I *and*
- 1 - ECE 2110 Electrical Engineering Lab. I *or*
- 2 - ECE 2070 Basic Electrical Engineering *and*
- 1 - ECE 2080 Electrical Engineering Lab. I
- 3 - IE 3610 Design and Control of Industrial Sys. II
- 3 - IE 3810 Methods of Operational Research II
- 3 - IE 3860 Production Planning and Control
- 3 - Oral Communication Requirement<sup>6</sup>

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**Senior Year****First Semester**

- 3 - IE 4610 Quality Engineering
- 3 - IE 4650 Facilities Planning and Design
- 4 - IE 4820 Systems Modeling
- 6 - Technical Requirement<sup>3</sup>

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**Second Semester**

- 3 - IE 4670 Systems Design II
- 3 - Management Requirement<sup>3</sup>
- 3 - Mathematics or Natural Science Requirement<sup>3</sup>
- 3 - Technical Requirement<sup>3</sup>

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125 Total Semester Hours

<sup>1</sup>This course must be passed with a C or better either to transfer into IE from General Engineering or to satisfy later course prerequisites.

<sup>2</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>3</sup>Select from department-approved list. See advisor.

<sup>4</sup>PHYS 1240 may be substituted.

<sup>5</sup>ME 2010 may be substituted.

<sup>6</sup>See General Education Requirements. COMM 1500 is recommended.

## MATERIALS SCIENCE AND ENGINEERING

### Bachelor of Science

Materials scientists and engineers design, develop, and produce traditional and new advanced materials with diverse applications intended for use in a wide variety of industries. These include traditional materials-intensive industries such as structural clay, foundry, whiteware, polymers, plastics, fibers, textiles, composite materials, and automotive industries. Also included are high performance technology industries such as semiconductor, defense, biomaterials, aerospace, and communication industries. The broad career responsibilities of this discipline require competence in science, engineering, mathematics, and the social sciences. The curriculum develops skills in problem solving, engineering analysis, and design, as well as oral and written communication.

The Department of Materials Science and Engineering offers two areas of concentration within the Bachelor of Science degree in Materials Science and Engineering. The Inorganic Materials Concentration provides for more in-depth study of the engineering and science of materials such as ceramics, glasses, metals, optical and electronic materials; while the Polymeric Materials Concentration provides more emphasis on plastics, elastomers, fibers and fibrous materials, films, coatings and adhesives. Students select either the Inorganic Materials Concentration or the Polymeric Materials Concentration at the beginning of their sophomore year. Both concentrations in Materials Science and Engineering integrate laboratory with classroom experiences to prepare students for life-long learning and exciting career opportunities. Courses covering thermodynamics, kinetics, mechanical behavior, processing, fabrication and characterization of materials prepare students for careers in industry and for graduate school.

In addition to the common educational objectives of all engineering programs, baccalaureate degree graduates in Materials Science and Engineering will be able to:

- demonstrate learning consistent with Accreditation Board for Engineering and Technology Engineering Criteria 2011 for materials engineering programs;
- function easily and well in the laboratory and plant environments; and
- serve the local, national, and international materials communities.

Specifically, the Accreditation Board for Engineering and Technology Engineering Criteria 2011 requires that baccalaureate degree graduates in Materials Science and Engineering be able to:

- apply advanced scientific and engineering principles to materials systems;
- demonstrate an integrated understanding of the scientific and engineering principles underlying structure, properties, processing, and performance relationships;
- apply this understanding to the solution of materials engineering selection and design problems; and
- apply appropriate experimental, statistical, and computational methods to advantage in the solution of materials problems.

## INORGANIC MATERIALS CONCENTRATION

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 1 - ENGR 1050 Engineering Disciplines and Skills I
  - 1 - ENGR 1060 Engineering Disciplines and Skills II
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 
- 16

#### Second Semester

- 4 - CH 1020 General Chemistry
  - 1 - ENGR 1070 Programming and Problem Solving I
  - 1 - ENGR 1080 Programming and Problem Solving II
  - 1 - ENGR 1090 Programming and Problem Solving Applications
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 220 Physics with Calculus I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 
- 17

### Sophomore Year

#### First Semester

- 3 - CH 2010 Survey of Organic Chemistry
  - 1 - CH 2020 Survey of Organic Chemistry Lab.
  - 3 - MSE 2100 Introduction to Materials Science
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2210 Physics with Calculus II
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 
- 17

#### Second Semester

- 3 - CE 2010 Statics
  - 2 - ENGR 2080 Engineering Graphics and Machine Design
  - 1 - MSE 2410 Metrics Laboratory
  - 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 6 - Arts and Humanities Requirement<sup>1</sup> or  
6 - Social Science Requirement<sup>1</sup>
- 
- 16

### Junior Year

#### First Semester

- 3 - COMM 2500 Public Speaking
  - 3 - MSE 3190 Materials Processing I
  - 3 - MSE 3260 Thermodynamics of Materials
  - 3 - MSE 3270 Transport Phenomena
  - 3 - MSE 4150 Intro. to Polymer Sci. and Engr.
- 
- 15

#### Second Semester

- 3 - IE 3840 Engineering Economic Analysis
  - 3 - MATH 3020 Statistics for Science and Engr. or  
3 - STAT 2300 Statistical Methods I
  - 3 - MSE 3280 Phase Diagrams for Materials Processing and Applications
  - 2 - MSE 3420 Structure/Property Laboratory
  - 3 - MSE 3610 Proc. Metals and Their Composites
  - 3 - MSE 4220 Mechanical Behavior of Materials
- 
- 17

## Senior Year

### First Semester

- 3 - MSE 4020 Solid State Materials
  - 3 - MSE 4130 Noncrystalline Materials
  - 3 - MSE 4320 Manufacturing Processes and Sys.
  - 1 - MSE 4410 Manufacturing Laboratory
  - 3 - MSE 4910 Undergraduate Research
- 
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### Second Semester

- 3 - MSE 4070 Senior Capstone Design
  - 3 - MSE 4160 Electrical Properties of Materials
  - 3 - MSE 4240 Optical Materials and Applications
  - 3 - MSE 4330 Combustion System and Environmental Emissions
  - 1 - MSE 4450 Practice of Materials Engineering
- 
- 13

124 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credits must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society General Education requirements.

## POLYMERIC MATERIALS CONCENTRATION

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 1 - ENGR 1050 Engineering Disciplines and Skills I
  - 1 - ENGR 1060 Engineering Disciplines and Skills II
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 
- 16

#### Second Semester

- 4 - CH 1020 General Chemistry
  - 1 - ENGR 1070 Programming and Problem Solving I
  - 1 - ENGR 1080 Programming and Problem Solving II
  - 1 - ENGR 1090 Programming and Problem Solving Applications
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 122 Physics with Calculus I
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 
- 17

### Sophomore Year

#### First Semester

- 3 - CH 2230 Organic Chemistry
  - 1 - CH 2270 Organic Chemistry Laboratory
  - 3 - MSE 2100 Introduction to Materials Science
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2210 Physics with Calculus II
  - 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 
- 17

#### Second Semester

- 3 - CE 2010 Statics
  - 3 - CH 2240 Organic Chemistry
  - 1 - CH 2280 Organic Chemistry Laboratory
  - 2 - ENGR 2080 Engineering Graphics and Machine Design
  - 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - MSE 2500 Polymer & Fiber Science I
- 
- 16

**Junior Year****First Semester**

- 3 - CH 3310 Physical Chemistry
- 3 - COMM 2500 Public Speaking
- 3 - MSE 3270 Transport Phenomena
- 3 - MSE 4150 Intro. to Polymer Sci. and Engineering
- 1 - MSE 4550 Polymer and Fiber Lab.
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>

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**Second Semester**

- 3 - CH 3320 Physical Chemistry
- 3 - IE 3840 Engineering Economic Analysis
- 3 - MATH 3020 Stat. for Science and Engr. or
- 3 - STAT 2300 Statistical Methods I
- 3 - MSE 4220 Mechanical Behavior or Materials
- 3 - MSE 4560 Polymer and Fiber Science II

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**Senior Year****First Semester**

- 3 - MSE 4580 Surface Phenomena in Materials Science and Engineering
- 1 - MSE 4600 Surface Phenomena in Materials Science and Engineering Laboratory
- 3 - MSE 4610 Polymer and Fiber Science III
- 3 - MSE 4910 Undergraduate Research
- 3 - Technical Requirement<sup>2</sup>

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**Second Semester**

- 3 - MSE 4070 Senior Capstone Design
- 1 - MSE 4450 Practice of Materials Engineering
- 3 - MSE 4570 Color Science
- 1 - MSE 4590 Color Science Laboratory
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>

- 3 - Technical Requirement<sup>2</sup>

14

124 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credits must also satisfy the Cross-Cultural Awareness and the Science and Technology in Society General Education requirements.

<sup>2</sup>See advisor.

**MECHANICAL ENGINEERING****Bachelor of Science**

Breadth, individuality, and flexibility are inherent characteristics of the mechanical engineering profession. Mechanical engineers, in a broad sense, make major contributions to the creation of products and systems that benefit mankind. They work in a variety of areas, including bioengineering, energy systems, environmental and life-support systems, propulsion and transportation systems, food production, materials processing, automated manufacturing, and construction. A wide spectrum of career opportunities is open to them. The practice of mechanical engineering includes one or more of the following activities: manufacturing, testing, research, development, design, technical management, technical sales and marketing, construction, and teaching.

Preparation for a 40–45-year professional career requires development of the whole person through a balanced program encompassing the humanities, social sciences, communication and computer skills, physical and engineering sciences, design, and laboratory experience. Students start with the physical sciences and communication skills and progress through the engineering sciences, ultimately applying the principles learned in such areas as energy conversion and transfer, mechanical design, and systems analysis. Throughout the curriculum, the fundamental nature of engineering as a problem-solving discipline is emphasized.

Most graduates take positions in industry, government, or business. Many, however, continue their formal education in a graduate program. The Department of Mechanical Engineering offers study leading to the Master of Science and Doctor of Philosophy degrees.

Mechanical Engineering students who have a cumulative grade-point average or cumulative engineering grade-point average (EGPA) below 2.0 are on probation and will have restricted enrollment in classes. Students whose cumulative grade-point average is below 2.0 are subject to the regulations stipulated under *Academic Eligibility Policy*. Students on probation for EGPR below 2.0 who fail to recover in the first regular semester (fall or spring) will not be allowed to register for mechanical engineering classes. After one year, such students may petition the Mechanical Engineering Department for continued enrollment. An advising policy for students on probation is available from the Mechanical Engineering Department.

Additional information can be found at [www.clemson.edu/me](http://www.clemson.edu/me).

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 1 - ENGR 1050 Engineering Disciplines and Skills I
- 1 - ENGR 1060 Engineering Disciplines and Skills II
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>

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**Second Semester**

- 1 - ENGR 1070 Programming and Problem Solving I
- 1 - ENGR 1080 Programming and Problem Solving II
- 1 - ENGR 1090 Programming and Problem Solving Applications
- 2 - ENGR 2080 Engineering Graphics and Machine Design
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I
- 1 - PHYS 1240 Physics Lab. I
- 3 - Arts and Humanities (Lit.) Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>

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**Sophomore Year****First Semester**

- 1 - ME 2000 Sophomore Seminar
- 5 - ME 2010 Statics and Dynamics for Mech. Engr.
- 2 - ME 2220 Mechanical Engineering Lab. I<sup>2</sup> or
- 3 - MSE 2100 Intro. to Materials Science<sup>2</sup>
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II

15-16

**Second Semester**

- 2 - ECE 2070 Basic Electrical Engineering
- 1 - ECE 2080 Electrical Engineering Lab. I
- 3 - ME 2030 Found. of Thermal and Fluid Systems
- 3 - ME 2040 Mechanics of Materials
- 2 - ME 2220 Mechanical Engineering Lab. I<sup>2</sup> or
- 3 - MSE 2100 Intro. to Materials Science<sup>2</sup>
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations

15-16

**Junior Year****First Semester**

- 3 - ENGL 3140 Technical Writing
- 3 - ME 3030 Thermodynamics
- 3 - ME 3070 Foundations of Mechanical Systems
- 3 - ME 3080 Fluid Mechanics
- 2 - ME 3330 Mechanical Engineering Lab. II<sup>2</sup> or
- 3 - Statistics Requirement<sup>3,2</sup>
- 3 - MATH 3650 Numerical Methods for Engineers

17-18

**Second Semester**

- 3 - ME 3040 Heat Transfer
- 3 - ME 3050 Model. and Analysis of Dynamic Syst.
- 3 - ME 3060 Fundamentals of Machine Design
- 3 - ME 3120 Manufacturing Processes and Their Application
- 2 - ME 3330 Mechanical Engineering Lab. II or
- 3 - Statistics Requirement<sup>3,2</sup>

14-15

**Senior Year****First Semester**

- 3 - ME 4010 Mechanical Engineering Design
- 3 - ME 4030 Control and Integration of Multi-Domain Dynamic Systems
- 2 - ME 4440 Mechanical Engineering Lab. III or
- 3 - Technical Requirement<sup>4</sup> or
- 3 - Arts and Humanities Requirement<sup>1</sup> or
- 3 - Social Science Requirement<sup>1</sup>
- 3 - Mechanical Engineering Technical Requirement<sup>4</sup>

14-15

**Second Semester**

- 1 - ME 4000 Senior Seminar
- 3 - ME 4020 Internship in Engineering Design
- 2 - ME 4440 Mechanical Engineering Lab. III<sup>2</sup> or
- 3 - Technical Requirement<sup>4</sup>
- 6 - Arts and Humanities Requirement<sup>1</sup> or
- 6 - Social Science Requirement<sup>1</sup>
- 3 - Mechanical Engineering Technical Requirement<sup>4</sup>

15-16

125 Total Semester Hours

<sup>1</sup>See Policy on Humanities and Social Sciences for Engineering Curricula. Six of these credit hours must also satisfy General Education Cross-Cultural Awareness and Science and Technology in Society Requirements. These requirements may be filled in any order.

<sup>2</sup>Both are required but may be taken in either semester.

<sup>3</sup>Select from MATH 3020 or STAT 4110

<sup>4</sup>See advisor. Select from department-approved list.

#### Notes:

1. Enrollment Policy (see website for Complete Statement of Department Policy): A student is allowed to enroll in any ME course only when all prerequisites, as defined by current official listings for that course, have been passed with a grade of C or higher.

2. No student may exceed three attempts to complete successfully ME 2010, 2030, or 2040. Registration for a third attempt to complete one of these ME courses requires the approval of the undergraduate coordinator in the Department of Mechanical Engineering. A grade of W counts as an unsuccessful attempt at completing the course.

3. For students repeating an ME course, registration preference will be given to students in a degree-granting engineering major whose curriculum requires the course in question.

4. To change majors into the Mechanical Engineering degree program, students must have a minimum cumulative grade-point average of 2.60 or higher at Clemson and earned a C or better in each course in the General Engineering freshman curriculum, EXCLUDING the Arts and Humanities/Social Science requirements.

## SCIENCE PROGRAMS

The College of Engineering and Science offers curricula leading to the Bachelor of Science in Chemistry, Computer Information Systems, Computer Science, Geology, Mathematical Sciences, and Physics. The Bachelor of Arts is offered in Chemistry, Computer Science, Mathematical Sciences, and Physics.

The science departments in the College work closely with the other academic departments in the University, including such disciplines as economics and management as well as engineering. This allows students in the sciences great flexibility and responsibility in designing their own programs.

### Bachelor of Science Curricula

The Bachelor of Science degree prepares graduates for professional employment or graduate study in the chosen science discipline. BS curricula are more highly structured than BA curricula but nonetheless offer opportunity for students to pursue a minor or secondary area of interest.

### Bachelor of Arts Curricula

The curricula leading to the Bachelor of Arts degree are designed to meet the needs of students who desire a broad general education. They require a minor (or a second major) as well as the major concentration. A major requires a minimum of 24 credits from courses above the sophomore level, including or in addition to courses specified by the major department. In some major disciplines, certain prescribed courses at the sophomore level are counted toward the 24-credit requirement.

Students have a large degree of flexibility and responsibility in selecting a minor from those listed on page 113. Courses for these minors are to be selected in consultation with the appropriate department.

## CHEMISTRY

### Bachelor of Science

Chemistry, an experimental discipline based on observation guided by molecular theory, is of fundamental importance in much of modern science and technology. Its molecular concepts form the basis for ideas about complex material behavior. Due to

the fundamental nature and extensive application of chemistry, an unusually large variety of challenging opportunities to contribute in the science-oriented community are open to students whose education is built around the principles of this discipline.

The Chemistry curriculum, through the career requirement options and the large number of electives, provides students the opportunity to select a coherent program of study beyond the basic courses. Career requirement options are provided for students anticipating graduate study in chemistry or related fields; employment following the BS degree in laboratory, production, technical sales, or management positions; professional studies (e.g., medicine); chemical physics; geochemistry; and employment in fields requiring extensive preparation in courses other than sciences (e.g., patent law and technical writing). Significant features of the curriculum are the student's extensive participation in experimental work and the opportunity to take part in a research investigation during the junior and senior years.

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
- 1 - CH 1410 Chemistry Orientation
- 3 - ENGL 1030 Accelerated Composition
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>

#### Second Semester

- 4 - CH 1020 General Chemistry
- 2 - CH 1520 Chemistry Communication I
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>

### Sophomore Year

#### First Semester

- 3 - CH 2230 Organic Chemistry
- 1 - CH 2270 Organic Chemistry Lab.
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II
- 1 - PHYS 2230 Physics Lab. II
- 4 - Foreign Language Requirement<sup>2</sup>

#### Second Semester

- 3 - CH 2050 Introduction to Inorganic Chemistry
- 3 - CH 2240 Organic Chemistry
- 1 - CH 2280 Organic Chemistry Lab.
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
- 3 - PHYS 2220 Physics with Calculus III
- 1 - PHYS 2240 Physics Lab. III

### Junior Year

#### First Semester

- 3 - CH 3130 Quantitative Analysis
- 2 - CH 3150 Quantitative Analysis Lab.
- 3 - CH 3310 Physical Chemistry
- 1 - CH 3390 Physical Chemistry Lab.
- 3 - ENGL 3140 Technical Writing
- 3 - Elective

### Second Semester

- 3 - CH 3320 Physical Chemistry
- 1 - CH 3400 Physical Chemistry Lab.
- 3 - CH 3600 Chemical Biology<sup>4</sup>
- 3 - CH 4110 Instrumental Analysis
- 2 - CH 4120 Instrumental Analysis Lab.
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>

### Senior Year

#### First Semester

- 3 - CH 4020 Inorganic Chemistry
- 3 - CH 4430 Research Problems
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 3 - Chemistry Requirement<sup>3</sup>
- 3 - Elective

#### Second Semester

- 2 - CH 4030 Advanced Synthetic Techniques
- 3 - CH 4440 Research Problems
- 3 - CH 4500 Chemistry Capstone
- 1 - CH 4520 Chemistry Communication II
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 3 - Chemistry Requirement<sup>3</sup>

122 Total Semester Hours

<sup>1</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>One semester (through 1020) in any modern foreign language is required.

<sup>3</sup>See advisor.

<sup>4</sup>BCHM 3050 may be substituted for CH 3600.

## CHEMISTRY

### Bachelor of Arts

#### Freshman Year

##### First Semester

- 4 - CH 1010 General Chemistry
- 1 - CH 1410 Chemistry Orientation
- 3 - ENGL 1030 Accelerated Composition
- 4 - MATH 1060 Calculus of One Variable I
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>

##### Second Semester

- 4 - CH 1020 General Chemistry
- 2 - CH 1520 Chemistry Communication I
- 4 - MATH 1080 Calculus of One Variable II
- 3 - PHYS 1220 Physics with Calculus I
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>

#### Sophomore Year

##### First Semester

- 3 - CH 2230 Organic Chemistry
- 1 - CH 2270 Organic Chemistry Lab.
- 4 - MATH 2060 Calculus of Several Variables
- 3 - PHYS 2210 Physics with Calculus II
- 4 - Foreign Language Requirement<sup>2</sup>



**Second Semester**

- 3 - CH 2050 Introduction to Inorganic Chemistry
- 3 - CH 2240 Organic Chemistry
- 1 - CH 2280 Organic Chemistry Lab.
- 6 - Arts and Humanities Requirement<sup>1</sup> or  
6 - Social Science Requirement<sup>1</sup>
- 4 - Foreign Language Requirement<sup>2</sup>
- 17

**Junior Year****First Semester**

- 3 - CH 3130 Quantitative Analysis
- 1 - CH 3170 Quantitative Analysis Lab.
- 3 - CH 3310 Physical Chemistry
- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 3 - Foreign Language Requirement<sup>2</sup>
- 3 - Minor Requirement
- 16

**Second Semester**

- 3 - CH 3320 Physical Chemistry
- 3 - ENGL 3140 Technical Writing
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 3 - Foreign Language Requirement<sup>2</sup>
- 3 - Minor Requirement
- 15

**Senior Year****First Semester**

- 3 - Arts and Humanities Requirement<sup>1</sup> or  
3 - Social Science Requirement<sup>1</sup>
- 3 - Chemistry Requirement<sup>3</sup>
- 3 - Minor Requirement
- 6 - Elective
- 15

**Second Semester**

- 3 - CH 4500 Chemistry Capstone
- 1 - CH 4520 Chemistry Communication II
- 3 - Chemistry Requirement<sup>3</sup>
- 6 - Minor Requirement
- 13

122 Total Semester Hours

<sup>1</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>Four semesters (through 2020) of the same modern foreign language are required.

<sup>3</sup>See advisor.

**COMPUTER INFORMATION SYSTEMS****Bachelor of Science**

The Computer Information Systems degree program is oriented toward computer applications in management-related problems. The program emphasizes functional areas of management, including accounting, production, marketing, and finance and the applications of computers in these areas. The curriculum is designed to prepare students for careers in areas such as systems design and analysis, applications programming, database administration, and information retrieval, as well as for continued study toward an advanced degree.

Students who change majors into Computer Information Systems must have a cumulative grade-point average of 2.0 or higher.

Additional information can be found at [www.cs.clemson.edu](http://www.cs.clemson.edu).

**Freshman Year****First Semester**

- 4 - CPSC 1010 Computer Science I<sup>1</sup>
- 3 - ENGL 1030 Accelerated Composition
- 3 - MATH 1020 Intro. to Mathemat. Analysis<sup>2</sup> or  
4 - MATH 1060 Calculus of One Variable I<sup>2</sup>
- 4 - Natural Science Requirement<sup>3</sup>
- 1 - Elective<sup>2</sup>
- 15

**Second Semester**

- 4 - CPSC 1020 Computer Science II<sup>1</sup>
- 3 - MATH 2070 Multivariable Calculus<sup>2</sup> or  
4 - MATH 1080 Calculus of One Variable II<sup>2</sup>
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>4</sup>
- 3 - Natural Science Requirement<sup>3</sup>
- 3 - Social Science Requirement<sup>4</sup>
- 1 - Elective<sup>2</sup>
- 17

**Sophomore Year****First Semester**

- 3 - CPSC 2070 Discrete Structures for Computing<sup>5</sup>
- 4 - CPSC 2120 Algorithms and Data Structures
- 3 - Arts and Humanities (Literature) Requirement<sup>4</sup>
- 3 - Oral Communication Requirement<sup>6</sup>
- 3 - Social Science Requirement<sup>4</sup>
- 16

**Second Semester**

- 3 - CPSC 2150 Software Development Foundations
- 4 - CPSC 2310 Intro. to Computer Organization
- 1 - CPSC 2910 Seminar in Professional Issues I
- 3 - MGT 2010 Principles of Management
- 3 - STAT 3090 Introductory Business Statistics<sup>7</sup>
- 14

**Junior Year****First Semester**

- 3 - ACCT 2010 Financial Accounting Concepts
- 3 - CPSC 2200 Microcomputer Applications
- 3 - CPSC 3220 Introduction to Operating Systems
- 3 - CPSC 3720 Intro. to Software Engineering
- 3 - Writing Requirement<sup>8</sup>
- 15

**Second Semester**

- 3 - ACCT 2020 Managerial Accounting Concepts
- 3 - CPSC 3600 Networks and Network Program.
- 3 - CPSC 3710 Systems Analysis or  
3 - MGT 4520 Systems Analysis and Design
- 3 - ECON 2110 Principles of Microeconomics
- 3 - Computer Science Requirement<sup>9</sup>
- 15

**Senior Year****First Semester**

- 3 - CPSC 4200 Computer Security Principles or  
3 - CPSC 4240 System Admin. and Security
- 3 - CPSC 4620 Database Management Systems
- 3 - CPSC 4910 Seminar in Professional Issues II
- 3 - Business Requirement<sup>10</sup>
- 3 - Computer Science Requirement<sup>9</sup>
- 15

**Second Semester**

- 3 - MGT 3120 Decision Models for Management
- 3 - MKT 3010 Principles of Marketing
- 3 - Business Requirement<sup>10</sup>
- 3 - Computer Science Requirement<sup>9</sup>
- 3 - Information Systems Requirement<sup>11</sup>
- 15

122 Total Semester Hours

<sup>1</sup>The sequence of CPSC 1110 and 2100 will be accepted in place of CPSC 1010 and 1020.

<sup>2</sup>Select either the MATH 1020/2070, 1060/2070 or 1060/1080 sequence. Students who select the 1060/1080 sequence will have satisfied the two elective credits in the freshman year.

<sup>3</sup>Select from courses in BIOL, BCHM, CH, GEOL, MICR, PHYS; or ENSP 2000. At least one course must include a laboratory and satisfy the Natural Science General Education Requirement.

<sup>4</sup>See General Education Requirements.

<sup>5</sup>MATH 1190 may be substituted.

<sup>6</sup>Select from: COMM 1500, 2500, HON 2230; or the cluster of courses AS 3090, 3100, 4090, 4100; or ML 1010, 1020.

<sup>7</sup>MATH 3020 or STAT 3300 may be substituted.

<sup>8</sup>Select from: ENGL 3040, 3120, 3140, 3150, 3160, 3330; AS 3090, 3100, 4090, 4100; ML 3010, 3020, 4010, 4020.

<sup>9</sup>Select from 3000-level or higher CPSC courses or DPA 3070. No more than three credits of CPSC 3990 or 4810 may be applied to this requirement, and no more than six credits of CPSC 4820 may be applied. Up to three credits of approved ECE 3000-level or higher courses; or MATH 3650; or MATH 4000-level courses may be substituted.

<sup>10</sup>Select from FIN 3060 and MGT 3900, 4000.

<sup>11</sup>Select from MGT 4520, 4540, 4550, 4560, or any 4000-level CPSC course. CPSC 4810 may not substitute.

**Notes:**

1. For graduation, a candidate for the BS degree in Computer Information Systems must have earned a grade of C or better in each CPSC course applied to the non-elective requirements of the degree.
2. A grade of C or better must be earned in all prerequisite courses (including CPSC and MATH courses) before enrolling in the next CPSC course.
3. General Education Cross-Cultural Awareness and Science and Technology in Society requirements must be satisfied.

**COMPUTER SCIENCE****Bachelor of Science**

The Computer Science program is oriented toward design, implementation, and application of software systems to solve information processing problems. Emphasis areas outside computer science allow students to tailor the program to their individual needs and interests. This program is more technically oriented than the Computer Information Systems curriculum. It prepares students for employment in the computer software field or for continued study toward an advanced degree in computer science. This program is accredited by the Computing Accreditation Commission (CAC) of ABET, 111 Market Place, Suite 1050, Baltimore, MD 21202-4012; telephone: (410) 347-7700. Additional information can be found at [www.cs.clemson.edu](http://www.cs.clemson.edu).

Students who change majors into Computer Science must have a cumulative grade-point average of 2.0 or higher.

**Combined Bachelor's/Master's Plan**

The School of Computing allows students to count up to nine hours of graduate credit (6000- and 8000-level courses) toward both the bachelor's and master's degrees. Students participating in this program must have a minimum grade-point average of

3.4 and be admitted to the Graduate School prior to registering for graduate courses. Details of the suggested curriculum and program information are available from the Department.

## Freshman Year

### First Semester

- 4 - CPSC 1010 Computer Science I<sup>1</sup>
- 3 - ENGL 1030 Accelerated Composition
- 4 - MATH 1060 Calculus of One Variable I
- 4 - Natural Science Requirement<sup>2</sup>

15

### Second Semester

- 4 - CPSC 1020 Computer Science II<sup>1</sup>
- 4 - MATH 1080 Calculus of One Variable II
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
- 4 - Natural Science Requirement<sup>2</sup>

15

## Sophomore Year

### First Semester

- 3 - CPSC 2070 Discrete Structures for Computing<sup>4</sup>
- 4 - CPSC 2120 Algorithms and Data Structures
- 3 - Arts and Humanities (Literature) Requirement<sup>5</sup>
- 3 - Natural Science Requirement<sup>2</sup>
- 3 - Oral Communication Requirement<sup>6</sup>

16

### Second Semester

- 3 - CPSC 2150 Software Development Foundations
- 4 - CPSC 2310 Intro. to Computer Organization
- 1 - CPSC 2910 Seminar in Professional Issues I
- 3 - STAT 3090 Introductory Business Statistics<sup>6</sup>
- 3 - Natural Science Requirement<sup>2</sup>

2 - Elective

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## Junior Year

### First Semester

- 3 - CPSC 3300 Computer Systems Organization
- 3 - CPSC 3600 Networks and Network Program.
- 3 - CPSC 3720 Intro. to Software Engineering
- 3 - MATH 3110 Linear Algebra
- 3 - Social Science Requirement<sup>3</sup>

15

### Second Semester

- 3 - CPSC 3220 Introduction to Operating Systems
- 3 - CPSC 3500 Foundations of Computer Science
- 3 - CPSC 3620 Distributed and Cluster Computing
- 3 - Arts and Humanities Requirement<sup>7</sup> or
- 3 - Social Science Requirement<sup>7</sup>

3 - Social Science Requirement<sup>3</sup>

15

## Senior Year

### First Semester

- 3 - CPSC 3520 Programming Languages
- 6 - Computer Science Requirement<sup>8</sup>
- 3 - Writing Requirement<sup>9</sup>
- 3 - Elective

15

### Second Semester

- 3 - CPSC 4910 Seminar in Professional Issues II
- 3 - Arts and Humanities Requirement<sup>7</sup> or
- 3 - Social Science Requirement<sup>7</sup>
- 6 - Computer Science Requirement<sup>8</sup>
- 3 - Elective

15

122 Total Semester Hours

<sup>1</sup>The sequence of CPSC 1110 and 2100 will be accepted in place of CPSC 1010 and 1020.

<sup>2</sup>Two-semester sequence in the same physical or biological science, each including a laboratory, is required. Select from BIOL 1030/1050, 1040/1060; 1100, 1110; CH 1010, 1020; GEOL 1010/1030 and 2020 or 1120/1140; PHYS 1220/1240, 2210/2230. The six remaining hours may be selected from BIOL, BCHM, CH, GEOL, MICR, PHYS; or ENSP 2000.

<sup>3</sup>See General Education Requirements.

<sup>4</sup>MATH 1190 may be substituted.

<sup>5</sup>Select from: COMM 1500, 2500, HONS 2230; or the cluster of courses AS 3090, 3100, 4090, 4100; or ML 1010, 1020.

<sup>6</sup>MATH 3020 or STAT 3300 may be substituted.

<sup>7</sup>Select from courses in AAH, ANTH, ART, CHIN, COMM, DANC, EAS, ECON, ENGL, FR, GEOG, GER, HIST, HUM, ITAL, JAPN, MUSC, PA, PAS, PHIL, POSC, PSYC, REL, RUSS, SOC, SPAN, THEA, WS.

<sup>8</sup>Select from 3000-level or higher CPSC courses or DPA 3070. No more than three credits of CPSC 3990 or 4810 may be applied to this requirement, and no more than six credits of CPSC 4820 may be applied. Up to three credits of approved ECE 3000-level or higher courses; or MATH 3650; or MATH 4000-level courses may be substituted.

<sup>9</sup>Select from: ENGL 3040, 3120, 3140 3150, 3160, 3330; AS 3090, 3100, 4090, 4100; ML 3010, 3020, 4010, 4020.

#### Notes:

1. For graduation, a candidate for the BS degree in Computer Science must have earned a grade of C or better in each CPSC course applied to the non-elective requirements of the degree.
2. A grade of C or better must be earned in all prerequisite courses (including CPSC and MATH courses) before enrolling in the next CPSC course.
3. General Education Cross-Cultural Awareness and Science and Technology in Society requirements must be satisfied.

## COMPUTER SCIENCE

### Bachelor of Arts

The Bachelor of Arts in Computer Science is ideal for students interested in acquiring a broad-based liberal arts education that includes a strong and solid understanding of computer science. The curriculum is oriented toward design, implementation, and application of computer software systems to solve information processing problems. The program prepares students for employment in the computer software field or for continued study toward an advanced degree in computer science. Additional information can be found at [www.cs.clemson.edu](http://www.cs.clemson.edu).

Students who change majors into Computer Science must have a cumulative grade-point average of 2.0 or higher.

## Freshman Year

### First Semester

- 4 - CPSC 1010 Computer Science I<sup>1</sup>
- 3 - ENGL 1030 Accelerated Composition
- 3 - MATH 1020 Intro. to Mathemat. Analysis<sup>2</sup> or
- 4 - MATH 1060 Calculus of One Variable I<sup>2</sup>
- 4 - Foreign Language Requirement<sup>3</sup>
- 1 - Elective<sup>2</sup>

15

### Second Semester

- 4 - CPSC 1020 Computer Science II<sup>1</sup>
- 3 - MATH 2070 Multivariable Calculus<sup>2</sup> or
- 4 - MATH 1080 Calculus of One Variable II<sup>2</sup>
- 3 - Arts and Humanities (Non-Lit.) Req.<sup>4</sup>
- 4 - Foreign Language Requirement<sup>3</sup>
- 1 - Elective<sup>2</sup>

15

## Sophomore Year

### First Semester

- 3 - CPSC 2070 Discrete Structures for Computing<sup>4</sup>
- 4 - CPSC 2120 Algorithms and Data Structures
- 3 - Arts and Humanities (Literature) Requirement<sup>5</sup>
- 3 - Foreign Language Requirement<sup>3</sup>
- 3 - Oral Communication Requirement<sup>6</sup>

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### Second Semester

- 3 - CPSC 2150 Software Development Foundations
- 4 - CPSC 2310 Intro. to Computer Organization
- 1 - CPSC 2910 Seminar in Professional Issues I
- 3 - Foreign Language Requirement<sup>3</sup>
- 4 - Natural Science Requirement<sup>7</sup>

15

## Junior Year

### First Semester

- 6 - Computer Science Requirement<sup>8</sup>
- 3 - Mathematical Sciences Requirement<sup>9</sup>
- 3 - Minor Requirement
- 3 - Natural Science Requirement<sup>7</sup>

15

### Second Semester

- 3 - Computer Science Requirement<sup>8</sup>
- 6 - Minor Requirement
- 3 - Social Science Requirement<sup>5</sup>
- 3 - Writing Requirement<sup>10</sup>

15

## Senior Year

### First Semester

- 6 - Computer Science Requirement<sup>8</sup>
- 3 - Departmental Humanities Requirement<sup>11</sup>
- 3 - Minor Requirement
- 3 - Social Science Requirement<sup>5</sup>

15

### Second Semester

- 3 - CPSC 4910 Seminar in Professional Issues II
- 3 - Computer Science Requirement<sup>8</sup>
- 3 - Fine Arts Requirement<sup>12</sup>
- 3 - Minor Requirement
- 3 - Elective

15

121 Total Semester Hours

<sup>1</sup>The sequence of CPSC 1110 and 2100 will be accepted in place of CPSC 1010 and 1020.

<sup>2</sup>Select either the MATH 1020/2070, 1060/2070, or 1060/1080 sequence. Students who select the MATH 1060/1080 sequence will have satisfied the elective credits in the freshman year. Students interested in computer graphics should select the MATH 1060/1080 sequence.

<sup>3</sup>Four semesters (through 2020) in the same modern foreign language are required.

<sup>4</sup>MATH 1190 may be substituted.

<sup>5</sup>See General Education Requirements.

<sup>6</sup>Select from: COMM 1500, 2500, HONS 2230; or the cluster of courses AS 3090, 3100, 4090, 4100; or ML 1010, 1020.

<sup>7</sup>Select from courses in BIOL, BCHM, CH, GEOL, MICR, PHYS; or ENSP 2000. At least one course must include a laboratory and satisfy the Natural Science General Education Requirement.

<sup>8</sup>Select from 3000-level or higher CPSC courses or DPA 3070. No more than three credits of CPSC 3990 or 4810 may be applied to this requirement, and no more than six credits of CPSC 4820 may be applied. Up to three credits of approved ECE 3000-level or higher courses; or MATH 3650; or MATH 4000-level courses may be substituted.

<sup>9</sup>Select from MATH 3020 or MATH 3110 or STAT 3300. MATH 3110 is required for computer graphics courses.

<sup>10</sup>Select from: ENGL 3040, 3120, 3140, 3150, 3160, 3330; AS 3090, 3100, 4090, 4100; ML 3010, 3020, 4010, 4020.

<sup>11</sup>Select from courses in AAH, ANTH, ART, CHIN, DANC, ENGL, FR, GER, HUM, ITAL, JAPN, MUSC, PA, PHIL, REL, RUSS, SPAN, THEA.

<sup>12</sup>MUSC 2100 or any course in AAH, ART, or THEA.

#### Notes:

1. For graduation, a candidate for the BA degree in Computer Science must have earned a grade of C or better in each CPSC course applied to the non-elective requirements for the degree.
2. A grade of C or better must be earned in all prerequisite courses (including CPSC and MATH courses) before enrolling in the next CPSC course.
3. General Education Cross-Cultural Awareness and Science and Technology in Society requirements must be satisfied.

## GEOLOGY

### Bachelor of Science

Geology is the study of the Earth. It is an applied science that integrates principles from physics, chemistry, biology, engineering, and other disciplines to better understand the natural processes and human influences that shape our planet. Geology helps people deduce Earth's natural history, locate natural resources needed to support society, develop sustainable approaches to energy and resource management, and predict, assess, and manage global change and natural disasters.

Employment opportunities for geologists are numerous and varied. Examples include environmental and engineering consulting firms, energy exploration and production firms, mineral and metal industries, municipal, state, and federal governments, natural resource conservation organizations, and water authorities. Many students go on to graduate school in the geosciences, environmental sciences, or related fields. Geology is a professional degree and state certification as a Registered Professional Geologist is obtainable. Given the various career options that are possible, students are provided the opportunity to develop a broad range of skills and knowledge within the Geology program.

The Geology curriculum provides students with a well-rounded background in geology and related fields and is built around three critical themes: (1) appreciation for spatial and temporal scales, (2) knowledge of earth materials and compositions of environmental systems, and (3) understanding of geological and environmental processes. While providing solid fundamentals within science and engineering, the Geology program is also flexible, allowing students to choose among many electives to tailor their education to specific interests and career goals. The program has been carefully designed to help students develop quantitative and other critical skills, while familiarizing them with the topics, technologies, and resources needed for a variety of career paths in the geosciences. As students progress through the program they have multiple opportunities to enhance their skills of observation, computation, synthesis, communication and problem solving. Because Geology is inherently a field-based discipline, all students are required to take one or more courses that provide them with field experience. All Geology majors also participate

in a multi-semester research program that provides them with hands-on experiences conducting geologic research and solving real-world problems in their chosen area of interest. It is also possible for Geology majors to pursue the Engineering Cluster Minor; students interested in this pathway should consult with their advisor early in their program of study.

Within the Geology curriculum, students who are particularly interested in environmental or water resources issues may choose to specialize in the Environmental Science Concentration or the Hydrogeology Concentration. These two concentrations provide more structured course pathways through the curriculum and help prepare students for careers in these specific areas. The Environmental Science Concentration in Geology focuses on environmental aspects of geoscience and is well suited for students interested in topics such as environmental policy, natural hazard assessment and remediation, evaluation of land use impacts, understanding geochemical cycles, and environmental systems analysis. This concentration provides a rigorous background in the sciences so that students can scientifically address environmental issues and integrate material from several fields to solve complex environmental problems. The Hydrogeology Concentration in Geology is designed for students who want to specialize in areas such as surface- and ground-water systems, treatment of water and cleanup of contaminated sites, contaminant flow and fluid transport, and water resource sustainability.

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - GEOL 1010 Physical Geology
  - 1 - GEOL 1030 Physical Geology Lab.
  - 4 - MATH 1060 Calculus of One Variable I
- 
- 15

#### Second Semester

- 4 - CH 1020 General Chemistry
  - 3 - GEOL 1120 Earth Resources
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 
- 17

### Sophomore Year

#### First Semester

- 3 - GEOL 2050 Mineralogy and Intro. Petrology
  - 1 - GEOL 2070 Mineralogy and Intro. Petrology Lab.
  - 1 - GEOL 2910 Introduction to Research I
  - 3 - PHYS 1220 Physics with Calculus I
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>1</sup>
  - 3 - STEM Requirement<sup>2</sup>
- 
- 17

#### Second Semester

- 4 - GEOL 2020 Earth History
  - 1 - GEOL 2920 Introduction to Research II
  - 3 - Quantative Science Requirement<sup>3</sup>
  - 7 - STEM Requirement<sup>2</sup>
- 
- 15

## Junior Year

### First Semester

- 4 - GEOL 3020 Structural Geology
  - 2 - GEOL 3910 Research Methods I
  - 3 - Quantative Science Requirement<sup>3</sup>
  - 3 - STEM Requirement<sup>2</sup>
- 
- 12

### Second Semester

- 2 - GEOL 3920 Research Methods II
  - 7 - Geology Requirement<sup>4</sup>
  - 3 - STEM Requirement<sup>2</sup>
- 
- 12

### Summer

- 6 - Field Experience<sup>5</sup>

## Senior Year

### First Semester

- 3 - GEOL 4910 Research Synthesis I
  - 4 - Geology Requirement<sup>4</sup>
  - 6 - STEM Requirement<sup>2</sup>
- 
- 13

### Second Semester

- 3 - GEOL 4920 Research Synthesis II
  - 4 - Geology Requirement<sup>4</sup>
  - 6 - STEM Requirement<sup>2</sup>
- 
- 13

120 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>Twenty-eight credit hours selected from department approved list. No more than 14 hours below the 3000-level and no more than eight hours below the 2000-level. Courses may not be used to satisfy any other requirement.

<sup>3</sup>Select from department-approved list. Courses may not be used to satisfy any other requirement.

<sup>4</sup>Fifteen credit hours. Select from GEOL 3130, 3180, 4050, 4090, 4150, 4210, or (CE) 4820. Only excess hours may be used to satisfy STEM requirement hours.

<sup>5</sup>GEOL 4750, or other six-credit summer geology field camp, or a combination of GEOL 2750 plus a three-credit field course in geology or other approved discipline. Students desiring to become registered professional geologists should take a six-credit summer field camp in geology/hydrogeology.

## ENVIRONMENTAL SCIENCE CONCENTRATION

### Freshman Year

#### First Semester

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - GEOL 1010 Physical Geology
  - 1 - GEOL 1030 Physical Geology Lab.
  - 4 - MATH 1060 Calculus of One Variable I
- 
- 15

#### Second Semester

- 4 - CH 1020 General Chemistry
  - 3 - GEOL 1120 Earth Resources
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 
- 17

**Sophomore Year****First Semester**

- 3 - BIOL 1030 General Biology I
- 1 - BIOL 1050 General Biology Lab. I
- 3 - ENSP 2000 Intro. to Environmental Science
- 3 - GEOL 2050 Mineralogy and Intro. Petrology
- 1 - GEOL 2070 Mineral. and Intro. Petrology Lab.
- 1 - GEOL 2910 Introduction to Research I
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>

15

**Second Semester**

- 3 - BIOL 1040 General Biology II
- 1 - BIOL 1060 General Biology Lab. II
- 3 - CH 2010 Survey of Organic Chemistry or  
3 - CH 2230 Organic Chemistry
- 4 - GEOL 2020 Earth History
- 1 - GEOL 2920 Introduction to Research II
- 3 - PHYS 1220 Physics with Calculus I

15

**Junior Year****First Semester**

- 3 - GEOL 3000 Environmental Geology
- 4 - GEOL 3020 Structural Geology
- 2 - GEOL 3910 Research Methods I
- 4 - GEOL 4150 Analysis of Geological Processes<sup>2</sup>

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**Second Semester**

- 3 - GEOL 3180 Introduction to Geochemistry
- 2 - GEOL 3920 Research Methods II
- 3 - GEOL 4210 GIS Applications in Geology
- 3 - MATH 3020 Statistics for Science and Engr. or  
3 - STAT 2300 Statistical Methods I
- 4 - Environmental Science Requirement<sup>3</sup>

15

**Summer**

- 6 - Field Experience<sup>4</sup>

**Senior Year****First Semester**

- 3 - ENSP 4000 Studies in Environmental Science
- 3 - GEOL (CE) 4820 Groundwater and  
Contaminant Transport
- 3 - GEOL 4910 Research Synthesis I
- 3 - Social Science Requirement<sup>1</sup>

12

**Second Semester**

- 3 - GEOL 4920 Research Synthesis II
- 10 - Environmental Science Requirement<sup>3</sup>

13

121 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>MATH 2060 may be substituted.

<sup>3</sup>Total of 14 credit hours selected from department approved list. No more than eight hours below the 3000-level. Courses cannot be used to satisfy any other requirement.

<sup>4</sup>GEOL 4750 or a combination of GEOL 2750 plus a three credit hour field course in geology, ecology or other approved discipline. Students desiring to become registered professional geologists should take a six-credit hour summer field camp in geology/hydrogeology.

**HYDROGEOLOGY  
CONCENTRATION****Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
- 3 - ENGL 1030 Accelerated Composition
- 3 - GEOL 1010 Physical Geology
- 1 - GEOL 1030 Physical Geology Lab.
- 4 - MATH 1060 Calculus of One Variable I

15

**Second Semester**

- 4 - CH 1020 General Chemistry
- 3 - GEOL 1120 Earth Resources
- 4 - MATH 1080 Calculus of One Variable II
- 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 3 - Social Science Requirement<sup>1</sup>

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**Sophomore Year****First Semester**

- 3 - GEOL 2050 Mineralogy and Intro. Petrology
- 1 - GEOL 2070 Mineral. and Intro. Petrology Lab.
- 1 - GEOL 2910 Introduction to Research I
- 3 - PHYS 1220 Physics with Calculus I
- 1 - PHYS 1240 Physics Lab I
- 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 3 - Hydrogeology Requirement<sup>2</sup>

15

**Second Semester**

- 4 - GEOL 2020 Earth History
- 1 - GEOL 2920 Introduction to Research II
- 3 - MATH 3020 Statistics for Science and Engr. or  
3 - STAT 2300 Statistical Methods I
- 3 - PHYS 2210 Physics with Calculus II
- 3 - Social Science Requirement<sup>1</sup>
- 3 - Hydrogeology Requirement<sup>2</sup>

17

**Junior Year****First Semester**

- 3 - GEOL 3000 Environmental Geology
- 4 - GEOL 3020 Structural Geology
- 2 - GEOL 3910 Research Methods I
- 4 - GEOL 4150 Analysis of Geological Processes<sup>3</sup>

13

**Second Semester**

- 4 - GEOL 3130 Sedimentology and Stratigraphy
- 3 - GEOL 3180 Introduction to Geochemistry
- 2 - GEOL 3920 Research Methods II
- 3 - GEOL 4210 GIS Applications in Geology

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**Summer**

- 6 - GEOL 4750 Summer Geology Field Camp

**Senior Year****First Semester**

- 3 - GEOL (CE) 4820 Groundwater and  
Contaminant Transport
- 3 - GEOL 4910 Research Synthesis I
- 6 - Hydrogeology Requirement<sup>2</sup>

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**Second Semester**

- 3 - EES 4010 Environmental Engineering
- 4 - GEOL 4050 Surficial Geology
- 4 - GEOL 4090 Environmental and Exploration  
Geophysics
- 3 - GEOL 4920 Research Synthesis II

14

121 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>2</sup>Total of 12 credit hours selected from department-approved list. Courses may not be used to satisfy any other requirement.

<sup>3</sup>MATH 2060 may be substituted.

**MATHEMATICAL SCIENCES**

The Mathematical Sciences curriculum is designed to be versatile. Students gain a broad knowledge of mathematical concepts and methods that are applicable in sciences, engineering, business, industry, and other professions requiring a strong mathematical background. In addition to the basic courses that provide necessary mathematical skills, the curriculum allows students to select an emphasis area or concentration, providing an introduction to a specific area where mathematics is used. These are Abstract Mathematics, Actuarial Science/Financial Mathematics, Applied and Computational Mathematics, Biology, Computer Science, Operations Research/Management Science, and Statistics.

In addition to the overall goal of preparing students to cope with a variety of mathematical problems, the curriculum seeks to provide an adequate background for students who plan to pursue graduate study or positions in business, industry, or government. Students electing the Biology Concentration will have the necessary preparation for entering medical school. More information about the degree program can be found at [www.clemson.edu/ces/departments/math](http://www.clemson.edu/ces/departments/math).

All mathematical sciences majors are required to complete a capstone experience that provides an opportunity to pursue research, independent study, or an approved internship under the direction of a faculty member, or the opportunity to study mathematical models in some area of the mathematical sciences. The capstone experience requires a written report (thesis, computer code, project description, intern experience, etc.) and an oral or poster presentation by each student.

**Combined Bachelor's/Master's Plan**

Under this plan, students may reduce the time necessary to earn both degrees by applying up to 12 graduate credits to both undergraduate and graduate program requirements. Students are encouraged to obtain the specific requirements for pursuing the combined degree from the Department of Mathematical Sciences [www.clemson.edu/ces/departments/math](http://www.clemson.edu/ces/departments/math), as early as possible in their undergraduate program. Enrollment guidelines and procedures can be found under *Academic Regulations* in this catalog.

**Bachelor of Science****Freshman Year****First Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Foreign Language Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>3</sup>
- 
- 16

**Second Semester**

- 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 1220 Physics with Calculus I
  - 3 - Computer Science Requirement<sup>4</sup>
  - 3 - Cross-Cultural Awareness Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>3</sup>
- 
- 16

**Sophomore Year****First Semester**

- 4 - MATH 2060 Calculus of Several Variables
  - 1 - MATH 2500 Intro. to Mathematical Sciences
  - 3 - MATH 3190 Introduction to Proof
  - 3 - MATH 3600 Intermediate Math. Computing
  - 4 - Natural Science Requirement<sup>5</sup>
- 
- 15

**Second Semester**

- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - MATH 3020 Statistics for Science and Engr.
  - 3 - MATH 3110 Linear Algebra
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>5</sup>
- 
- 17

**Junior Year****First Semester**

- 3 - MATH 4000 Theory of Probability
  - 3 - MATH 4400 Linear Programming
  - 3 - MATH 4530 Advanced Calculus I
  - 3 - Advanced Writing Requirement<sup>6</sup>
  - 3 - Technical Requirement<sup>7</sup>
- 
- 15

**Second Semester**

- 3 - MATH 4120 Introduction to Modern Algebra
  - 3 - MATH 4540 Advanced Calculus II
  - 3 - Emphasis Area Requirement<sup>8</sup>
  - 3 - Technical Requirement<sup>7</sup>
  - 3 - Elective
- 
- 15

**Senior Year****First Semester**

- 3 - Capstone Experience<sup>9</sup>
  - 6 - Emphasis Area Requirement<sup>8</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
  - 3 - Science and Tech. in Society Requirement<sup>1</sup>
- 
- 15

**Second Semester**

- 1 - MATH 4920 Professional Development
  - 3 - Capstone Experience<sup>9</sup>
  - 3 - Emphasis Area Requirement<sup>8</sup>
  - 3 - Mathematical Sciences Requirement<sup>10</sup>
  - 3 - Elective
- 
- 13

122 Total Semester Hours

<sup>1</sup>See General Education Requirements.<sup>2</sup>Three credits in any foreign language, including American Sign Language, numbered 1020 or above<sup>3</sup>See General Education Requirements. ECON 2110 is recommended. ECON 2110 is required for students whose emphasis area is Actuarial Science/Financial Mathematics.<sup>4</sup>CPSC 1010, 1110, 1610, or 2200<sup>5</sup>A two-semester sequence selected from the list of Natural Science with Laboratory General Education Requirements.<sup>6</sup>ENGL 3040, 3120, 3140 or 3150; or the cluster of courses AS 3090, 3100, 4090 and 4100; or the cluster of courses ML 3010, 3020, 4010, and 4020. ENGL 3140 is recommended.<sup>7</sup>CPSC 1020, 2100, 2120, ECON 2120, 4050, or FIN 3110; or any two natural science courses from General Education Natural Science Requirements (labs not required). Actuarial Science/Financial Mathematics requires ECON 2120 and FIN 3110; and Computer Science Emphasis Area requires CPSC 1020 and 2120, or CPSC 2100 and 2120.<sup>8</sup>Select from Abstract Mathematics, Actuarial Science/Financial Mathematics, Applied and Computational Mathematics, Computer Science, Operations Research/Management Science, or Statistics.<sup>9</sup>May be satisfied by (1) completion of six credits of MATH 4820; (2) completion of six credits of MATH 4910 or an approved substitution; or (3) completion of three credits of MATH 4500 and three credits of an additional course approved by the advisor. Students in Actuarial Science/Financial Mathematics Emphasis Area must take MATH 4070 and 4410. Students in the Operations Research/Management Science Emphasis Area must take MATH 4070 and 4420. Students in the Statistics Emphasis Area must take MATH 4070 and 4410.<sup>10</sup>Any 4000-level MATH or STAT course approved by the advisor.**Notes:**

1. For graduation, a candidate for the BS degree in Mathematical Sciences will be required to have a 2.0 or higher cumulative grade-point average in all required MATH courses.
2. A grade of C or better must be earned in all prerequisite courses before enrolling in the next MATH course.
3. Students who change majors to Mathematical Sciences must have achieved the Minimum Cumulative Grade-Point Average (MCGPA) by Total Credit Hour Level as defined in the Academic Regulations section of the *Undergraduate Announcements* and must have received a grade of C or better in all MATH courses taken.

**EMPHASIS AREAS****Abstract Mathematics<sup>1</sup>**

- 6 - Abstract Mathematics Requirement<sup>2</sup>
  - 6 - Mathematical Sciences Requirement<sup>3</sup>
- 
- 12

**Actuarial Science/Financial Mathematics<sup>4</sup>**

- 3 - ACCT 2010 Financial Accounting Concepts
  - 1 - ACCT 2040 Accounting Procedures
  - 3 - FIN 3120 Financial Management II
  - 3 - MATH 4030 Intro. to Statistical Theory
  - 3 - MATH 4310 Theory of Interest
- 
- 13

**Applied and Computational Mathematics**

- 3 - MATH 4340 Advanced Engineering Math.
  - 3 - MATH 4600 Intro. to Numerical Analysis I
  - 6 - Applications Area<sup>1</sup>
- 
- 12

**Computer Science**

- 3 - CPSC 2150 Software Development Foundations
  - 9 - Computer Science 3000-Level Requirement<sup>5</sup>
- 
- 12

**Operations Research/Management Science**

- 3 - IE 3860 Production Planning and Control
  - 4 - IE 4820 Systems Modeling
  - 3 - MATH 4410 Intro. to Stochastic Models
  - 3 - STAT 4020 Statistical Computing
- 
- 13

**Statistics**

- 3 - MATH 4020 Statistical Theory and Meth. II
  - 3 - MATH 4030 Intro. to Statistical Theory
  - 3 - MATH 4060 Sampling Theory and Methods
  - 3 - STAT 4020 Statistical Computing
- 
- 12

<sup>1</sup>See advisor.<sup>2</sup>MATH 4100, 4110, 4350, 4550, or 4560.<sup>3</sup>Any 4000-level MATH course<sup>4</sup>Students who want to take the Society of Actuaries "P" and "FM" exams are also advised to take MATH 4300 and 4320.<sup>5</sup>Any 3000- or 4000-level CPSC course**BIOLOGY CONCENTRATION****Freshman Year****First Semester**

- 5 - BIOL 1100 Principles of Biology I
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Foreign Language Requirement<sup>1</sup>
- 
- 15

**Second Semester**

- 5 - BIOL 1110 Principles of Biology II
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - Computer Science Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>3</sup>
- 
- 15

**Sophomore Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 4 - MATH 2060 Calculus of Several Variables
  - 1 - MATH 2500 Intro. to Mathematical Sciences
  - 3 - PHYS 2070 General Physics I
  - 1 - PHYS 2090 General Physics I Lab.
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>4</sup>
- 
- 16

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - MATH 3110 Linear Algebra
  - 3 - PHYS 2080 General Physics II
  - 1 - PHYS 2100 General Physics II Lab.
- 
- 15

**Junior Year****First Semester**

- 3 - CH 2230 Organic Chemistry
  - 1 - CH 2270 Organic Chemistry Lab.
  - 3 - MATH 3190 Introduction to Proof
  - 3 - MATH 3600 Intermediate Math. Computing
  - 3 - Advanced Writing Requirement<sup>5</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>4</sup>
- 
- 16

**Second Semester**

- 3 - CH 2240 Organic Chemistry
  - 1 - CH 2280 Organic Chemistry Lab.
  - 3 - MATH 3020 Statistics for Science and Engr.
  - 3 - MATH 4400 Linear Programming
  - 3 - Mathematical Sciences Requirement<sup>6</sup>
  - 3 - Oral Communication Requirement<sup>7</sup>
- 
- 16

**Senior Year****First Semester**

- 3 - MATH 4000 Theory of Probability
  - 3 - MATH 4530 Advanced Calculus I
  - 3 - Animal or Plant Diversity Requirement<sup>8</sup>
  - 3 - Capstone Experience<sup>9</sup>
  - 3 - Social Science Requirement<sup>4</sup>
- 
- 15

**Second Semester**

- 3 - MATH 4120 Introduction to Modern Algebra
  - 3 - MATH 4540 Advanced Calculus II
  - 1 - MATH 4920 Professional Development
  - 3 - Biological Sciences Requirement<sup>10</sup>
  - 3 - Capstone Experience<sup>9</sup>
- 
- 13

121 Total Semester Hours

<sup>1</sup>Three credits in any foreign language, including American Sign Language, numbered 1020 or above<sup>2</sup>CPS 1010, 1110, or 2200<sup>3</sup>See General Education Requirements. ECON 2000 or 2110 is recommended.<sup>4</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.<sup>5</sup>Select from ENGL 3040, 3120, 3140 or 3150; or the cluster of courses AS 3090, 3100, 4090 and 4100; or the cluster of courses ML 3010, 3020, 4010, and 4020.<sup>6</sup>Any 4000-level MATH or STAT course approved by advisor.<sup>7</sup>See General Education Requirements.<sup>8</sup>BIOL 3020, 3030, 3040, or 3050<sup>9</sup>May be satisfied by (1) completion of six credits of MATH 4820; (2) completion of six credits of MATH 4910 or an approved substitution; or (3) completion of three credits of MATH 4500 and three credits of an additional course approved by advisor.<sup>10</sup>BCHM 3010, GEN 3020/3030, MICR 3050, or any 3000-4000-level BIOL course**Notes:**

1. For graduation, a candidate for the BS degree in Mathematical Sciences will be required to have a 2.0 or higher cumulative grade-point average in all required MATH courses.
2. A grade of C or better must be earned in all prerequisite courses before enrolling in the next MATH course.
3. Students who change majors to Mathematical Sciences must have achieved the Minimum Cumulative Grade-Point Average (MCGPA) by Total Credit Hour Level as defined in the Academic Regulations section of the *Undergraduate Announcements* and must have received a grade of C or better in all MATH courses taken.

**MATHEMATICAL SCIENCES****Bachelor of Arts****Freshman Year****First Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 1 - Elective
- 
- 14

**Second Semester**

- 4 - MATH 1080 Calculus of One Variable II
  - 3 - Computer Science Requirement<sup>3</sup>
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Science and Technology in Society Req.<sup>4</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 16

**Sophomore Year****First Semester**

- 4 - MATH 2060 Calculus of Several Variables
  - 1 - MATH 2500 Intro. to Mathematical Sciences
  - 3 - MATH 3600 Intermed. Math. Computing or  
3 - EDSC 4370 Technology in Sec. Math.
  - 3 - Arts and Humanities (Literature) Requirement<sup>4</sup>
  - 3 - Cross-Cultural Awareness Requirement<sup>4</sup>
- 
- 14

**Second Semester**

- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - MATH 3020 Statistics for Science and Engr.
  - 3 - MATH 3110 Linear Algebra
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>4</sup>
  - 3 - Minor Requirement<sup>5</sup> or  
3 - Second Major Requirement
- 
- 16

**Junior Year****First Semester**

- 3 - MATH 3190 Introduction to Proof
  - 3 - Advanced Writing Requirement<sup>6</sup>
  - 3 - Math Science Requirement<sup>7</sup>
  - 4 - Natural Science Requirement<sup>4</sup>
- 
- 3 - Elective
- 
- 16

**Second Semester**

- 3 - COMM 2500 Public Speaking
  - 3 - MATH 4120 Introduction to Modern Algebra
  - 3 - Minor Requirement<sup>5</sup> or  
3 - Second Major Requirement
  - 4 - Natural Science Requirement<sup>4</sup>
- 
- 3 - Elective
- 
- 16

**Senior Year****First Semester**

- 3 - MATH 4530 Advanced Calculus I
  - 3 - Arts and Humanities Requirement<sup>4</sup> or  
3 - Education Requirement<sup>8</sup>
  - 3 - Capstone Experience<sup>9</sup>
  - 3 - Minor Requirement<sup>5</sup> or  
3 - Second Major Requirement
  - 3 - Math Science Requirement<sup>7</sup>
- 
- 15

**Second Semester**

- 1 - MATH 4920 Professional Development or  
1 - EDF 4250 Instructional Tech. Strategies
  - 3 - Capstone Experience<sup>9</sup>
  - 3 - Math Science Requirement<sup>7</sup>
  - 6 - Minor Requirement<sup>5</sup> or  
6 - Second Major Requirement
- 
- 2 - Elective
- 
- 15

122 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in the same modern foreign language, including American Sign Language, are required.<sup>2</sup>See General Education Requirements. ECON 2000 or 2110 is recommended.<sup>3</sup>CPS 1010, 1110, or 2200<sup>4</sup>See General Education Requirements.<sup>5</sup>See page 113 for approved minors.<sup>6</sup>Select from EDSC 2260, ENGL 3040, 3120, 3140, 3150; the cluster of AS 3090, 3100, 4090, and 4100; or the cluster of ML 3010, 3020, 4010, and 4020.<sup>7</sup>MATH 3080 or any 4000-level MATH or STAT course.<sup>8</sup>See advisor.<sup>9</sup>May be satisfied by (1) completion of six credits of MATH 4820; (2) completion of six credits of MATH 4910 or an approved substitution; (3) completion of three credits of MATH 4500 and three credits of an additional course approved by advisor; or (4) EDSC 4460 for students seeking a double major in Secondary Education-Mathematics.**Notes:**

1. For graduation, a candidate for the BA degree in Mathematical Sciences will be required to have a 2.0 or higher cumulative grade-point average in all required MATH courses.
2. A grade of C or better must be earned in all prerequisite courses before enrolling in the next MATH course.
3. Students who change majors to Mathematical Sciences must have achieved the Minimum Cumulative Grade-Point Average (MCGPA) by Total Credit Hour Level as defined in the Academic Regulations section of the *Undergraduate Announcements* and must have received a grade of C or better in all MATH courses taken.

**PHYSICS****Bachelor of Science**

Physics, the most fundamental of the natural sciences, forms the basis of study upon which the other branches of science are founded. Physics is concerned with the fundamental behavior of matter and energy. Classical physics encompasses the fields of mechanics, heat and thermodynamics, electricity and magnetism, acoustics and optics. Modern physics is concerned with the study of atoms and molecules, atomic nuclei, elementary particles and the properties of liquids, crystalline solids, and other materials, as well as the areas of relativity, cosmology, and the large-scale structure of the universe.

The undergraduate Physics curricula provide students with a strong background in the classical areas of physics, as well as an introduction to the more important aspects of modern physics. The BS curriculum is directed toward preparing students for graduate study ultimately leading to the PhD degree or toward research and development work in industrial or governmental laboratories. It also provides a good background for graduate study or industrial work in many areas or engineering physics and applied science.

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Lab I
- 
- 15

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 2210 Physics with Calculus II
  - 1 - PHYS 2230 Physics Lab. II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 
- 15

**Sophomore Year****First Semester**

- 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2220 Physics with Calculus III
  - 2 - PHYS 3000 Introduction to Research
  - 3 - PHYS 3250 Experimental Physics I
  - 4 - Foreign Language Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - PHYS 3110 Intro. to Meth. of Theoretical Phys.
  - 3 - PHYS 3260 Experimental Physics II
  - 4 - Foreign Language Requirement<sup>2</sup>
  - 1 - Elective
- 

**Junior Year****First Semester**

- 3 - PHYS 3120 Methods to Theoretical Physics II
  - 3 - PHYS 3150 Intro. to Computational Physics
  - 3 - PHYS 3210 Mechanics I
  - 3 - Emphasis Area Requirement<sup>3</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 

**Second Semester**

- 3 - PHYS 3220 Mechanics II
  - 3 - PHYS 4650 Thermodynamics and Statistical Mechanics
  - 3 - Emphasis Area Requirement<sup>3</sup>
  - 3 - Physics Writing Requirement<sup>4</sup>
  - 3 - Science Requirement<sup>5</sup>
- 

**Senior Year****First Semester**

- 3 - PHYS 4010 Senior Thesis
  - 3 - PHYS 4410 Electromagnetics I
  - 3 - PHYS 4550 Quantum Physics I
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Emphasis Area Requirement<sup>3</sup>
- 

**Second Semester**

- 3 - HIST 1720 The West and the World I *or*  
3 - HIST 1730 The West and the World II
  - 3 - PHYS 4420 Electromagnetics II
  - 3 - PHYS 4560 Quantum Physics II
  - 3 - Emphasis Area Requirement<sup>3</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 

121 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>Two semesters (through 1020) in the same modern foreign language are required.

<sup>3</sup>See advisor. Select from the following emphasis areas: Chemistry, Computer Science, Engineering, Environmental Engineering, Geology, Mathematical Sciences, or Physics and Astronomy. Twelve credit hours in one of these areas, with at least six at the 3000-4000 level, are required. *Note:* Requirements for a minor in one of these areas might be satisfied with three additional credits at the 3000-4000 level.

<sup>4</sup>ENGL 3040, 3120, 3140, 3150, 3160, 3450, 3460, 3480, ML 4020, or THEA (ENGL) 3470

<sup>5</sup>Any 2000-4000-level science course

**BIOPHYSICS CONCENTRATION**

The Biophysics Concentration offers an excellent preparation for medical school or graduate work in biological sciences. It includes the flexibility of selecting courses in chemistry, biological sciences, physics, and mathematics. This concentration also provides the necessary background for employment in industry, manufacturing, and instrumentation for clinical or molecular biology applications.

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Lab. I
- 

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 2210 Physics with Calculus II
  - 1 - PHYS 2230 Physics Lab. II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 

**Sophomore Year****First Semester**

- 5 - BIOL 1100 Principles of Biology
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2220 Physics with Calculus III
  - 2 - PHYS 3000 Introduction to Research
  - 3 - PHYS 3250 Experimental Physics I
- 

**Second Semester**

- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - PHYS 3110 Intro. to Meth. of Theoretical Phys.
  - 3 - PHYS 3260 Experimental Physics II *or*  
3 - Science Requirement<sup>5</sup>
  - 4 - Biophysics Requirement<sup>2</sup>
- 

**Junior Year****First Semester**

- 3 - PHYS 3120 Methods of Theoretical Physics II
  - 3 - PHYS 3150 Intro. to Computational Physics
  - 3 - PHYS 3210 Mechanics I
  - 3 - Biophysics Requirement<sup>2</sup>
  - 4 - Foreign Language Requirement<sup>3</sup>
- 

**Second Semester**

- 3 - PHYS 3220 Mechanics II
  - 3 - PHYS 4650 Thermodynamics and Statistical Mechanics
  - 3 - Biophysics Requirement<sup>2</sup>
  - 4 - Foreign Language Requirement<sup>3</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 

**Senior Year****First Semester**

- 3 - PHYS 4410 Electromagnetics I
  - 3 - PHYS 4550 Quantum Physics I
  - 3 - Arts and Humanities (Literature) Requirement
  - 3 - Biophysics Requirement<sup>2</sup>
  - 3 - Physics Writing Requirement<sup>4</sup>
- 

**Second Semester**

- 3 - HIST 1720 The West and the World I *or*  
3 - HIST 1730 The West and the World II
  - 3 - PHYS 4420 Electromagnetics II
  - 3 - PHYS 4560 Quantum Physics II
  - 3 - Biophysics Requirement<sup>2</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 

123 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.

<sup>2</sup>Select from department-approved list of courses in biological sciences, chemistry, mathematical sciences, and physics. At least six credit hours must be in biological sciences.

<sup>3</sup>Two semesters (through 1020) in same modern foreign language are required.

<sup>4</sup>ENGL 3040, 3120, 3140, 3150, 3160, 3450, 3460, 3480, ML 4020, or THEA (ENGL) 3470

<sup>5</sup>Any 2000-4000-level science course

<sup>6</sup>An approved physics course may be substituted if CH 3310 and 3320 have been completed.

**INTERDISCIPLINARY EMPHASIS AREA**

Students who select the Bachelor of Science degree in Physics with an interdisciplinary emphasis supplement their study of physics with core courses in complementary fields of study. This emphasis area is an excellent option for students preparing for direct entry into the job market or for medical, law or business school. Depending on a student's academic goals, it may also be a good option for students preparing for graduate school or for those pursuing both a major and minor or a double major.

Because students choosing the interdisciplinary emphasis have a wide variety of academic and career goals, and because the interdisciplinary emphasis requirements cannot be tracked via Clemson's degree audit system, detailed departmental advising is vital. Students, in consultation with their advisor, must select a technical or professional emphasis area subject to departmental approval no later than the end of the second semester of their sophomore year. Additionally, all potential prerequisite courses for a minor should be completed in the student's first or second year. For additional information, please visit <http://physics.clemson.edu>.

*Note:* Student transcripts record a Bachelor of Science in Physics; the interdisciplinary emphasis area is not included on transcripts.

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry<sup>1</sup>
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Lab I
- 

**Second Semester**

- 4 - CH 1020 General Chemistry<sup>1</sup>
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 2210 Physics with Calculus II
  - 1 - PHYS 2230 Physics Lab. II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 

**Sophomore Year****First Semester**

- 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2220 Physics with Calculus III
  - 2 - PHYS 3000 Introduction to Research
  - 3 - PHYS 3250 Experimental Physics I
  - 3 - Emphasis Area Requirement<sup>3</sup>
-

**Second Semester**

- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - PHYS 3110 Intro. to Meth. of Theoretical Phys.
  - 3 - PHYS 3260 Experimental Physics II
  - 3 - Emphasis Area Requirement<sup>3</sup>
  - 3 - Physics Writing Requirement<sup>4</sup>
- 
- 16

**Junior Year****First Semester**

- 3 - PHYS 3150 Intro. to Computational Physics
  - 3 - PHYS 3210 Mechanics I
  - 3 - Emphasis Area Requirement<sup>3</sup>
  - 4 - Foreign Language Requirement<sup>5</sup>
  - 3 - Oral Communication Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 3 - PHYS 3220 Mechanics II
  - 3 - PHYS 4650 Thermodynamics and Statistical Mechanics
  - 3 - Emphasis Area Requirement<sup>3</sup>
  - 4 - Foreign Language Requirement<sup>5</sup>
  - 3 - Science Requirement<sup>6</sup>
- 
- 16

**Senior Year****First Semester**

- 3 - PHYS 4010 Senior Thesis<sup>7</sup>
  - 3 - PHYS 4410 Electromagnetics I
  - 3 - PHYS 4550 Quantum Physics I
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Emphasis Area Requirement<sup>3</sup>
- 
- 15

**Second Semester**

- 3 - HIST 1720 The West and the World I or  
3 - HIST 1730 The West and the World II
  - 6 - Emphasis Area Requirement<sup>3</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 12

120 Total Semester Hours

<sup>1</sup>Other introductory courses, such as CPSC 1010 or 1020, may be chosen with departmental approval.<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.<sup>3</sup>See advisor. Twenty-one credit hours, with at least nine at the 3000-4000 level, are required. Courses and emphasis area must be approved by the department. *Note:* Requirements for a minor may be satisfied with these courses. Emphasis area and courses of study must be approved by the end of sophomore year.<sup>4</sup>ENGL 3040, 3120, 3140, 3150, 3160, 3450, 3460, 3480, ML 4020, or THEA (ENGL) 3470<sup>5</sup>Two semesters (through 1020) in same modern foreign language are required.<sup>6</sup>Any 2000-4000-level science course in ASTR, BIOL, CH, ENSP, GEOL, PHYS, or STS. Other science courses require departmental approval.<sup>7</sup>Students may select an approved synthesis or capstone course or directed research in their emphasis area. Students in the honors program must complete a senior thesis in physics.**PHYSICS****Bachelor of Arts**

The Bachelor of Arts in Physics program is ideal for students interested in acquiring a broad-based liberal education that includes a strong and solid understanding of either science or a broad exposure to engineering with a strong physics foundation.

**Double Major in Physics/Science****Teaching—Physics**

The Bachelor of Arts Degree in Physics and Science Teaching—Physics prepares students for teaching physics on the secondary school level and for graduate studies in physics. See page 128 for the curriculum.

*Note:* To receive a double major in Physics and Science Teaching—Physics, the student must complete a change-of-program form to declare both majors.

**Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Lab. I
- 
- 15

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 2210 Physics with Calculus II
  - 1 - PHYS 2230 Physics Lab. II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 
- 15

**Sophomore Year****First Semester**

- 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2220 Physics with Calculus III
  - 1 - PHYS 3000 Introduction to Research
  - 3 - PHYS 3250 Experimental Physics I
  - 4 - Foreign Language Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - PHYS 3110 Intro. to Meth. of Theoretical Phys.
  - 4 - Foreign Language Requirement<sup>2</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
  - 1 - Elective
- 
- 15

**Junior Year****First Semester**

- 3 - PHYS 3150 Intro. to Computational Physics
  - 3 - PHYS 3210 Mechanics I
  - 3 - Foreign Language Requirement<sup>2</sup>
  - 3 - Minor Requirement<sup>4</sup>
  - 3 - Physics Writing Requirement<sup>3</sup>
- 
- 15

**Second Semester**

- 3 - PHYS 3220 Mechanics II
  - 3 - PHYS 4650 Thermodynamics and Statistical Mechanics
  - 3 - Foreign Language Requirement<sup>2</sup>
  - 3 - Minor Requirement<sup>3</sup>
  - 3 - Social Science Requirement<sup>1</sup>
- 
- 15

**Senior Year****First Semester**

- 3 - PHYS 4410 Electromagnetics I
  - 3 - PHYS 4550 Quantum Physics I
  - 6 - Minor Requirement<sup>3</sup>
  - 3 - Physics Requirement<sup>5</sup>
- 
- 15

**Second Semester**

- 3 - HIST 1720 The West and the World I or  
3 - HIST 1730 The West and the World II
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Minor Requirement<sup>3</sup>
  - 3 - Physics Requirement<sup>5</sup>
  - 3 - Elective
- 
- 15

120 Total Semester Hours

<sup>1</sup>See General Education Requirements. Three of these credit hours must also satisfy the Science and Technology in Society Requirement.<sup>2</sup>Four semesters (through 2020) in the same modern foreign language are required.<sup>3</sup>ENGL 3040, 3120, 3140, 3150, 3160, 3450, 3460, 3480 ML 4020, or THEA (ENGL) 3470.<sup>4</sup>See advisor.<sup>5</sup>Any 3000- or 4000-level physics course



## MINORS

Following are minors acceptable for students in the College of Engineering and Science. Students cannot major and minor in the same field or acquire a minor that is not allowed by the degree program.

Accounting	Human Resource Management
Adult/Extension Education	International Engineering and Science
Aerospace Studies	Legal Studies
Agricultural Business Management	Management
Agricultural Mechanization and Business	Management Information Systems
American Sign Language Studies	Mathematical Sciences
Animal and Veterinary Sciences	Microbiology
Anthropology	Military Leadership
Architecture	Modern Languages
Art	Music
Athletic Leadership	Natural Resource Economics
Biochemistry	Nonprofit Leadership
Biological Sciences	Nuclear Engineering and Radiological Sciences
British and Irish Studies	Packaging Science
Business Administration	Pan African Studies
Chemistry	Park and Protected Area Management
Cluster	Philosophy
Communication Studies	Physics
Computer Science— <i>not open to Computer Information Systems majors</i>	Plant Pathology
Crop and Soil Environmental Science	Political Science
Digital Production Arts	Precision Agriculture
East Asian Studies	Psychology
Economics	Public Policy
Education	Recreational Therapy
English	Religion
Entomology	Russian Area Studies
Entrepreneurship	Science and Technology in Society
Environmental Science and Policy	Screenwriting
Equine Industry	Sociology
Film Studies	Spanish-American Area Studies
Financial Management	Sustainability
Food Science	Theatre
Forest Products	Travel and Tourism
Forest Resource Management	Turfgrass
Gender, Sexuality and Women's Studies	Urban Forestry
Genetics	Wildlife and Fisheries Biology
Geography	Women's Leadership
Geology	Writing
Global Politics	
Great Works	
History	
Horticulture	

See pages 40-43 for details.

# COLLEGE OF HEALTH, EDUCATION AND HUMAN DEVELOPMENT

The College of Health, Education and Human Development provides students the means by which to pursue careers in the fields of nursing, health, and recreation management. The "Engaged College with a Personal Touch" is home to the academic programs offered by the School of Nursing; the Department of Public Health Sciences; and the Department of Parks, Recreation and Tourism Management. The College also offers outreach services available through the Joseph F. Sullivan Center; the National Dropout Prevention Center; and the Outdoor Laboratory. Collaboration within the college between academics and community outreach services prepares students to be professional leaders in health and recreation management. As with all programs at the University, students take course offerings from all colleges on campus to achieve the most complete education possible.

## HEALTH SCIENCE

### Bachelor of Science

The Department of Public Health Sciences prepares students for careers in the health field, one of the largest industries in the United States. It includes hospitals and other medical service providers, public health organizations, health insurance companies, health/medical related sales, health fitness organizations, and community and nonprofit health agencies.

Plans of study can be arranged in health promotion and education, health services administration, leadership for cardiovascular technology, and preprofessional health studies. Students in the Health Promotion and Education Concentration have the skills to assess, plan, communicate, implement, manage, and evaluate public health promotion programs. Students in the Preprofessional Health Studies Concentration obtain the coursework and experience necessary for acceptance into various graduate programs in clinical health professions. The Cardiovascular Imaging Leadership Concentration provides a core of health science classes, training in diagnostic cardiovascular sonography, and a leadership certificate. The Health Services Administration Concentration allows students to develop skills and competencies in health administration/management for entry-level careers or graduate study in this area. A minor in Business Administration is integral to the concentration. The department, in cooperation with the College of Architecture, Arts and Humanities, also offers a joint Bachelor of Science degree in Language and International Health (see pages 68-69).

When space is available, students with fewer than 50 credit hours earned may apply to change majors into Health Science with a minimum cumulative grade-point average of 2.25. Students with 50 or more credit hours may apply for a change-of-major into Health Science when space is available based on the following restrictions:

- completion of the Health Science Mathematics and Statistics Requirements and the General Education Natural Science Requirement
- minimum cumulative grade-point average of 2.5

Additional information is available at [www.hehd.clemson.edu/PublicHealth/index.htm](http://www.hehd.clemson.edu/PublicHealth/index.htm).

## CARDIOVASCULAR IMAGING LEADERSHIP CONCENTRATION

### Freshman Year

#### First Semester

- 3 - BIOL 1030 General Biology I and
  - 1 - BIOL 1050 General Biology Lab. I or
  - 5 - BIOL 1100 Principles of Biology I
  - 4 - CH 1010 General Chemistry
  - 3 - HLTH 2020 Introduction to Public Health
  - 3 - Social Science Requirement<sup>1</sup>
- 14-15

#### Second Semester

- 3 - BIOL 1040 General Biology II and
  - 1 - BIOL 1060 General Biology Lab. II or
  - 5 - BIOL 1110 Principles of Biology II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - HLTH 2030 Overview of Health Care Systems
  - 3-4 - Mathematics Requirement<sup>2</sup>
- 17-19

### Sophomore Year

#### First Semester

- 4 - BIOL 2220 Human Anatomy and Phys. I
  - 3 - CVT 2260 Intro. to Cardiovascular Sonography
  - 3 - HLTH 2980 Human Health and Disease
  - 3 - PHYS 2070 General Physics I
  - 1 - PHYS 2090 General Physics I Laboratory
  - 3 - Statistics Requirement<sup>3</sup>
- 17

#### Second Semester

- 4 - BIOL 2230 Human Anatomy and Physiology II
  - 3 - COMM 1500 Introduction to Human Comm. or
  - 3 - COMM 2500 Public Speaking
  - 3 - CVT 2250 Ultrasound Physics
  - 3 - HEHD 4000 Intro. to Leadership Theories and Concepts
  - 3 - HLTH 2400 Determinants of Health Behavior
- 16

### Junior Year

#### First Semester

- 4 - CVT 3250 Echocardiography Principles
  - 4 - CVT 3350 Vascular Sonography Principles
  - 3 - HLTH 3800 Epidemiology
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 14

#### Second Semester

- 4 - CVT 3260 Echocardiography Methods
  - 4 - CVT 3360 Vascular Sonography Methods
  - 3 - HEHD 4100 Leadership Behavior and Civil Engagement
  - 3 - HLTH 4900 Research and Evaluation Strategies for Public Health
  - 3 - Social Science Requirement<sup>1</sup>
- 17

## Summer

- 3 - CVT 4240 Introduction to Field Experience

## Senior Year

### First Semester

- 6 - CVT 4250 CVS Field Experience II
  - 3 - HLTH 4180 CVT Professional Development
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 12

### Second Semester

- 6 - CVT 4260 CVS Field Experience III
  - 3 - HEHD 4200 Leadership Appl. and Experience
  - 3 - Health Requirement<sup>4</sup>
- 12
- 122-125 Total Semester Hours

<sup>1</sup>See General Education Requirements. Six of these credits must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>MATH 1020 or 1060

<sup>3</sup>STAT 2300 or 3090

<sup>4</sup>Any HLTH course not otherwise required.

Note: A minimum grade-point average of 2.0 is required for registration in each HLTH course.

## HEALTH PROMOTION AND EDUCATION CONCENTRATION

### Freshman Year

#### First Semester

- 3 - BIOL 1030 General Biology I and
  - 1 - BIOL 1050 General Biology Lab. I or
  - 5 - BIOL 1100 Principles of Biology I
  - 3 - HLTH 2020 Introduction to Public Health
  - 3 - PSYC 2010 Introduction to Psychology
  - 3 - SOC 2010 Introduction to Sociology
  - 1 - Elective
- 14-15

#### Second Semester

- 3 - ENGL 1030 Accelerated Composition
  - 3 - HLTH 2030 Overview of Health Care Systems
  - 3-4 - Mathematics Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
  - 4 - Elective
- 16-17

### Sophomore Year

#### First Semester

- 4 - CH 1010 General Chemistry or
  - 4 - CH 1050 Chemistry in Context I
  - 3 - HLTH 2980 Human Health and Disease
  - 3 - NUTR 2030 Principles of Human Nutrition
  - 3 - Guided Requirement<sup>3</sup>
  - 3 - Statistics Requirement<sup>4</sup>
- 16

#### Second Semester

- 4 - CH 1020 General Chemistry or
  - 4 - CH 1060 Chemistry in Context II
  - 3 - COMM 1500 Intro. to Human Comm. or
  - 3 - COMM 2500 Public Speaking
  - 3 - HLTH 2400 Determinants of Health Behavior
  - 1 - HLTH 3980 Health Appraisal Skills
  - 3 - PSYC 3400 Lifespan Developmental Psych.
- 14

**Junior Year****First Semester**

- 4 - BIOL 2220 Human Anatomy and Phys. I
  - 3 - HLTH 3030 Public Health Communication
  - 3 - HLTH 3400 Hlth. Promotion Program Planning
  - 3 - HLTH 3800 Epidemiology
  - 3 - Guided Requirement<sup>3</sup>
- 
- 16

**Second Semester**

- 4 - BIOL 2230 Human Anatomy and Phys. II
  - 1 - HLTH 4190 Health Science Internship Preparation Seminar
  - 3 - HLTH 4800 Community Health Promotion
  - 3 - HLTH 4900 Research and Evaluation Strategies for Public Health
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 1 - Elective
- 
- 15

**Senior Year****First Semester**

- 5 - HLTH 4200 Health Science Internship<sup>6</sup>
  - 6 - Health Requirement<sup>5</sup>
  - 3 - Elective
- 
- 14

**Second Semester**

- 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 6 - Guided Requirement<sup>3</sup>
  - 3 - Health Requirement<sup>5</sup>
  - 3 - Elective
- 
- 15

120-122 Total Semester Hours

<sup>1</sup>MATH 1010, 1020, or 1060

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>3</sup>See advisor.

<sup>4</sup>STAT 2300, 3090, or 3300

<sup>5</sup>Any HLTH course not otherwise required

<sup>6</sup>Internship may be done fall, spring, or summer after completing HLTH 4190. A grade-point average of 2.0 is required for registration.

**Notes:**

1. A minimum grade-point average of 2.0 is required for registration in each HLTH course.
2. Students who wish to pursue preprofessional options should take CH 1010 and 1020.

## HEALTH SERVICES ADMINISTRATION CONCENTRATION

**Freshman Year****First Semester**

- 3 - ECON 2110 Principles of Microeconomics
  - 3 - HLTH 2020 Introduction to Public Health
  - 4 - Natural Science Requirement<sup>1</sup>
  - 3 - Social Science Requirement<sup>2</sup>
  - 2 - Elective
- 
- 15

**Second Semester**

- 3 - ECON 2120 Principles of Macroeconomics
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - HLTH 2030 Overview of Health Care Systems
  - 3 - Guided Requirement<sup>3</sup>
  - 3-4 - Mathematics Requirement<sup>4</sup>
- 
- 15-16

**Sophomore Year****First Semester**

- 3 - ACCT 2010 Financial Accounting Concepts
  - 3 - HLTH 2980 Human Health and Disease
  - 3 - Guided Requirement<sup>3</sup> or 3 - Elective<sup>3</sup>
  - 3 - Health Requirement<sup>5</sup>
  - 3 - Statistics Requirement<sup>6</sup>
- 
- 15

**Second Semester**

- 3 - COMM 1500 Intro. to Human Comm. or 3 - COMM 2500 Public Speaking
  - 3 - HLTH 2400 Determinants of Health Behavior
  - 3 - MGT 2010 Principles of Management
  - 3 - Guided Requirement<sup>3</sup>
  - 3 - Social Science Requirement<sup>2</sup>
- 
- 15

**Junior Year****First Semester**

- 3 - AGRB (HLTH) 3610 Introduction to Health Care Economics
  - 3 - HLTH 3800 Epidemiology
  - 3 - LAW 3220 Legal Environment of Business
  - 3 - MKT 3010 Principles of Marketing
  - 3 - Guided Requirement<sup>3</sup> or 3 - Elective<sup>3</sup>
- 
- 15

**Second Semester**

- 1 - HLTH 4190 Health Science Internship Preparation Seminar
  - 3 - HLTH 4900 Research and Evaluation Strategies for Public Health
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 3 - Guided Requirement<sup>3</sup>
  - 3 - Health Requirement<sup>5</sup>
  - 3 - Elective
- 
- 16

**Senior Year****First Semester**

- 3 - FIN 3060 Corporation Finance
  - 5 - HLTH 4200 Health Science Internship<sup>7</sup>
  - 3 - HLTH 4400 Managing Health Service Org.
  - 3 - HLTH 4750 Principles of Health Care Operations Management and Research
- 
- 14

**Second Semester**

- 3 - HLTH 4600 Health Information Systems
  - 3 - HLTH 4780 Health Policy Ethics and Law
  - 3 - HLTH 4790 Financial Management and Budgeting for Health Service Organizations
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 3 - Guided Requirement<sup>3</sup>
- 
- 15

<sup>1</sup>BIOL 1030/1050, 1100, CH 1010, 1050, PHYS 1220/1240, or 2070/2090

<sup>2</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>3</sup>See advisor. Courses in Spanish are strongly recommended.

<sup>4</sup>MATH 1010, 1020, or 1060

<sup>5</sup>Any HLTH course not otherwise required

<sup>6</sup>STAT 2300 or 3090

<sup>7</sup>Internship may be done fall, spring, or summer after completing HLTH 4190.

Note: A minimum grade-point average of 2.0 is required for registration in each HLTH course.

## PREPROFESSIONAL HEALTH STUDIES CONCENTRATION

**Freshman Year****First Semester**

- 3 - BIOL 1030 General Biology I and 1 - BIOL 1050 General Biology Lab. I or 5 - BIOL 1100 Principles of Biology I
  - 4 - CH 1010 General Chemistry
  - 3 - HLTH 2020 Introduction to Public Health
  - 3 - Social Science Requirement<sup>1</sup>
- 
- 14-15

**Second Semester**

- 3 - BIOL 1040 General Biology II and 1 - BIOL 1060 General Biology Lab. II or 5 - BIOL 1110 Principles of Biology II
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - HLTH 2030 Overview of Health Care Systems
  - 3-4 - Mathematics Requirement<sup>2</sup>
- 
- 17-19

**Sophomore Year****First Semester**

- 4 - BIOL 2220 Human Anatomy and Phys. I
  - 3 - HLTH 2980 Human Health and Disease
  - 3 - Guided Requirement<sup>3</sup>
  - 3 - Health Requirement<sup>4</sup>
  - 3 - Statistics Requirement<sup>5</sup>
- 
- 16

**Second Semester**

- 4 - BIOL 2230 Human Anatomy and Phys. II
  - 3 - COMM 1500 Intro. to Human Comm. or 3 - COMM 2500 Public Speaking
  - 3 - HLTH 2400 Determinants of Health Behavior
  - 3 - Social Science Requirement<sup>1</sup>
  - 3 - Elective<sup>6</sup>
- 
- 16

**Junior Year****First Semester**

- 3 - HLTH 3800 Epidemiology
  - 3 - PHYS 2070 General Physics I
  - 1 - PHYS 2090 General Physics I Lab.
  - 4 - Guided Requirement<sup>3</sup>
  - 3 - Health Requirement<sup>4</sup>
  - 1 - Elective<sup>6</sup>
- 
- 15

**Second Semester**

- 1 - HLTH 4190 Health Science Internship Preparation Seminar
  - 3 - HLTH 4900 Research and Evaluation Strategies for Public Health
  - 3 - PHYS 2080 General Physics II
  - 1 - PHYS 2100 General Physics II Lab.
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 4 - Guided Requirement<sup>3</sup>
- 
- 15

**Senior Year****First Semester**

- 5 - HLTH 4200 Health Science Internship<sup>7</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Health Requirement<sup>4</sup>
  - 3 - Elective<sup>6</sup>
- 
- 14

**Second Semester**

- 3 - Guided Requirement<sup>3</sup>
  - 3 - Health Requirement<sup>4</sup>
  - 7 - Elective<sup>6</sup>
- 
- 13

120–123 Total Semester Hours

<sup>1</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society Requirements.

<sup>2</sup>MATH 1020 or 1060

<sup>3</sup>See advisor. Courses in Spanish are strongly recommended.

<sup>4</sup>Any HLTH course not otherwise required

<sup>5</sup>STAT 2300 or 3090

<sup>6</sup>Physician's Assistant, predentistry, and premedicine students may also need BCHM 3010 and eight credit hours of organic chemistry. Some programs also require a course in microbiology.

<sup>7</sup>Internship must be completed in one or two semesters. Internship may be done fall, spring, or summer after completing HLTH 4190. Prior approval is required for summer internships. A grade-point average of 2.0 is required for registration.

Note: A minimum grade-point average of 2.0 is required for registration in each HLTH course.

**LANGUAGE AND INTERNATIONAL HEALTH****Bachelor of Science**

The Language and International Health program is administered by the College of Architecture, Arts and Humanities and the College of Health, Education and Human Development. See pages 68-69 for the curriculum.

**NURSING****Bachelor of Science**

The Bachelor of Science degree program in Nursing prepares students for professional nursing practice in a variety of settings, such as hospitals, industry, clinics, and public health agencies. During the first two years, emphasis is on liberal arts and basic science courses arranged to provide a foundation for the nursing major. Junior and senior courses emphasize the study of nursing. Clinical nursing experiences, guided by the Nursing faculty, involve acute and community-based settings. Students are responsible for their own transportation to clinical laboratory experiences, which may extend throughout the Upstate.

Throughout the clinical laboratory period, Nursing majors are required to carry current, valid student nurses' professional liability insurance with minimum limits of liability of \$1,000,000 per occurrence and \$6,000,000 in aggregate. Documentation of such coverage must be provided to the Director of the School of Nursing. No student may participate in clinical learning activities without this insurance coverage.

To comply with clinical agency contract requirements and South Carolina law, students enrolled in nursing courses with a clinical laboratory must meet specific requirements listed in the *School of Nursing Student Handbook* at [www.clemson.edu/hehd/nursing](http://www.clemson.edu/hehd/nursing).

The School of Nursing programs are accredited by the CCNE (Commission on Collegiate Nursing Education), One Dupont Circle NW, Suite 530, Washington, DC 20036-1120.

**Entrance Requirements**

To facilitate admission of students who can achieve at an appropriate level in the program, admission is selective. Consideration is given to performance in secondary school and on the College Board Examination (SAT). Those seeking admission are advised to apply to the University early in the fall of the senior year in high school.

Transfer admission is competitive. Students are encouraged to apply early to the Office of Admissions. The University admits ten new transfer students to the Nursing major during the fall semester only. Potential students should have a minimum grade point average of 3.0 and completion of 30 semester hours of transferable courses. Placement in the Nursing curriculum will be determined after credit evaluation is completed.

Students may change majors into Nursing based on approval of an Admissions Committee in the School of Nursing. Applications are accepted each year during January with a deadline of January 31. Decisions are made by February 28. Change-of-major students will have a start date of the following January into upper division (junior-level) nursing courses. Applicants should meet the following requirements prior to the semester of application: a minimum cumulative grade-point average of 2.75, completion of a minimum of two required sciences in the Nursing curriculum with a C or better. Selection priority is based on grade-point average and number of completed nursing prerequisites. Students are allowed to apply only twice. Information regarding the admission process to the Accelerated Second Degree nursing program can be found on the School of Nursing website.

Detailed information is available from the Academic Advising Center in 309 Edwards Hall or at [www.clemson.edu/hehd/nursing](http://www.clemson.edu/hehd/nursing).

**Freshman Year****First Semester<sup>1</sup>**

- 3 - BIOL 1030 General Biology I
  - 1 - BIOL 1050 General Biology Lab. I
  - 3 - COMM 1500 Intro. to Human Comm. *or*
  - 3 - COMM 2500 Public Speaking
  - 2 - NURS 1020 Nursing Success Skills
  - 3 - NURS 1400 Computer Appl. in Health Care<sup>2</sup>
  - 3 - SOC 2010 Introduction to Sociology
- 
- 15

**Second Semester**

- 4 - CH 1010 General Chemistry I
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - PSYC 2010 Introduction to Psychology
  - 3 - STAT 2300 Statistical Methods I
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
- 
- 16

**Sophomore Year****First Semester**

- 4 - BIOL 2220 Human Anatomy and Phys. I
  - 4 - MICRO 2050 Introductory Microbiology *or*
  - 4 - MICR 3050 General Microbiology
  - 3 - NUTR 2050 Nutrition for Nursing Professionals
  - 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
  - 1 - Elective
- 
- 15

**Second Semester**

- 4 - BIOL 2230 Human Anatomy and Phys. II
  - 3 - NURS 3200 Professionalism in Nursing
  - 3 - NURS (HCG) 3330 Health Care Genetics
  - 3 - Cross-Cultural Awareness Requirement<sup>3,4</sup>
  - 2 - Elective
- 
- 15

**Junior Year****First Semester**

- 3 - ENGL 3040 Business Writing *or*
  - 3 - ENGL 3140 Technical Writing *or*
  - 3 - ENGL 3150 Scientific Writing and Comm.
  - 3 - NURS 3040 Pathophysiology for Health Care Professionals
  - 3 - NURS 3100 Health Assessment
  - 4 - NURS 3120 Medical-Surgical I: Foundations of Nursing
  - 3 - NURS 3400 Pharmacotherapeutic Nursing Interventions
- 
- 16

**Second Semester**

- 7 - NURS 3030 Medical-Surg. II: Nursing of Adults
  - 3 - NURS 3050 Psychosocial Nursing
  - 2 - NURS 3110 Health Promo. Across the Lifespan<sup>5</sup>
  - 2 - NURS 3230 Gerontology Nursing
  - 3 - NURS 3300 Research in Nursing
- 
- 17

**Senior Year****First Semester**

- 5 - NURS 4010 Mental Health Nursing
  - 5 - NURS 4110 Nursing Care of Children
  - 5 - NURS 4120 Nursing Care of Women and Their Families
- 
- 15

**Second Semester**

- 5 - NURS 4030 Medical-Surgical III: Complex Nursing of Adults
  - 6 - NURS 4100 Leadership Management and Nursing Care Practicum
  - 5 - NURS 4140 Community Health Nursing and Health Promotion<sup>5</sup> *or*
  - 4 - NURS 4150 Community Health Nursing<sup>5</sup>
- 
- 15 or 16

124 or 125 Total Semester Hours

<sup>1</sup>Students scoring below the designated score on the CMPT must take MATH 1010 as a prerequisite for CH 1010 during this semester.

<sup>2</sup>Students enrolled at the University Center of Greenville may substitute CPSC 1200.

<sup>3</sup>See General Education Requirements.

<sup>4</sup>If this requirement is satisfied by another course in the curriculum, elective hours must be taken to cover the credit hours.

<sup>5</sup>Students enrolled at the University Center of Greenville will substitute NURS 4140 for NURS 3110 and 4150.

**Notes:**

1. A minimum grade of a C is required in the following courses for progression to junior year clinical courses: BIOL 1030/1050, 2220, 2230, CH 1010, MICR 2050, 3050, MATH 1010, NUTR 2050, STAT 2300.
2. A minimum grade of C is required in all nursing courses.
3. To progress to junior-level nursing courses, students must have a minimum grade-point average of 2.5 and may not have received more than two final course grades of less than a C in the last five years.
4. A minimum nursing grade-point average of 2.5 must be achieved in all required nursing (NURS) courses for progression to the next level. The nursing GPA will include only NURS courses.
5. Students may repeat only one nursing course. Further, students may repeat that nursing course one time only. Withdrawing with a W from the course or applying Academic Forgiveness counts as an attempt. Students who are unsuccessful on the second attempt in a nursing course will be counseled to select another major and will not be permitted to continue in the Nursing program.
6. Students must pass didactic and clinical components to pass all clinical courses.

## Registered Nurse BS Completion Program

The RN/BS curriculum offers an individualized study option for the registered nurse to obtain a baccalaureate degree in Nursing. Credits may be earned through an accelerated program of study, combining transfer credits for selected courses from accredited institutions of higher learning, credit by examination for previously completed nursing courses, and enrollment in courses at Clemson University. Qualified students may take up to six hours of graduate courses towards the master's degree in Nursing. Registered nurses interested in pursuing a baccalaureate degree should contact the School of Nursing for curriculum requirements. This program is offered at the University Center of Greenville.

## Freshman Year

### First Semester

- 3 - BIOL 1030 General Biology I *and*
  - 1 - BIOL 1050 General Biology Laboratory I *or*
  - 4 - CH 1010 General Chemistry
  - 3 - CPSC 1200 Introduction to Info. Tech. *or*
  - 3 - NURS 1400 Computer App. in Nursing
  - 3 - SOC 2010 Introduction to Sociology
  - 3 - STAT 2300 Statistical Methods I<sup>1</sup>
  - 3 - Elective
- 16

### Second Semester

- 3 - BIOL 1040 General Biology II *and*
  - 1 - BIOL 1060 General Biology Laboratory II *or*
  - 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - PSYC 2010 Introduction to Psychology
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
  - 3 - Elective
- 16

## Sophomore Year

### First Semester

- 4 - BIOL 2220 Human Anatomy and Phys. I
  - 4 - MICR 2050 Introductory Microbiology *or*
  - 4 - MICR 3050 General Microbiology
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 4 - Elective
- 15

## Second Semester

- 4 - BIOL 2230 Human Anatomy and Phys. II
  - 3 - COMM 1500 Intro. to Human Comm. *or*
  - 3 - COMM 2500 Public Speaking
  - 3 - NUTR 2030 Introduction to Principles of Human Nutrition *or*
  - 3 - NUTR 2050 Nutrition for Nursing Prof.
  - 5 - Elective
- 15

## Junior Year

### First Semester

- 3 - ENGL 3040 Business Writing *or*
  - 3 - ENGL 3140 Technical Writing *or*
  - 3 - ENGL 3150 Scientific Writing and Comm.
  - 3 - NURS 3040 Pathophysiology for Health Care Professionals
  - 3 - NURS 3190 Health Assessment for RNs
  - 3 - NURS 4060 Issues in Professionalism
  - 3 - Nursing Requirement<sup>3</sup>
- 15

### Second Semester

- 7 - NURS 3030 Medical-Surg. II: Nursing of Adults<sup>4</sup>
  - 3 - NURS 3300 Research in Nursing
  - 5 - NURS 4110 Nursing Care of Children<sup>4</sup>
- 15

## Senior Year

### First Semester

- 4 - NURS 3070 Family Nursing in the Community
  - 3 - NURS (HCG) 3330 Health Care Genetics
  - 5 - NURS 4030 Medical-Surgical III: Complex Nursing of Adults<sup>4</sup>
  - 5 - NURS 4120 Nurs. Care of Women and Families<sup>4</sup>
- 17

### Second Semester

- 4 - NURS 3120 Medical-Surgical I: Therapeutic Nursing Interventions<sup>4</sup>
  - 5 - NURS 4010 Mental Health Nursing<sup>4</sup>
  - 3 - NURS 4050 Leadership and Mgt. in Nursing
  - 4 - NURS 4250 Community Nursing
- 16

125 Total Semester Hours

<sup>1</sup>STAT 3090 may be substituted.

<sup>2</sup>See General Education Requirements. Three of these credit hours must also satisfy the Cross-Cultural Awareness Requirement.

<sup>3</sup>NURS 3340 or 4160.

<sup>4</sup>This course is exempt if the student achieves a B or better in NURS 4060.

**Notes:**

1. A minimum grade of C is required in the following courses to progress in the program: CH 1010, 1020, BIOL 1030, 1040, 1050, 1060, 2220, 2230, NUTR 2030, 2050, STAT 2300, and all courses with a NURS subject code.
2. A minimum grade-point average of 2.5 must be achieved in all required nursing (NURS) courses for progression to the next level. The nursing GPA will include all courses with a NURS subject code.

## PARKS, RECREATION AND TOURISM MANAGEMENT

### Bachelor of Science

The Department of Parks, Recreation and Tourism Management prepares students for a variety of careers in public and private leisure services. The curriculum provides a broad exposure to the management of leisure service programs and resources, such as those for municipalities, institutions, voluntary and youth-serving agencies, management positions within the travel and tourism industry and as resource managers of local, state, and federal parks and related lands and waters.

The curriculum allows students to select from five concentrations. This latitude permits accommodation of each student's career objectives in positions in community recreation, sport management, recreation programming, cultural arts management, commercial recreation, wilderness management, nature interpretation, park management, historic site management, rehabilitation services, leisure counseling, camp administration, recreation therapy, programs for people with disabilities or senior citizens, travel industry, resort management, convention and visitor bureaus, theme parks, community tourism, and special event/festival planning, to name a few.

The Parks, Recreation and Tourism Management program is accredited by the National Council on Accreditation (National Recreation and Park Association/Council on Postsecondary Accreditation). Graduates are immediately eligible to apply to become "Certified Park and Recreation Professionals," a valuable credential for professional advancement.

When space is available, a student may change majors to one of the degree concentrations in the Department of Parks, Recreation and Tourism Management with a 2.0 cumulative grade-point average and approval of the department chair or his/her designee. Students are encouraged to speak with the PRM advisor about changing their major prior to the start of their sophomore year to avoid a delay in graduation due to course sequencing and course prerequisite requirements.

Graduate degrees offered are Master of Parks, Recreation and Tourism Management; Master of Science; and Doctor of Philosophy.

## COMMUNITY RECREATION, SPORT AND CAMP MANAGEMENT CONCENTRATION

The Community Recreation, Sport and Camp Management (CRSCM) Concentration prepares students for careers in community recreation, amateur athletics, and camp management by developing theoretical, conceptual, and applied knowledge bases necessary for success in its diverse field. The focus of this program is on community, family, and individual development. Career opportunities include, but are not limited to, community recreation programming, community athletic programming, camp administration, facility operation and management, special events, campus recreation, and fitness and wellness programming.

**Freshman Year****First Semester**

- 3 - Cross-Cultural Awareness, Science and Tech. in Society, or Other General Ed. Req.<sup>1</sup>
  - 3 - Mathematics Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>1</sup>
  - 6 - Social Science Requirement<sup>1</sup>
- 
- 16

**Second Semester**

- 1 - PRTM 2000 Profession and Practice in PRTM
  - 2 - PRTM 2200 Conceptual Foundations of PRTM
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - English Composition Requirement<sup>1</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>1</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 
- 15

**Sophomore Year****First Semester**

- 1 - PRTM 1980 Creative Inquiry—PRTM I
  - 6 - PRTM 2260 Foundation of Management and Administration in PRTM
  - 5 - PRTM 2270 Provisi .
  - 3 - PRTM 2290 Distributed Competency Integration in PRTM
- 
- 15

**Second Semester**

- 3 - PRTM 2410 Introduction to Community Recreation, Sport and Camp Management
  - 2 - PRTM 2980 Creative Inquiry—PRTM II
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 6 - Concentration Requirement<sup>2</sup>
  - 1 - Elective
- 
- 15

**Summer**

- 1 - PRTM 2060 Practicum I
  - 1 - PRTM 2070 Practicum II
- 
- 2

**Junior Year****First Semester**

- 2 - PRTM 3980 Creative Inquiry—PRTM III
  - 1 - PRTM 4040 Field Training I
  - 12 - Concentration Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 1 - PRTM 4980 Creative Inquiry—PRTM IV
  - 9 - Concentration Requirement<sup>2</sup>
  - 2 - Elective
- 
- 12

**Summer**

- 6 - PRTM 4050 Field Training II

**Senior Year****First Semester**

- 12 - Concentration Requirement<sup>2</sup>
- 
- 12

**Second Semester**

- 6 - Concentration Requirement<sup>2</sup>
  - 6 - Elective
- 
- 12

120 Total Semester Hours

<sup>1</sup>See General Education Requirements and advisor. Clemson University requires a total of 33 credit hours of General Education, including two credits of Academic and Professional Development (satisfied by PRTM 2060 and 2070). Students must take at least 31 additional credits of General Education as outlined in the *Undergraduate Announcements* General Education section.

<sup>2</sup>See advisor.

## PARKS AND CONSERVATION AREA MANAGEMENT CONCENTRATION

Students in Park Conservation Area Management (PCAM) prepare for work as park rangers, planners, educators, law enforcement officers, and administrators of our nation's federal, state, and county public lands that hold unique natural, cultural, and historic resources. PCAM focuses on helping visitors enjoy and appreciate parklands while protecting those resources for future generations. Besides taking coursework in PRTM, many students choose to complete a minor field of study in forest resource management, wildlife and fisheries biology, history, or anthropology.

**Freshman Year****First Semester**

- 3 - Cross-Cultural Awareness, Science and Tech. in Society, or Other General Ed. Req.<sup>1</sup>
  - 3 - Mathematics Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>1</sup>
  - 6 - Social Science Requirement<sup>1</sup>
- 
- 16

**Second Semester**

- 1 - PRTM 2000 Profession and Practice in PRTM
  - 2 - PRTM 2200 Conceptual Foundations of PRTM
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - English Composition Requirement<sup>1</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>1</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 
- 15

**Sophomore Year****First Semester**

- 1 - PRTM 1980 Creative Inquiry—PRTM I
  - 6 - PRTM 2260 Foundations of Management, Admin. and Programming in Leisure Skills
  - 5 - PRTM 2270 Provision of Leisure Service Exp.
  - 3 - PRTM 2290 Competency Integration in PRTM
- 
- 15

**Second Semester**

- 3 - PRTM 2700 Introduction to Recreation Resources Management
  - 2 - PRTM 2980 Creative Inquiry—PRTM II
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 6 - Concentration Requirement<sup>2</sup>
  - 1 - Elective
- 
- 15

**Summer**

- 1 - PRTM 2060 Practicum I
  - 1 - PRTM 2070 Practicum II
- 
- 2

**Junior Year****First Semester**

- 2 - PRTM 3980 Creative Inquiry—PRTM III
  - 1 - PRTM 4040 Field Training I
  - 12 - Concentration Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 1 - PRTM 4980 Creative Inquiry—PRTM IV
  - 9 - Concentration Requirement<sup>2</sup>
  - 2 - Elective
- 
- 12

**Summer**

- 6 - PRTM 4050 Field Training II

**Senior Year****First Semester**

- 12 - Concentration Requirement<sup>2</sup>
- 
- 12

**Second Semester**

- 6 - Concentration Requirement<sup>2</sup>
  - 6 - Elective
- 
- 12

120 Total Semester Hours

<sup>1</sup>See General Education Requirements and advisor. Clemson University requires a total of 33 credit hours of General Education, including two credits of Academic and Professional Development (satisfied by PRTM 2060 and 2070). Students must take at least 31 additional credits of General Education as outlined in the *Undergraduate Announcements* General Education section.

<sup>2</sup>See advisor.

## PROFESSIONAL GOLF MANAGEMENT CONCENTRATION

The Professional Golf Management (PGM) Concentration provides a unique educational background for students who desire to become PGA professionals. Students obtain specialized knowledge and skills which prepare them to become leaders in the golf industry. The PGM Concentration combines academics, career training, and extensive internship experience to develop well-rounded, service-oriented professionals who can meet and respond to the personal as well as business management requirements of golf programs and facilities. See advisor for new/additional General Education Requirements.

**Freshman Year****First Semester**

- 1 - PRTM 1950 PGM Seminar I
  - 3 - Mathematics Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>1</sup>
  - 6 - Social Science Requirement<sup>1</sup>
  - 2 - Elective
- 
- 16

**Second Semester**

- 1 - PRTM 2000 Profession and Practice in PRTM
  - 2 - PRTM 2200 Conceptual Foundations of PRTM
  - 3 - PRTM 2810 Introduction to Golf Management
  - 3 - PRTM 2820 Principles of Golfer Development
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - English Composition Requirement<sup>1</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>1</sup>
- 
- 18

**Summer**

- 0 - CO-OP 2010 Cooperative Education
  - 1 - PRTM 2060 Practicum I
- 
- 1

**Sophomore Year****First Semester**

- 1 - PRTM 1980 Creative Inquiry—PRTM I
  - 6 - PRTM 2260 Foundations of Management and Administration in PRTM
  - 5 - PRTM 2270 Provision of Leisure Service Exp.
  - 3 - PRTM 2290 Distributed Competency Integration in PRTM
  - 1 - PRTM 2950 PGM Seminar II
- 
- 16

**Second Semester**

- 3 - PRTM 2830 Advanced Methods of Teaching Golf
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 3 - Concentration Requirement<sup>2</sup>
  - 3 - Cross-Cultural Awareness, Science and Tech. in Society, or Other General Education Req.<sup>1</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 
- 15

**Summer**

- 0 - COOP 2020 Cooperative Education
- 
- 0

**Junior Year****First Semester**

- 0 - COOP 2030 Cooperative Education
  - 1 - PRTM 2070 Practicum II
- 
- 1

**Second Semester**

- 3 - PRTM 3830 Golf Shop Operations
  - 9 - Concentration Requirement<sup>2</sup>
  - 4 - Elective
- 
- 16

**Senior Year****First Semester**

- 16 - Concentration Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 0 - COOP 2040 Cooperative Education
- 
- 0

**Summer**

- 0 - COOP 2050 Cooperative Education
  - 6 - PRTM 4050 Field Training II
- 
- 6

**Fifth Year****First Semester**

- 2 - PRTM 3950 PGM Seminar III
  - 3 - PRTM 4830 Golf Club Management and Operations
- 
- 12 - Concentration Requirement<sup>2</sup>
- 
- 17

122 Total Semester Hours

<sup>1</sup>See General Education Requirements and advisor. Clemson University requires a total of 33 credit hours of General Education, including two credits of Academic and Professional Development (satisfied by PRTM 2060 and 2070). Students must take at least 31 additional credits of General Education as outlined in the *Undergraduate Announcements* General Education section.

<sup>2</sup>See advisor.

**RECREATIONAL THERAPY CONCENTRATION**

The Recreational Therapy (RT) Concentration prepares students for exciting careers working with people with disabilities in a variety of settings, including community-based recreation agencies, camps, children's hospitals, psychiatric and physical rehabilitation hospitals, and assisted-living facilities, to name a few. Recreational Therapy consists of the delivery of recreation services designed to enhance participants' leisure experiences, quality of life, and functional capabilities. Students who complete these requirements will be eligible to sit for an examination to become a Certified Therapeutic Recreation Specialist (CTRS). Students take courses and preceptorships at the University Center and agencies in Greenville, SC and the surrounding area, during their junior year.

**Freshman Year****First Semester**

- 3 - Cross-Cultural Awareness, Science and Tech. in Society, or Other General Education Req.<sup>1</sup>
  - 3 - Mathematics Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>1</sup>
  - 6 - Social Science Requirement<sup>1</sup>
- 
- 16

**Second Semester**

- 1 - PRTM 2000 Profession and Practice in PRTM
  - 2 - PRTM 2200 Conceptual Foundations of PRTM
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - English Composition Requirement<sup>1</sup>
  - 3-4 - Mathematics or Natural Science Requirement<sup>1</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 
- 15-16

**Sophomore Year****First Semester**

- 1 - PRTM 1980 Creative Inquiry—PRTM I
  - 6 - PRTM 2260 Foundations of Management and Administration in PRTM
  - 5 - PRTM 2270 Provision of Leisure Service Exp.
  - 3 - PRTM 2290 Distributed Competency Integration in PRTM
- 
- 15

**Second Semester**

- 2 - PRTM 2980 Creative Inquiry—PRTM II
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 
- 10 - Concentration Requirement<sup>2</sup>
- 
- 15

**Summer**

- 1 - PRTM 2060 Practicum I
  - 1 - PRTM 2070 Practicum II
- 
- 2

**Junior Year****First Semester**

- 2 - PRTM 3980 Creative Inquiry—PRTM III
  - 14 - Concentration Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 1 - PRTM 4980 Creative Inquiry—PRTM IV
  - 12 - Concentration Specific Requirement<sup>2</sup>
- 
- 13

**Summer**

- 6 - PRTM 4050 Field Training II

**Senior Year****First Semester**

- 7 - Concentration Requirement<sup>2</sup>
  - 5 - Elective
- 
- 12

**Second Semester**

- 6 - Concentration Requirement<sup>2</sup>
  - 6 - Elective
- 
- 12

122-123 Total Semester Hours

<sup>1</sup>See General Education Requirements and advisor. Clemson University requires a total of 33 credit hours of General Education, including two credits of Academic and Professional Development (satisfied by PRTM 2060 and 2070). Students must take at least 31 additional credits of General Education as outlined in the *Undergraduate Announcements* General Education section. See your advisor for choosing general education requirements that meet the prerequisites for the Recreational Therapy concentration specific classes.

<sup>2</sup>See advisor.

**TRAVEL AND TOURISM CONCENTRATION**

The Travel and Tourism (T&T) Concentration prepares students for interesting and challenging careers working in one of the world's most diverse and dynamic industries. Students in this concentration are introduced to issues pertaining to the management, planning, and promotion of places and events such as tourist attractions. The program is designed to provide an understanding of the linkages that exist between local communities, their populations, and various public, private, and special interest groups. Students in Travel and Tourism can pursue careers in private sector enterprises, government agencies, convention and visitor bureaus, as well as other tourism-affiliated organizations.

**Freshman Year****First Semester**

- 3 - Cross-Cultural Awareness, Science and Tech. in Society, or other General Education Req.<sup>1</sup>
  - 3 - Mathematics Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>1</sup>
  - 6 - Social Science Requirement<sup>1</sup>
- 
- 16

**Second Semester**

- 1 - PRTM 2000 Profession and Practice in PRTM
  - 2 - PRTM 2200 Conceptual Foundations of PRTM
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - English Composition Requirement<sup>1</sup>
  - 3 - Mathematics or Natural Science Requirement<sup>1</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 
- 15

**Sophomore Year****First Semester**

- 1 - PRTM 1980 Creative Inquiry—PRTM I
  - 6 - PRTM 2260 Foundations of Management and Administration in PRTM
  - 5 - PRTM 2270 Provision of Leisure Service Exp.
  - 3 - PRTM 2290 Distributed Competency Integration in PRTM
- 
- 15

**Second Semester**

- 2 - PRTM 2980 Creative Inquiry—PRTM II
  - 3 - PRTM 3420 Introduction to Tourism
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 6 - Concentration Requirement<sup>2</sup>
  - 1 - Elective
- 
- 15

**Summer**

- 1 - PRTM 2060 Practicum I
  - 1 - PRTM 2070 Practicum II
- 
- 2

**Junior Year****First Semester**

- 2 - PRTM 3980 Creative Inquiry—PRTM III
  - 1 - PRTM 4040 Field Training I
  - 12 - Concentration Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 1 - PRTM 4980 Creative Inquiry—PRTM IV
  - 9 - Concentration Requirement<sup>2</sup>
  - 2 - Elective
- 
- 12

**Summer**

- 6 - PRTM 4050 Field Training II

**Senior Year****First Semester**

- 12 - Concentration Requirement<sup>2</sup>
- 
- 12

**Second Semester**

- 6 - Concentration Requirement<sup>2</sup>
  - 6 - Elective
- 
- 12

120 Total Semester Hours

<sup>1</sup>See General Education Requirements and advisor. Clemson University requires a total of 33 credit hours of General Education, including two credits of Academic and Professional Development (satisfied by PRTM 2060 and 2070). Students must take at least 31 additional credits of General Education as outlined in the *Undergraduate Announcements* General Education section.

<sup>2</sup>See advisor.

## YOUTH DEVELOPMENT STUDIES

### Bachelor of Science Degree Completion Program

The B.S. degree in Youth Development Studies is specifically designed as an upper-level degree completion program for professional youth workers who wish to complete a bachelor's degree in youth development. As such, all classes are offered in the evenings and are delivered online using web-enhanced technologies. Classes are designed to be taken part-time and students are admitted in the fall and spring of each year.

The Youth Development Studies program equips students with the competencies, knowledge and skills necessary to help young people develop into healthy, competent, coping and contributing citizens. Through academic coursework and practical field-based experiences, the program integrates posi-

tive youth development theory with practical skills needed to design, deliver and assess intentional and effective youth-serving programs. Studies also prepare students for graduate work in a variety of youth-oriented fields, including programs such as Clemson University's M.S. in Youth Development Leadership.

The term "youth development" encompasses a specific set of principles and practices that help to mold and shape the successful developmental processes of school-aged youth. These principles include a focus on building and strengthening the assets of young people, and emphasizing the strengths, abilities and potential of youth. Effective youth development programs are exemplified by supportive adult relationships, healthy and stimulating environments conducive to learning and skill attainment, availability of challenging programs and activities, and ample opportunity to engage young people in the process of their own development. Youth-serving organizations include those whose primary mission focuses on youth development, principally for young people and their families, during out-of-school time hours. Examples include afterschool programs; 4-H, YMCA/YWCA, Boys and Girls Clubs; health, fitness and sports programs; organized camping; mentoring programs; programs for children with disabilities; and faith-based ministries.

**Program Objectives**

The B.S. in Youth Development Studies (1) prepares entry- and mid-career level professional youth development leaders for careers in agencies, institutions, schools, and community organizations that serve youth; (2) enhances youth-serving agencies and organizations by supplying professionals who are competent in child and adolescent growth and development, and who understand the connections between problem-focused and positive youth development approaches to working with youth; (3) educates and empowers students to focus on strengths and assets within the context of culturally diverse family and community structures that promote positive youth development; (4) identifies and examines physical, emotional, cognitive, environmental and social issues related to being a young person in today's society, and teaches students to provide programmatic and policy solutions to help solve pressing youth issues; (5) provides ethical leaders with skills necessary to effect change in complex and changing environments in their communities, in the State of South Carolina, and across the nation; (6) prepares students to design, deliver and evaluate intentional, outcomes-focused youth programs and services based on national best-practices; (7) creates a community of scholars and practitioners that enhances professional connections in the youth development field, and provides a forum for the development and maintenance of meaningful collaborations and partnerships with diverse individuals, families and community groups; (8) educates students in organizational behavior and how governance and youth development systems work; (9) prepares students to demonstrate flexibility, resilience, adaptability, caring, ethical decision-making and ethical conduct; and (10) connects students to professional development opportunities in youth development for continual growth and lifelong learning.

**Admission**

Students who have completed a minimum of 60 credit hours, including all Clemson University General Education credits (33 hours) and approved electives (27 hours), are eligible for admission to the B.S. degree in Youth Development Studies. Students must initiate an application to Clemson University as a transfer student, and must have a cumulative grade point average of 2.5 on all prior college coursework to be eligible for admission. All students accepted into the program are required to attend an on-campus orientation program prior to starting the program. The orientation is designed to build camaraderie among students and faculty, as well as to familiarize students with the online learning technologies that are used to deliver the program.

**Curriculum**

As an upper-level degree completion program, the Youth Development Studies curriculum encompasses only core academic coursework and field experience in youth development and the approved concentration area. All required coursework, including prerequisite courses, youth development core courses, and approved concentration area courses, is designed to build a set of core competencies for effective youth work. Required coursework is designed to facilitate the Ten Core Knowledge and Competencies for Afterschool and Youth Development Professionals as outlined by the National Afterschool Association (NAA) and National Institute on Out-of-School Time (NIOST).

**First Year****First Semester**

- 3 - YDP 3000 Youth Development in Society<sup>1</sup>
- 3 - YDP 3050 Theory & Phil. of Youth Dev. Work

**Second Semester**

- 3 - YDP 3100 Youth Development and the Family
- 3 - YDP 3150 Community Youth Dev. Systems

**Summer**

- 3 - YDP 3200 Youth Development in Sport & Physical Activities
- 3 - YDP 3250 Working with Diverse Youth

**Second Year****First Semester**

- 3 - YDP 3300 Designing Effective Youth Programs
- 3 - YDP 3450 Creative Activities for Youth

**Second Semester**

- 3 - YDP 3350 Youth Activity Facilitation & Lead.
- 3 - YDP 3400 Delivering Effective Youth Programs

**Summer**

- 3 - YDP 4400 Youth Program Assessment & Eval.
- 3 - YDP 4990 Youth Development Fieldwork<sup>2</sup> or 3 - Concentration Requirement<sup>3</sup>

**Third Year****First Semester**

- 3 - YDP 4450 Admin. of Youth Dev. Organizations
- 3 - YDP 4990 Youth Development Fieldwork<sup>2</sup> or 3 - Concentration Requirement<sup>3</sup>



**Second Semester**

3 - YDP 4500 Prof. Issues & Ethics in Youth Dev.

3 - YDP 4990 Youth Development Fieldwork<sup>2</sup> or

3 - Concentration Requirement<sup>3</sup>

**Summer**

6 - YDP 4990 Youth Development Fieldwork<sup>2</sup> or

6 - Concentration Requirement<sup>3</sup>

**Fourth Year****First Semester**

3 - YDP 4990 Youth Development Fieldwork<sup>2</sup> or

3 - Concentration Requirement<sup>3</sup>

**Second Semester**

3 - YDP 4550 Youth and Technology

<sup>1</sup>YDP 3000 is also offered spring semester for students who transfer into the program at that time.

<sup>2</sup>Completion of three to six credits of supervised hands-on fieldwork in a youth serving organization is required.

<sup>3</sup>A concentration comprised of 12 to 15 credits of online Clemson University courses is required. The concentration area must be approved in advance, and courses are selected by the student in consultation with an advisor or program representative. Possible concentrations include Athletic Leadership, Camp Management, Event Management, and Nonprofit Leadership.

## MINORS

Following are minors acceptable for students in the College of Health, Education and Human Development. Students cannot major and minor in the same field or acquire a minor that is not allowed by the degree program.

Accounting	Management
Adult/Extension Education	Management Information Systems
Aerospace Studies	Mathematical Sciences
Agricultural Business Management	Microbiology
Agricultural Mechanization and Business	Military Leadership
American Sign Language Studies	Modern Languages
Animal and Veterinary Sciences	Music
Anthropology	Natural Resource Economics
Architecture	Nonprofit Leadership
Art	Nuclear Engineering and Radiological Sciences
Athletic Leadership	Packaging Science
Biochemistry	Pan African Studies
Biological Sciences	Park and Protected Area Management
British and Irish Studies	Philosophy
Business Administration	Physics
Chemistry	Plant Pathology
Cluster	Political Science
Communication Studies	Precision Agriculture
Computer Science	Psychology
Crop and Soil Environmental Science	Public Policy
Digital Production Arts	Recreational Therapy
East Asian Studies	Religion
Economics	Russian Area Studies
Education	Science and Technology in Society
English	Screenwriting
Entomology	Sociology
Entrepreneurship	Spanish-American Area Studies
Environmental Science and Policy	Sustainability
Equine Industry	Theatre
Film Studies	Travel and Tourism
Financial Management	Turfgrass
Food Science	Urban Forestry
Forest Products	Wildlife and Fisheries Biology
Forest Resource Management	Women's Leadership
Gender, Sexuality and Women's Studies	Writing
Genetics	
Geography	See pages 40-43 for details.
Geology	
Global Politics	
Great Works	
History	
Horticulture	
Human Resource Management	
Legal Studies	

# EUGENE T. MOORE SCHOOL OF EDUCATION

The Eugene T. Moore School of Education is a transformative leader in systematically improving education, beginning at birth. The mission is to engage students in high quality applied research, professional learning, and immersive experiences. We prepare culturally competent scholar practitioners who promote the growth, education, and development of all individuals, with emphasis on underperforming schools and underserved communities across the state and nation.

## TEACHER EDUCATION PROGRAMS

The School of Education offers NCATE accredited teacher education undergraduate programs leading to teaching licensure in early childhood; elementary; secondary English, mathematics, science and social studies; agricultural education (in cooperation with the College of Agriculture, Forestry and Life Sciences), and special education.

Our excellent preparation in both content and methodology includes many collaborative experiences in local schools. It prepares our graduates to shape the economic future of South Carolina, the United States, and the world by preparing leaders, workers, and citizens for their future roles in society.

The mission of the teacher preparation programs in the School of Education is to prepare critically reflective practitioners who:

- advocate for all learners,
- understand the importance of students' developmental and sociocultural contexts to learning,
- implement research-based instructional practices,
- utilize current disciplinary knowledge to integrate educational theory, research and practice,
- understand the influence of educational policies on their instruction and educational system, and
- stand firm in their conviction that all students can learn.

Field and clinical practice are integral to teacher preparation. The School of Education is committed to providing candidates with purposeful, challenging, and diverse experiences. It is through a range of diverse, carefully constructed, and challenging field-based experiences, in conjunction with classroom instruction, that candidates recognize the inherent dignity and value of all individuals, value social justice, and advocate on behalf of children and families.

The Teacher Education Programs in Early Childhood, Elementary, Special Education, and secondary school programs in Agriculture, English, Mathematics, Science, and Social Studies are accredited by NCATE (now known as CAEP), the State of South Carolina, and discipline specialized national professional associations.

## Criminal Records Check

A criminal record could prevent a person enrolled in a teacher education program in South Carolina from being licensed as a teacher in this state in accordance with State Board of Education guidelines.

Section 59-25-115 of the South Carolina Code of Laws specifies that before beginning the full-time clinical teaching experience in South Carolina, a teacher education candidate shall undergo a state criminal records check by the South Carolina Law Enforcement Division (SLED) and a national criminal records check supported by fingerprints by the Federal Bureau of Investigation (FBI). The applicant is responsible for the cost associated with the FBI background checks. Information reported relative to prior arrests or convictions will be reviewed by the State Department of Education, and the State Board of Education when warranted, according to board guidelines. A teacher education candidate with prior arrests or convictions of a serious nature that could affect his/her fitness to teach in the public schools of South Carolina may be denied the opportunity to complete the clinical teaching experience, and thus affect eligibility for initial teacher licensure. An individual who is denied this opportunity as a result of prior arrests or convictions, after one year, may request reconsideration under guidelines established by the State Board of Education.

The criminal records check will be handled through the Office of Educator Services at the South Carolina State Department of Education and will be considered phase one of a person's application for a teaching credential. Provided the criminal records check is conducted within 18 months of the time the teacher candidate formally applies for a teaching license, the fingerprinting will not have to be repeated at the time of application. A graduate of a teacher education program applying for initial teacher licensure must have completed the FBI fingerprint process within 18 months of formally applying for initial teacher licensure or the fingerprint process must be repeated. The background check normally requires six (6) to eight (8) weeks to process. If the electronic fingerprints cannot be processed, the South Carolina State Department will inform the individual that it will be necessary to complete another electronic fingerprinting appointment.

Additionally, School of Education teacher candidates must complete a SLED check, a National Sex Offender check and a Tuberculosis (TB) test prior to beginning field and practicum experiences in public schools. Candidates complete field and practicum experiences prior to the full time clinical teaching experience. Therefore, the teacher education candidate will complete a SLED check for field and practicum experiences and a SLED and FBI background check for the full time clinical teaching experience.

## Admission

**Professional**—Application to the professional level of a program will be processed during the term in which a candidate is to complete 60 semester hours of work. At that time, the candidate will be notified of his/her status. Prior to admission, the candidate must have passed all areas of the Praxis CORE and

have a minimum cumulative grade-point average of 2.75. A candidate may exempt the CORE by meeting minimum ACT or SAT requirements as determined by the South Carolina Department of Education.

## Enrollment in Professional Courses

Once admitted to the professional level, candidates must maintain a 2.75 GPA in order to continue through the coursework sequence. Please see the following pages for additional program-specific academic requirements. On occasion appeals may be reviewed by department chairs.

**Directed Teaching/Teaching Internship**—A candidate shall apply for student teaching with the Office of Field Experiences prior to the semester in which senior level teaching methods courses are to be scheduled. Admission and maintenance at the professional level and completion of at least 95 semester hours is required for registration to student teaching.

## Change of Major

Changing majors into Education is highly competitive. Change of major decisions are made on an annual basis at the end of the fall semester. Applications are due December 1 and can only be obtained after meeting with a School of Education academic advisor. To apply, candidates must have a minimum grade-point average of 2.75.

## Graduation and Licensure

To graduate, a candidate must have scores for all state-mandated licensure exams on file with the School of Education's Office of Field Experience. Candidates must pass all required Praxis II tests, including the PLT (Principles of Learning and Teaching) test, before receiving recommendation for South Carolina teaching licensure.

## ATHLETIC LEADERSHIP AND EDUCATION MINORS

Two minors are offered in the School of Education - Education and Athletic Leadership. For more information on these minors and the requirements, please see Minors, Programs and Degrees section of this catalog.

## ATHLETIC LEADERSHIP CERTIFICATE

Students completing a nationally recognized coaching certification through the Athletic Leadership Program at Clemson may be eligible to meet the requirements for Athletic Leadership Certification. For more information, contact the Coordinator of Athletic Leadership at 864-656-0434.

## Graduate Study

The School of Education offers a comprehensive set of programs at the masters, specialist and doctoral levels in preschool to grade 12 education, educational leadership, counselor education (clinical mental health counseling and school counseling), student affairs and higher education, and human resource development. Browse the Clemson University Office of Graduate Programs or School of Education websites for more information.

## AGRICULTURAL EDUCATION

### Bachelor of Science

The Eugene T. Moore School of Education and the College of Agriculture, Forestry and Life Sciences conduct a cooperative program to produce agricultural teachers (grades 9–12) for South Carolina. See page 44 for the curriculum.

## EARLY CHILDHOOD EDUCATION

### Bachelor of Arts

The Early Childhood Education curriculum prepares students for teaching positions on the pre-kindergarten and primary levels (Pre-K–3).

### Freshman Year

#### First Semester

- 2 - ED 1050 Orientation to Education
  - 3 - HIST 1730 The West and the World II
  - 3 - MATH 1150 Contemporary Mathematics for Elementary School Teachers I
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>2</sup>
- 15

#### Second Semester

- 3 - COMM 1500 Intro. to Human Comm. *or* 3 - COMM 2500 Public Speaking
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - MATH 1160 Contemporary Mathematics for Elementary School Teachers II
  - 3 - PSYC 2010 Introduction to Psychology
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Elective
- 18

### Sophomore Year

#### First Semester

- 3 - EDEC 3000 Foundations of Early Childhood Education<sup>3</sup>
  - 1 - EDEC 3010 Practicum in Early Childhood Settings I<sup>3</sup>
  - 3 - GEOG 1030 World Regional Geography
  - 3 - MATH 2160 Geometry for Elementary School Teachers
  - 3 - Arts and Humanities (Literature) Requirement<sup>4</sup>
  - 4 - Natural Science Requirement<sup>2</sup>
- 17

#### Second Semester

- 3 - EDEC 2200 Family, School, and Community Relationships<sup>5</sup>
  - 1 - EDEC 3020 Practicum in Early Childhood Settings<sup>5</sup>
  - 3 - EDF 3020 Educational Psychology
  - 3 - EDF 3340 Child Growth and Development
  - 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - Arts and Humanities (Non-Lit) Requirement<sup>6</sup>
- 16

### Junior Year

#### First Semester

- 1 - EDEC 3030 Practicum in Early Childhood Settings III<sup>7</sup>
  - 3 - EDEC 3360 Concepts of Play and Social Development of Infants and Young Children<sup>7</sup>
  - 3 - EDEL 3100 Arts in the Elementary School<sup>7</sup>
  - 3 - EDSP 3700 Introduction to Special Education<sup>7</sup>
  - 3 - EDSP 3750 Early Intervention for Infants and Children with Special Needs<sup>7</sup>
  - 3 - Elective
- 16

#### Second Semester

- 1 - EDEC 3040 Practicum in Early Childhood Settings IV<sup>8</sup>
  - 3 - EDEC 4200 Early Childhood Science<sup>8</sup>
  - 3 - EDEC 4500 Early Childhood Curriculum and Social Studies Methods<sup>8</sup>
  - 3 - EDEL 3210 Physical Education Methods and Content for Classroom Teachers<sup>8</sup>
  - 3 - EDF 3010 Principles of American Education
  - 3 - EDLT 4580 Early Literacy: Birth–Kindergarten<sup>8</sup>
- 16

### Senior Year

#### First Semester

- 3 - EDEC 4000 Observation and Assessment in Clinical Settings<sup>9</sup>
  - 3 - EDEC 4300 Early Childhood Mathematics<sup>9</sup>
  - 3 - EDEC 4400 Early Childhood Language Arts<sup>9</sup>
  - 3 - EDEC 4600 Critical Issues and Cultural Diversity in Early Childhood Education<sup>9</sup>
  - 3 - EDLT 4590 Teaching Reading in the Early Grades: K–3<sup>9</sup>
- 15

#### Second Semester

- 9 - EDEC 4840 Directed Teaching in Early Childhood Education<sup>10</sup>
  - 3 - EDEC 4850 Early Childhood Capstone<sup>10</sup>
- 12
- 125 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in a modern foreign language are required. Spanish is recommended.

<sup>2</sup>One biological science and one physical science course, each with laboratory, must be selected from General Education Requirements. See advisor.

<sup>3</sup>Must be taken the fall semester of the sophomore year.

<sup>4</sup>ENGL 2120, 2130, 2140, or 2150

<sup>5</sup>Must be taken the spring semester of the sophomore year.

<sup>6</sup>See General Education Requirements.

<sup>7</sup>Must be taken the fall semester of the junior year.

<sup>8</sup>Must be taken the spring semester of the junior year.

<sup>9</sup>Must be taken the fall semester of the senior year.

<sup>10</sup>Must be taken the spring semester of the senior year.

## ELEMENTARY EDUCATION

### Bachelor of Arts

The Elementary Education curriculum prepares students for teaching on the elementary school level (grades 2–6). Students select one of two Emphasis Areas: Literacy, Culture and Diversity; or Mathematics and Science.

## LITERACY, CULTURE AND DIVERSITY EMPHASIS AREA

### Freshman Year

#### First Semester

- 4 - BIOL 1090 Introduction to Life Science
  - 2 - ED 1050 Orientation to Education
  - 3 - GEOG 1030 World Regional Geography
  - 3 - MATH 1150 Contemporary Mathematics for Elementary School Teachers I
  - 3 - Foreign Language Requirement<sup>1</sup>
- 15

#### Second Semester

- 3 - ENGL 1030 Accelerated Composition
  - 3 - HIST 1010 History of the United States *or* 3 - HIST 1020 History of the United States
  - 3 - MATH 1160 Contemporary Mathematics for Elementary School Teachers II
  - 4 - PHSC 1170 Intro. to Chemistry and Earth Science for Elementary Education Majors
  - 3 - Foreign Language Requirement<sup>1</sup>
- 16

### Sophomore Year

#### First Semester

- 3 - COMM 1500 Intro. to Human Comm. *or* 3 - COMM 2500 Public Speaking
  - 3 - EDF 3010 Principles of American Education
  - 3 - MATH 2160 Geometry for Elementary School Teachers
  - 4 - PHSC 1180 Intro. to Physics, Astronomy and Earth Science for Elementary Education Majors
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 16

#### Second Semester

- 3 - EDEL 3100 Arts in the Elementary School
  - 3 - EDF 3020 Educational Psychology
  - 3 - EDF 3340 Child Growth and Development
  - 3 - EDSP 3700 Introduction to Special Education
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>3</sup>
  - 3 - Elective
- 18

### Junior Year

#### First Semester

- 3 - EDEL 3210 Physical Education Methods and Content for Classroom Teachers
  - 3 - EDF 3080 Classroom Assessment
  - 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - EDLT 4600 Teaching Reading in the Elementary Grades: 2–6
  - 3 - MATH 3160 Problem Solving for Math. Teachers
- 15

#### Second Semester

- 3 - EDEL 4050 Social Justice and 21st Cen. Learners
  - 3 - EDEL 4520 Elem. Methods in Math. Teaching
  - 3 - EDEL 4670 Prin. and Strat. for Teaching Engl. Speakers of Other Lang. in Elem. Classrooms
  - 3 - EDLT 4620 Reading and Responding to Literature in the Elementary School
  - 3 - EDLT 4630 Teaching Reading and Writing to English Language Learners
- 15

**Senior Year**

(Courses must be taken as listed in both semesters.)

**First Semester**

- 3 - EDEL 4010 Elementary Field Experience
  - 3 - EDEL 4510 Elem. Methods in Science Teaching
  - 3 - EDEL 4870 Elementary Methods in Social Studies Teaching
  - 3 - EDEL 4880 Elementary Methods in Language Arts Teaching
  - 3 - EDLT 4610 Content Area Reading: Grades 2-6
- 
- 15

**Second Semester**

- 3 - EDEL 4820 Capstone Sem. in Elem. Teaching
  - 9 - EDEL 4830 Directed Teaching in the Elementary School
- 
- 12

122 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in the same modern foreign language (including American Sign Language) are required.<sup>2</sup>Select from ENGL 2120, 2130, 2140 or 2150<sup>3</sup>See General Education Requirements.**MATHEMATICS AND SCIENCE EMPHASIS AREA****Freshman Year****First Semester**

- 4 - BIOL 1090 Introduction to Life Science
  - 2 - ED 1050 Orientation to Education
  - 3 - GEOG 1030 World Regional Geography
  - 3 - MATH 1150 Contemporary Mathematics for Elementary School Teachers I
  - 3 - Foreign Language Requirement<sup>1</sup>
- 
- 15

**Second Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 3 - HIST 1010 History of the United States *or* 3 - HIST 1020 History of the United States
  - 3 - MATH 1160 Contemporary Mathematics for Elementary School Teachers II
  - 4 - PHSC 1170 Intro. to Chemistry and Earth Science for Elementary Education Majors
  - 3 - Foreign Language Requirement<sup>1</sup>
- 
- 16

**Sophomore Year****First Semester**

- 3 - COMM 1500 Intro. to Human Comm. *or* 3 - COMM 2500 Public Speaking
  - 3 - EDF 3010 Principles of American Education
  - 3 - MATH 2160 Geometry for Elementary School Teachers
  - 4 - PHSC 1180 Intro. to Physics, Astronomy, and Earth Science for Elementary Education Majors
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 3 - EDEL 3100 Arts in the Elementary School
  - 3 - EDF 3020 Educational Psychology
  - 3 - EDF 3340 Child Growth and Development
  - 3 - EDSP 3700 Introduction to Special Education
  - 3 - Arts and Humanities (Non-Lit) Requirement<sup>3</sup>
  - 3 - Elective
- 
- 18

**Junior Year****First Semester**

- 3 - EDEL 3210 Physical Education Methods and Content for Classroom Teachers
  - 3 - EDF 3080 Classroom Assessment
  - 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - EDLT 4600 Teaching Reading in the Elementary Grades: 2-6
  - 3 - MATH 3160 Problem Solving for Math. Teachers
- 
- 15

**Second Semester**

- 3 - EDEL 4520 Elem. Methods in Math. Teaching
  - 3 - EDLT 4620 Reading and Responding to Literature in the Elementary School
  - 3 - ENSP 2010 Introduction to Environmental Science for Education Majors
  - 3 - MATH 3150 Advanced Topics in Mathematics for Elementary Teachers
  - 3 - Science Content Requirement<sup>4</sup>
- 
- 15

**Senior Year**

(Courses must be taken as listed in both semesters.)

**First Semester**

- 3 - EDEL 4010 Elementary Field Experience
  - 3 - EDEL 4510 Elem. Methods in Science Teaching
  - 3 - EDEL 4870 Elementary Methods in Social Studies Teaching
  - 3 - EDEL 4880 Elementary Methods in Language Arts Teaching
  - 3 - EDLT 4610 Content Area Reading: Grades 2-6
- 
- 15

**Second Semester**

- 3 - EDEL 4820 Capstone Sem. in Elem. Teaching
  - 9 - EDEL 4830 Directed Teaching in the Elem. Sch.
- 
- 12
- 122 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in the same modern foreign language (including American Sign Language) are required.<sup>2</sup>Select from ENGL 2120, 2130, 2140 or 2150.<sup>3</sup>See General Education Requirements.<sup>4</sup>Any ASTR, BIOL, CH, ENR, ENSP, ENT, FOR, FNR, GEN, GEOL or PHYS course chosen in conjunction with advisor.**MATHEMATICS TEACHING****Bachelor of Science**

The program leading to a Bachelor of Science degree in Mathematics Teaching is designed for students planning to teach mathematics on the secondary school level (grades 9-12). (Note: The program leading to a Bachelor of Arts degree in Secondary Education with a Teaching Area of Mathematics is also designed for students planning to teach mathematics on the secondary school level.) To be recommended for licensure, students must earn a grade of C or higher in all required mathematics content and education courses.

**Freshman Year****First Semester**

- 4 - CH 1050 Chemistry in Context I
  - 2 - ED 1050 Orientation to Education
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - PHIL 1020 Introduction to Logic
  - 3 - Cross-Cultural Awareness Requirement<sup>1</sup>
- 
- 16

**Second Semester**

- 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Lab I
  - 3 - Science Requirement<sup>2</sup>
- 
- 14

**Sophomore Year****First Semester**

- 3 - COMM 1500 Intro. to Human Comm. *or* 3 - COMM 2500 Public Speaking
  - 3 - EDSC 2260 A Prof. Approach to Sec. Algebra
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2210 Physics with Calculus II
  - 1 - PHYS 2230 Physics Lab. II
  - 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
- 
- 17

**Second Semester**

- 3 - ECON 2000 Economic Concepts *or* 3 - ECON 2110 Principles of Microeconomics
  - 3 - EDF 3020 Educational Psychology
  - 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - MATH 3110 Linear Algebra
  - 3 - MATH 3190 Introduction to Proofs
- 
- 16

**Junior Year****First Semester**

- 3 - EDF 3010 Principles of American Education
  - 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - EDSC 3260 Practicum in Secondary Math.
  - 3 - MATH 3020 Statistics for Science and Engr.
  - 3 - SOC 2010 Introduction to Sociology *or* 3 - SOC 2020 Social Problems
  - 3 - Science Requirement<sup>2</sup>
- 
- 18

**Second Semester**

- 3 - EDF 3350 Adolescent Growth and Development
  - 3 - EDSC 4370 Technology in Secondary Math.
  - 3 - EDSP 3700 Introduction to Special Education
  - 3 - MATH 3080 College Geometry
  - 3 - MATH 4120 Algebra I
- 
- 15

**Senior Year****First Semester**

- 3 - EDSC 4260 Teaching Secondary Mathematics<sup>4</sup>
  - 3 - EDLT 4980 Secondary Content Area Reading<sup>4</sup>
  - 3 - MATH 4000 Theory of Probability *or* 3 - MATH 4020 Statics for Science and Eng. II
  - 3 - MATH 4080 Topics in Geometry
  - 3 - MATH 4530 Advanced Calculus I
- 
- 15

**Second Semester**9 - EDSC 4460 Teaching Internship in Sec. Math.<sup>5</sup>3 - EDSC 4560 Secondary Math. Capstone Sem.<sup>5</sup>12

123 Total Semester Hours

<sup>1</sup>See General Education Requirements.<sup>2</sup>Select from courses in ASTR, BIOL, CH, GEOL, PHYS<sup>3</sup>ENGL 2120, 2130, 2140, 2150.<sup>4</sup>EDSC 4260 and EDLT 4980 must be taken concurrently prior to the teaching internship. Offered fall semester only.<sup>5</sup>EDSC 4460 and 4560 must be taken concurrently. Offered spring semester only.**SCIENCE TEACHING**

The programs leading to a Bachelor of Arts or Bachelor of Science degree in Science Teaching are designed for students planning to teach biological sciences, chemistry, or physical sciences on the secondary school level (grades 9–12). To be recommended for licensure, students must earn a grade of C or higher in all required science content and education courses.

**Double Majors in Science Teaching and Content Area**

The Bachelor of Arts Degree in Science Teaching could result in a double major in Science Teaching and the select content area (Biological Sciences, Chemistry, or Physics). To receive a double major in Science Teaching and the selected content area, a Change of Academic Program form must be completed to declare both majors. To achieve a double major, the appropriate plan of study listed under Science Teaching must be followed and all major requirements from both programs must be satisfied. The double major prepares students for teaching science on the secondary level and graduate work in the respective content field.

**TEACHING AREA:  
BIOLOGICAL SCIENCES****Bachelor of Arts****Freshman Year****First Semester**3 - BIOL 1030 General Biology I *and*1 - BIOL 1050 General Biology Lab. I *or*

5 - BIOL 1100 Principles of Biology

4 - CH 1010 General Chemistry

2 - ED 1050 Orientation to Education

4 - MATH 1060 Calculus of One Variable I

3 - Foreign Language Requirement<sup>1</sup>17-18**Second Semester**3 - BIOL 1040 General Biology I *and*1 - BIOL 1060 General Biology Lab. II *or*

5 - BIOL 1110 Principles of Biology II

4 - CH 1020 General Chemistry

3 - ENGL 1030 Accelerated Composition

3 - Foreign Language Requirement<sup>1</sup>3 - Statistics Requirement<sup>2</sup>17-18**Sophomore Year****First Semester**

3 - CH 2010 Survey of Organic Chemistry

1 - CH 2020 Survey of Organic Chemistry Lab.

3 - HIST 1220 History, Technology and Society *or*

3 - HIST 1240 Environmental History Survey

3 - PHYS 2070 General Physics I

1 - PHYS 2090 General Physics I Lab.

3 - Arts and Humanities (Literature) Requirement<sup>3</sup>3 - Biochemistry or Genetics Requirement<sup>4</sup>17**Second Semester**

3 - EDF 3010 Principles of American Education

3 - EDF 4800 Foundations of Digital Media and Learning

3 - PHYS 2080 General Physics II

1 - PHYS 2100 General Physics II Lab.

3 - Biochemistry or Genetics Requirement<sup>4</sup>4 - Organismal Diversity Requirement<sup>5</sup>17**Junior Year****First Semester**3 - ANTH 2010 Introduction to Anthropology *or*

3 - GEOG 1030 World Regional Geography

3 - BIOL 4610 Cell Biology

2 - BIOL 4620 Cell Biology Laboratory

3 - EDF 3020 Educational Psychology

3 - EDSC 3270 Practicum in Secondary Science

3 - Ecology Requirement<sup>6</sup>17**Second Semester**

3 - BIOL 3350 Evolutionary Biology

3 - BIOL (EDSC) 4820 Laboratory Techniques for Teaching Science

3 - EDF 3350 Adolescent Growth and Development

3 - ENGL 3150 Scientific Writing and Comm.

3 - Functional Biology Requirement<sup>7</sup>15**Senior Year****First Semester**3 - COMM 1500 Intro. to Human Comm. *or*

3 - COMM 2500 Public Speaking

3 - EDSP 3700 Introduction to Special Education

3 - EDSC 4270 Teaching Secondary Science<sup>8</sup>3 - EDLT 4980 Secondary Content Area Reading<sup>8</sup>3 - Arts and Humanities (Non-Lit.) Requirement<sup>9</sup>15**Second Semester**9 - EDSC 4470 Teaching Internship in Sec. Sci.<sup>10</sup>3 - EDSC 4570 Sec. Science Capstone Seminar<sup>10</sup>12

127–129 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in any modern foreign language (including American Sign Language) are required.<sup>2</sup>STAT 2300 or 3090<sup>3</sup>ENGL 2020, 2120, 2130, 2140 or 2150.<sup>4</sup>One lecture course must be completed for both biochemistry (BCHM 3010 or BCHM 3050) and for genetics (GEN 3000 or GEN 3020).<sup>5</sup>One lecture and associated laboratory must be selected from BIOL 3010; BIOL 3020/3060; BIOL 3030/3070; BIOL 3040/3080; BIOL 3200; BIOL 4060/4070; or BIOL 4250/4260.<sup>6</sup>At least one selected from BIOL 4410, 4420, 4430, 4460, 4700, or MICR 4010.<sup>7</sup>At least one selected from BIOL 3160, 4010, 4080, 4590, 4750, or 4800.<sup>8</sup>To be taken the semester prior to EDSC 4470 and 4570. EDSC 4270 and EDLT 4980 must be taken concurrently.<sup>9</sup>See General Education Requirements.<sup>10</sup>EDSC 4470 and 4570 must be taken concurrently. Offered spring semester only.**TEACHING AREA:  
BIOLOGICAL SCIENCES  
Bachelor of Science****Freshman Year****First Semester**3 - BIOL 1030 General Biology I *and*1 - BIOL 1050 General Biology Lab. I *or*

5 - BIOL 1100 Principles of Biology I

4 - CH 1010 General Chemistry

4 - MATH 1060 Calculus of One Variable I

3 - Oral Communication Requirement<sup>1</sup>15-16**Second Semester**3 - BIOL 1040 General Biology II *and*1 - BIOL 1060 General Biology Lab. II *or*

5 - BIOL 1110 Principles of Biology II

4 - CH 1020 General Chemistry

2 - ED 1050 Orientation to Education

3 - ENGL 1030 Accelerated Composition

3 - Statistics Requirement<sup>2</sup>16-17**Sophomore Year****First Semester**

3 - CH 2010 Survey of Organic Chemistry

1 - CH 2020 Survey of Organic Chemistry Lab.

3 - EDF 3020 Educational Psychology

3 - HIST 1220 History, Technology, and Society *or*

3 - HIST 1240 Environmental History Survey

3 - PHYS 2070 General Physics I

1 - PHYS 2090 General Physics I Lab.

3 - Genetics Requirement<sup>3</sup>17**Second Semester**

3 - BIOL 3350 Evolutionary Biology

3 - EDF 3010 Principles of American Education

3 - EDF 4800 Foundations of Digital Media and Learning

3 - PHYS 2080 General Physics II

1 - PHYS 2100 General Physics II Lab.

3 - Biochemistry Requirement<sup>3</sup>16**Junior Year****First Semester**

3 - BIOL 4610 Cell Biology

2 - BIOL 4620 Cell Biology Laboratory

3 - EDSC 3270 Practicum in Secondary Science

3 - Ecology Requirement<sup>4</sup>4 - Organismal Diversity Requirement<sup>5</sup>15

**Second Semester**

- 3 - ANTH 2010 Introduction to Anthropology *or*
  - 3 - GEOG 1030 World Regional Geography
  - 3 - BIOL (EDSC) 4820 Laboratory Techniques for Teaching Science
  - 3 - EDF 3350 Adolescent Growth and Development
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
  - 4 - Functional Biology Requirement<sup>6</sup>
- 16

**Senior Year****First Semester**

- 3 - EDSP 3700 Introduction to Special Education
  - 3 - EDSC 4270 Teaching Secondary Science<sup>7</sup>
  - 3 - EDLT 4980 Secondary Content Area Reading<sup>7</sup>
  - 3 - Art and Humanities (Non-Lit.) Requirement<sup>1</sup>
- 1 - Elective
- 13

**Second Semester**

- 9 - EDSC 4470 Teaching Internship in Sec. Sci.<sup>8</sup>
  - 3 - EDSC 4570 Sec. Science Capstone Seminar<sup>8</sup>
- 12

120–122 Total Semester Hours

<sup>1</sup>See General Education Requirements.<sup>2</sup>STAT 2300 or 3090<sup>3</sup>One lecture course must be completed for both biochemistry (BCHM 3010 or 3050) and for genetics (GEN 3000 or 3020).<sup>4</sup>At least one course selected from BIOL 4410, 4420, 4430, 4460, or 4700<sup>5</sup>One lecture and associated laboratory must be selected from BIOL 3010, 3020/3060, 3030/3070, 3040/3080, 3200, 4060/4070, or 4250/4260.<sup>6</sup>At least one course selected from BIOL 3160, 4010, 4080, 4590, 4750, or 4800. If a three-credit hour course is selected, the remaining one-credit hour must be satisfied with an elective credit.<sup>7</sup>To be taken the semester prior to EDSC 4470 and 4570. EDSC 4270 and EDLT 4980 must be taken concurrently. Offered fall semester only.<sup>8</sup>EDSC 4470 and 4570 must be taken concurrently. Offered spring semester only.**TEACHING AREA: CHEMISTRY****Bachelor of Arts****Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 1 - CH 1410 Chemistry Orientation
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Foreign Language Requirement<sup>1</sup>
- 15

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 2 - CH 1520 Chemistry Communication I
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Laboratory I
  - 3 - Foreign Language Requirement<sup>1</sup>
- 17

**Sophomore Year****First Semester**

- 3 - CH 2230 Organic Chemistry
  - 1 - CH 2270 Organic Chemistry Laboratory
  - 2 - ED 1050 Orientation to Education
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2210 Physics with Calculus II
  - 1 - PHYS 2230 Physics Laboratory II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 17

**Second Semester**

- 3 - CH 2050 Intro. to Inorganic Chemistry
  - 3 - CH 2240 Organic Chemistry
  - 1 - CH 2280 Organic Chemistry Laboratory
  - 3 - EDF 3010 Principles of American Education
  - 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - HIST 1220 History, Technology and Society *or*
  - 3 - HIST 1240 Environmental History Survey
- 16

**Junior Year****First Semester**

- 3 - BIOL 1030 General Biology I *and*
  - 1 - BIOL 1050 General Biology Laboratory I *or*
  - 5 - BIOL 1100 Principles of Biology I
  - 3 - CH 3130 Quantitative Analysis
  - 1 - CH 3170 Quantitative Analysis Laboratory
  - 3 - CH 3310 Physical Chemistry
  - 3 - EDSC 3270 Practicum in Secondary Science
- 14-15

**Second Semester**

- 3 - BIOL 1040 General Biology II *and*
  - 1 - BIOL 1060 General Biology Laboratory II *or*
  - 5 - BIOL 1110 Principles of Biology II
  - 3 - BIOL (EDSC) 4820 Laboratory Techniques for Teaching Science
  - 3 - CH 3320 Physical Chemistry
  - 3 - EDF 3020 Educational Psychology
  - 3 - EDF 3350 Adolescent Growth and Develop.
- 16-17

**Senior Year****First Semester**

- 3 - EDSP 3700 Introduction to Special Education
  - 3 - EDSC 4270 Teaching Secondary Science<sup>3</sup>
  - 3 - EDLT 4980 Secondary Content Area Reading<sup>3</sup>
  - 3 - GEOG 1030 World Regional Geography
  - 3 - Arts and Humanities (Literature) Requirement<sup>4</sup>
- 15

**Second Semester**

- 3 - CH 4500 Chemistry Capstone
  - 1 - CH 4520 Chemistry Communication II
  - 9 - EDSC 4470 Teaching Internship in Sec. Sci.<sup>5</sup>
  - 3 - EDSC 4570 Sec. Science Capstone Seminar<sup>5</sup>
- 16

126–128 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in any modern foreign language or American Sign Language are required.<sup>2</sup>See General Education Requirements.<sup>3</sup>To be taken the semester prior to EDSC 4470 and 4570. EDSC 4270 and EDLT 4980 must be taken concurrently. Offered fall semester only.<sup>4</sup>ENGL 2020, 2120, 2130, 2140 or 2150.<sup>5</sup>EDSC 4470 and 4570 must be taken concurrently. Offered spring semester only.**TEACHING AREA:  
PHYSICAL SCIENCES****Bachelor of Science****Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 3 - COMM 1500 Introduction Human Comm. *or*
  - 3 - COMM 2500 Public Speaking
  - 2 - ED 1050 Orientation to Education
  - 3 - HIST 1220 History, Technology, and Society *or*
  - 3 - HIST 1240 Environmental History Survey
  - 4 - MATH 1060 Calculus of One Variable I
- 16

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Lab. I
- 15

**Sophomore Year****First Semester**

- 3 - BIOL 1030 General Biology I *and*
  - 1 - BIOL 1050 General Biology Lab. I *or*
  - 5 - BIOL 1100 Principles of Biology I
  - 3 - CH 2010 Survey of Organic Chemistry
  - 1 - CH 2020 Survey of Organic Chemistry Lab.
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2210 Physics with Calculus II
  - 1 - PHYS 2230 Physics Lab. II
- 16-17

**Second Semester**

- 3 - BIOL 1040 General Biology II *and*
  - 1 - BIOL 1060 General Biology Lab. II *or*
  - 5 - BIOL 1110 Principles of Biology II
  - 3 - CH 2050 Intro. to Inorganic Chemistry
  - 3 - EDF 3010 Principles of American Education
  - 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - PHYS 2220 Physics with Calculus III
  - 1 - PHYS 2240 Physics Lab. III
- 17-18

**Junior Year****First Semester**

- 3 - ASTR 1050 Physics of the Universe *or*
  - 3 - ASTR 1020 Stellar Astronomy *and*
  - 1 - ASTR 1040 Stellar Astronomy Lab.
  - 3 - CH 3130 Quantitative Analysis
  - 1 - CH 3170 Quantitative Analysis Lab.
  - 3 - CH 3300 Introduction to Physical Chemistry
  - 3 - EDSC 3270 Practicum in Secondary Science
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 16-17

**Second Semester**

- 3 - BIOL (EDSC) 4820 Laboratory Techniques for Teaching Science
  - 3 - EDF 3020 Educational Psychology
  - 3 - EDF 3350 Adolescent Growth and Development
  - 3 - Social Science Requirement<sup>2</sup>
  - 3 - Statistics Requirement<sup>3</sup>
- 15

**Senior Year****First Semester**

- 3 - EDSP 3700 Introduction to Special Education
  - 3 - EDLT 4980 Secondary Content Area Reading<sup>4</sup>
  - 3 - EDSC 4270 Teaching Secondary Science<sup>4</sup>
  - 3 - PHIL 3240 Philosophy of Technology *or*
  - 3 - PHIL 3250 Philosophy of Science *or*
  - 3 - PHIL 3260 Science and Values
  - 3 - PHYS 3110 Intro. to Meth. of Theoretical Phys.
- 
- 15

**Second Semester**

- 9 - EDSC 4470 Teaching Internship in Sec. Sci.<sup>5</sup>
- 3 - EDSC 4570 Sec. Science Capstone Seminar<sup>5</sup>

122-125 Total Semester Hours

<sup>1</sup>ENGL 2120, 2130, 2140, or 2150

<sup>2</sup>ANTH 2010, GEOG 1030, POSC 1020, or 1040

<sup>3</sup>STAT 2300 or 3090

<sup>4</sup>To be taken the semester prior to EDSC 4470 and 4570. EDF 4250, EDSC 4270 and EDLT 4980 must be taken concurrently. Offered fall semester only.

<sup>5</sup>EDSC 4470 and 4570 must be taken concurrently. Offered spring semester only.

**TEACHING AREA: PHYSICS****Bachelor of Arts****Freshman Year****First Semester**

- 4 - CH 1010 General Chemistry
  - 2 - ED 1050 Orientation to Education
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Laboratory I
- 
- 17

**Second Semester**

- 4 - CH 1020 General Chemistry
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHYS 2210 Physics with Calculus II
  - 1 - PHYS 2230 Physics Laboratory II
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>1</sup>
  - 3 - Oral Communication Requirement<sup>1</sup>
- 
- 18

**Sophomore Year****First Semester**

- 5 - BIOL 1100 Principles of Biology I *or*
  - 3 - BIOL 1030 General Biology I *and*
  - 1 - BIOL 1050 General Biology I Lab.
  - 4 - MATH 2060 Calculus of Several Variables
  - 3 - PHYS 2220 Physics with Calculus III
  - 3 - PHYS 3250 Experimental Physics I
- 
- 14-15

**Second Semester**

- 5 - BIOL 1110 Principles of Biology II *or*
- 3 - BIOL 1040 General Biology II *and*
- 1 - BIOL 1060 General Biology II Lab.
- 3 - EDF 3010 Principles of American Education
- 3 - EDF 4800 Foundations of Digital Media and Learning
- 4 - MATH 2080 Intro. to Ordinary Diff. Equations
- 3 - Social Science Requirement<sup>1</sup>

17-18

**Junior Year****First Semester**

- 3 - ASTR 101 Solar System Astronomy
  - 3 - CH 3300 Intro. to Physical Chemistry *or*
  - 3 - CH 3310 Physical Chemistry
  - 3 - EDSC 3270 Practicum in Secondary Science
  - 3 - PHYS 3210 Mechanics I
  - 3 - Foreign Language Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 3 - BIOL (EDSC) 4820 Laboratory Techniques for Teaching Science
- 3 - EDF 3020 Educational Psychology
- 3 - EDF 3350 Adolescent Growth and Develop.
- 3 - MATH 4340 Advanced Engineering Math. *or*
- 3 - PHYS 3110 Intro. to the Methods of Theoretical Physics
- 3 - Foreign Language Requirement<sup>2</sup>
- 3 - Social Science Requirement<sup>1</sup>

18

**Senior Year****First Semester**

- 3 - EDSC 4270 Teaching Secondary Science<sup>3</sup>
  - 3 - EDLT 4980 Secondary Content Area Reading<sup>3</sup>
  - 3 - PHYS 4410 Electromagnetics I
  - 3 - PHYS 4550 Quantum Physics I
  - 3 - Arts and Humanities (Literature) Requirement<sup>1</sup>
- 
- 15

**Second Semester**

- 3 - EDSP 3700 Introduction to Special Education
- 9 - EDSC 4470 Teaching Internship in Secondary Science<sup>4</sup>
- 3 - EDSC 4570 Sec. Science Capstone Seminar<sup>4</sup>

15

129-131 Total Semester Hours

<sup>1</sup>See General Education Requirements. Six of these credit hours must also satisfy the Cross-Cultural Awareness and Science and Technology in Society General Education Requirements.

<sup>2</sup>Two semesters (through 2020) in any modern foreign language or American Sign Language.

<sup>3</sup>To be taken the semester prior to EDSC 4470 and 4570. EDSC 4270 and EDLT 4980 must be taken concurrently.

<sup>4</sup>EDSC 4470 and 4570 must be taken concurrently. Offered during spring semester only.

**SECONDARY EDUCATION**

The Bachelor of Arts degree in Secondary Education is available to students preparing to teach English, mathematics, or social studies on the secondary school level (grades 9–12). The teaching field should be selected as early as possible so appropriate freshman and sophomore courses may be taken.

Each curriculum may lead to a double major composed of the major concentration in the teaching field and the corresponding content major. To receive a double major in Secondary Education and the selected content area, a Change of Academic Program form must be completed to declare both majors. To achieve a double major, the appropriate plan of study under Secondary Education must be followed and all major requirements from both programs must be satisfied. Specific courses and sequences have been designated to meet requirements for those planning to teach. The professional education courses should be completed in sequence.

**TEACHING AREA: ENGLISH**

The Bachelor of Arts Degree in Secondary Education—English offers a double major in Secondary Education—English and English. To be recommended for licensure, students must earn a C or higher in all required English content and education courses.

**Freshman Year****First Semester**

- 3 - COMM 1500 Intro. to Human Comm. *or*
  - 3 - COMM 2500 Public Speaking
  - 2 - ED 1050 Orientation to Education
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 3 - Mathematics Requirement<sup>2</sup>
- 
- 14

**Second Semester**

- 3 - BIOL 2000 Biology in the News<sup>3</sup>
- 3 - ENGL 2120 World Literature
- 3 - HIST 1730 The West and the World II
- 3 - Foreign Language Requirement<sup>1</sup>
- 4 - Natural Science Requirement<sup>2</sup>

16

**Sophomore Year****First Semester**

- 3 - EDF 3010 Principles of American Education
  - 3 - EDF 3020 Educational Psychology
  - 3 - ENGL 3100 Critical Writing About Literature
  - 3 - HIST 3160 American Social History *or*
  - 3 - HIST 3610 History of England to 1688 *or*
  - 3 - HIST 3630 Britain Since 1688 *or*
  - 3 - HIST 3650 British Cultural History
  - 3 - Arts and Humanities (Non-Lit) Req.<sup>4</sup>
  - 3 - English Literature Survey Requirement<sup>5</sup>
- 
- 18

**Second Semester**

- 3 - EDF 3350 Adolescent Growth and Development
  - 3 - ENGL 3860 Adolescent Literature<sup>6</sup>
  - 3 - ENGL 4110 Shakespeare
  - 3 - English Literature Survey Requirement<sup>5</sup>
  - 3 - Fine Arts Requirement<sup>7</sup>
- 
- 15

**Junior Year****First Semester**

- 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - EDSC 3240 Prac. in Teaching Secondary Engl.<sup>8</sup>
  - 3 - EDSP 3700 Introduction to Special Education
  - 3 - English Literature Survey Requirement<sup>5</sup>
  - 3 - Literature Emphasis Area Requirement<sup>9</sup>
- 
- 15

**Second Semester**

- 3 - English Literature Requirement<sup>10</sup>
- 3 - Literary Theory Requirement<sup>11</sup>
- 3 - Literature Emphasis Area Requirement II<sup>12</sup>
- 3 - Literature Emphasis Area Requirement III<sup>13</sup>
- 3 - Social Science Requirement<sup>2</sup>

15



**Senior Year****First Semester**

- 3 - EDLT 4980 Secondary Content Area Reading<sup>14</sup>
  - 3 - EDSC 4240 Teaching Secondary English<sup>14</sup>
  - 3 - ENGL 4850 Composition for Teachers<sup>14</sup>
  - 3 - ENGL 4960 English Senior Seminar
  - 3 - Literature Emphasis Area Diversity Req.<sup>15</sup>
- 
- 15

**Second Semester**

- 9 - EDSC 4440 Teaching Internship in Secondary English<sup>16</sup>
  - 3 - EDSC 4540 Secondary English Capstone Sem.<sup>16</sup>
- 
- 12

120 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in the same modern foreign language are required.<sup>2</sup>See General Education Requirements.<sup>3</sup>Any course that satisfies the General Education Mathematics; Natural Science with a Lab; or Mathematics or Natural Science requirement may be substituted.<sup>4</sup>Select from PHIL 1010, 1020, or 1030.<sup>5</sup>Select from ENGL 3960, 3970, 3980, or 3990. One course each of British and American Survey are required. The additional course satisfies the upper level ENGL requirement.<sup>6</sup>This course qualifies as a Literature Emphasis Area Requirement for a BA in English.<sup>7</sup>Select from AAH 1010 or ART 2100; ENGL 3570; HUM 3010, 3020, or 3060; MUSC 2100, 3110, 4150, or 4160; or THEA 2100.<sup>8</sup>Students must complete 45 hours of field experience in a public school.<sup>9</sup>Select from ENGL 4030, 4070, 4080, 4100, 4140, 4200, (THEA) 4290, 4440, or 4630.<sup>10</sup>Select any 4000 level ENGL course.<sup>11</sup>Select from ENGL 4350, 4360, 4400, or 4420, or other course approved by the department.<sup>12</sup>Select from ENGL 4150, 4160, 4170, 4180, 4210, 4250, 4260, or 4640.<sup>13</sup>Select from ENGL 4280, (THEA) 4300, 4310, 4320, 4330, 4340, 4550, or 4650.<sup>14</sup>EDLT 4980, EDSC 4240, and ENGL (EDSC) 4850 must be taken concurrently during fall semester of senior year. Students must also enroll in the laboratory sections of EDSC 4240 and EDLT 4980.<sup>15</sup>Select from ENGL 3530, 3800, 4190, (HUM) 4560, 4820, or 4830.<sup>16</sup>EDSC 4440 and EDSC 4540 must be taken concurrently during spring semester of senior year.**TEACHING AREA: MATHEMATICS**

The Bachelor of Arts degree in Secondary Education—Mathematics offers a double major in Secondary Education—Mathematics and Mathematical Sciences. To be recommended for licensure, students must earn a C or higher in all required mathematics content and education courses.

**Bachelor of Arts****Freshman Year****First Semester**

- 2 - ED 1050 Orientation to Education
  - 3 - ENGL 1030 Accelerated Composition
  - 4 - MATH 1060 Calculus of One Variable I
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>2</sup>
- 
- 16

**Second Semester**

- 3 - HIST 1020 History of the United States
  - 4 - MATH 1080 Calculus of One Variable II
  - 3 - PHIL 1020 Introduction to Logic
  - 3 - PHYS 1220 Physics with Calculus I
  - 1 - PHYS 1240 Physics Laboratory I
  - 3 - Foreign Language Requirement<sup>1</sup>
- 
- 17

**Sophomore Year****First Semester**

- 3 - ECON 2000 Economic Concepts or  
3 - ECON 2110 Principles of Microeconomics
  - 3 - EDSC 2260 A Prof. Approach to Sec. Algebra
  - 4 - MATH 2060 Calculus of Several Variables
  - 1 - MATH 2500 Intro. to Mathematical Sciences
  - 3 - Arts and Humanities (Literature) Requirement<sup>3</sup>
  - 3 - Computer Science Requirement<sup>4</sup>
- 
- 17

**Second Semester**

- 3 - EDF 3020 Educational Psychology
  - 4 - MATH 2080 Intro. to Ordinary Diff. Equations
  - 3 - MATH 3110 Linear Algebra
  - 3 - MATH 3190 Introduction to Proof
  - 3 - Cross-Cultural Awareness Requirement<sup>2</sup>
- 
- 16

**Junior Year****First Semester**

- 3 - EDF 3010 Principles of American Education
  - 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - EDSC 3260 Practicum in Secondary Math.
  - 3 - MATH 3020 Statistics for Science and Engr.
  - 3 - MATH 4000 Theory of Probability
- 
- 15

**Second Semester**

- 3 - EDF 3350 Adolescent Growth and Development
  - 3 - EDSP 3700 Introduction to Special Education
  - 3 - EDSC 4370 Technology in Secondary Math.
  - 3 - MATH 3080 College Geometry
  - 3 - MATH 4120 Algebra I
- 
- 15

**Senior Year****First Semester**

- 3 - COMM 2500 Public Speaking
  - 3 - EDLT 4980 Secondary Content Area Reading<sup>5</sup>
  - 3 - EDSC 4260 Teaching Secondary Mathematics<sup>5</sup>
  - 3 - MATH 4080 Topics in Geometry
  - 3 - MATH 4530 Advanced Calculus I
- 
- 15

**Second Semester**

- 9 - EDSC 4460 Teaching Internship in Secondary Mathematics<sup>6</sup>
  - 3 - EDSC 4560 Secondary Math. Capstone Sem.<sup>6</sup>
- 
- 12

123 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in any modern foreign language (including American Sign Language) are required.<sup>2</sup>See General Education Requirements.<sup>3</sup>ENGL 2120, 2130, 2140, or 2150<sup>4</sup>CPCS 1010, 1110, 1150, 1610, or 2200<sup>5</sup>EDSC 4260 and EDLT 4980 must be taken concurrently prior to the teaching internship. Offered fall semester only.<sup>6</sup>EDSC 4460 and 4560 must be taken concurrently. Offered spring semester only.**TEACHING AREA: SOCIAL STUDIES (HISTORY)**

The Bachelor of Arts Degree in Secondary Education—Social Studies (History) offers a double major in Secondary Education—Social Studies (History) and History. To be recommended for licensure, students must earn a C or higher in all required history content and education courses.

**Freshman Year****First Semester**

- 2 - ED 1050 Orientation to Education
  - 3 - ENGL 1030 Accelerated Composition
  - 3 - MATH 1010 Essential Math. for Informed Soc.
  - 3 - Foreign Language Requirement<sup>1</sup>
  - 4 - Natural Science Requirement<sup>2</sup>
- 
- 15

**Second Semester**

- 3 - ANTH 2010 Introduction to Anthropology
  - 3 - BIOL 2000 Biology in the News<sup>3</sup>
  - 3 - ENGL 2140 American Literature
  - 3 - GEOG 1010 Introduction to Geography
  - 3 - PSYC 2010 Introduction to Psychology
  - 3 - Foreign Language Requirement<sup>1</sup>
- 
- 18

**Sophomore Year****First Semester**

- 3 - ECON 2000 Economic Concepts
  - 3 - EDF 3020 Educational Psychology
  - 3 - HIST 1010 History of the United States
  - 3 - HIST 1720 The West and the World I
  - 3 - POSC 1010 American National Government
- 
- 15

**Second Semester**

- 3 - HIST 1020 History of the United States
  - 3 - HIST 1730 The West and the World II
  - 4 - HIST 2990 Seminar: The Historian's Craft
  - 3 - Advanced Humanities Requirement<sup>4</sup>
  - 3 - Arts and Humanities (Non-Lit.) Requirement<sup>2</sup>
- 
- 16

**Junior Year****First Semester**

- 3 - EDF (HIST) 3200 History of U.S. Public Educ.
  - 3 - EDF 3350 Adolescent Growth and Development
  - 3 - EDSC 3280 Practicum in Secondary Social Studies
  - 9 - Teaching Major<sup>5</sup>
- 
- 18

**Second Semester**

- 3 - SOC 2010 Introduction to Sociology
  - 3 - Advanced Humanities Requirement<sup>4</sup>
  - 3 - Arts and Humanities (Literature) Requirement<sup>2</sup>
  - 9 - Teaching Major<sup>5</sup>
- 
- 18

**Senior Year****First Semester**

- 3 - EDF 4800 Foundations of Digital Media and Learning
  - 3 - EDSP 3700 Introduction to Special Education
  - 3 - EDSC 4280 Teaching Secondary Social Studies<sup>6</sup>
  - 3 - EDLT 4980 Secondary Content Area Reading<sup>6</sup>
  - 3 - HIST 4900 Senior Seminar<sup>6</sup>
  - 3 - Advanced Humanities Requirement<sup>4</sup>
- 
- 18

**Second Semester**

- 9 - EDSC 4480 Teaching Internship in  
Secondary Social Studies<sup>7</sup>  
3 - EDSC 4580 Secondary Social Studies  
Capstone Seminar<sup>7</sup>  
12

130 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in any modern foreign language, including American Sign Language, are required.

<sup>2</sup>See General Education Requirements.

<sup>3</sup>Any General Education course that satisfies the Mathematics; Natural Science with Lab; or Mathematics or Natural Science General Education requirement may be substituted.

<sup>4</sup>Select from ART 2100, MUSC 2100, THEA 2100, or any AAH, COMM (except 3640, 3680), ENGL (except 3040, 3120, 3140, 3160, 3330, 4850, 4900, 4950), HUM, MUSC, PHIL, REL, THEA (except 3770, 4870, 4970), WS, or foreign language course numbered 3000 or higher.

<sup>5</sup>See advisor. Students must complete a minimum of three hours each of United States history and European history, and six hours of non-Western history selected from 3000- or 4000-level HIST courses. At least one course must be at the 4000 level.

<sup>6</sup>EDSC 4280, HIST 4900, and EDLT 4980 must be taken concurrently in the fall semester of the senior year.

<sup>7</sup>EDSC 4480 and 4580 must be taken concurrently. Offered spring semester only.

**SPECIAL EDUCATION****Bachelor of Arts**

The Bachelor of Arts degree in Special Education prepares students to teach individuals with mild disabilities in grades P-12. The curriculum is designed to meet the competencies outlined by the Council for Exceptional Children for beginning special education teachers. Students completing the program receive instruction and practical experiences that lead to Multi-Categorical Special Education Licensure in South Carolina.

**Freshman Year****First Semester**

- 2 - ED 1050 Orientation to Education  
3 - HIST 1240 Environmental History Survey *or*  
3 - HIST 1220 History, Technology, and Society  
3 - MATH 1150 Contemporary Mathematics for  
Elementary School Teachers I  
3 - Foreign Language Requirement<sup>1</sup>  
4 - Natural Science Requirement<sup>2</sup>  
15

**Second Semester**

- 3 - ENGL 1030 Accelerated Composition  
3 - GEOG 1030 World Regional Geography  
3 - MATH 1160 Contemporary Mathematics for  
Elementary School Teachers II  
3 - Foreign Language Requirement<sup>1</sup>  
4 - Natural Science Requirement<sup>2</sup>  
16

**Sophomore Year****First Semester**

- 3 - EDF 3010 Principles of American Education  
3 - EDSP 3700 Introduction to Special Education  
3 - MATH 2160 Geometry for Elementary  
School Teachers  
3 - Arts and Humanities (Literature) Requirement<sup>3</sup>  
4 - Natural Science Requirement<sup>2</sup>  
16

**Second Semester**

- 3 - COMM 1500 Intro. to Human Comm. *or*  
3 - COMM 2500 Public Speaking  
3 - EDF 3020 Educational Psychology  
3 - EDF 3340 Child Growth and Development  
3 - Arts and Humanities (Non-Lit.) Requirement<sup>4</sup>  
3 - History Requirement<sup>5</sup>  
15

**Junior Year****First Semester**

- 3 - EDEL 3100 Arts in the Elementary School  
3 - EDLT 4600 Teaching Reading in the  
Elementary Grades: 2-6<sup>6</sup>  
3 - EDF 4800 Foundations of Digital Media and  
Learning  
3 - EDSP 3720 Char. and Instruction of  
Individuals with Learning Disabilities<sup>6</sup>  
3 - EDSP 3740 Char. and Strat. for Individuals  
with Emotional/Behavioral Disorders<sup>6</sup>  
15

**Second Semester**

- 3 - EDEL 4510 Elem. Meth. in Science Teaching<sup>7</sup>  
3 - EDEL 4870 Elementary Methods in Social  
Studies Teaching<sup>7</sup>  
3 - EDSP 3730 Characteristics and Instruction of  
Individuals with Intellectual Disabilities and  
Autism<sup>7</sup>  
3 - EDSP 3750 Early Intervention Strategies for  
Young Children with Special Needs<sup>7</sup>  
3 - EDSP 4910 Educational Assessment of  
Individuals with Disabilities<sup>7</sup>  
15

**Senior Year****First Semester**

- 3 - EDSP 4920 Mathematics Instruction for  
Individuals with Mild Disabilities<sup>8</sup>  
3 - EDSP 4930 Classroom and Behavior  
Management for Special Educators<sup>8</sup>  
3 - EDSP 4940 Teaching Reading to Students with  
Mild Disabilities<sup>8</sup>  
3 - EDSP 4960 Special Education Field Experience<sup>8</sup>  
3 - EDSP 4970 Secondary Methods for Individuals  
with Disabilities<sup>8</sup>  
15

**Second Semester**

- 3 - EDSP 4950 Communication and  
Collaboration in Special Education<sup>9</sup>  
12 - EDSP 4980 Directed Teaching in Special Ed.<sup>9</sup>  
15

122 Total Semester Hours

<sup>1</sup>Two semesters (through 2020) in the same modern foreign language (including American Sign Language) are required.

<sup>2</sup>See General Education Requirements. Eight credit hours must be in a sequence. Biological and physical sciences must be represented. PHSC 1070, 1080, and BIOL 1090 are recommended.

<sup>3</sup>ENGL 2120, 2130, 2140, or 2150.

<sup>4</sup>See General Education Requirements.

<sup>5</sup>HIST 1010, 1020, 1720, 1730, or 1930.

<sup>6</sup>EDLT 4600 and EDSP 3720 and 3740 must be taken concurrently during the fall semester of junior year.

<sup>7</sup>EDEL 4510 and 4870, EDSP 3730, 3750, and 4910 must be taken concurrently during the spring semester of the junior year.

<sup>8</sup>EDSP 4920, 4930, 4940, 4960, and 4970 must be taken concurrently during the fall semester of the senior year.

<sup>9</sup>EDSP 4950 and 4980 must be taken concurrently during the spring semester of the senior year.

## MINORS

Following are minors acceptable for students in the Eugene T. Moore School of Education. Students cannot major and minor in the same field or acquire a minor that is not allowed by the degree program.

Accounting	Human Resource Management
Adult/Extension Education	Legal Studies
Aerospace Studies	Management
Agricultural Business Management	Management Information Systems
Agricultural Mechanization and Business	Mathematical Sciences— <i>not open to Mathematics Teaching or Secondary Education—Mathematics majors</i>
American Sign Language Studies	Microbiology
Animal and Veterinary Sciences	Military Leadership
Anthropology	Modern Languages
Architecture	Music
Art	Natural Resource Economics
Athletic Leadership	Nonprofit Leadership
Biochemistry	Nuclear Engineering and Radiological Sciences
Biological Sciences— <i>not open to Science Teaching—Biological Sciences majors</i>	Packaging Science
British and Irish Studies	Pan African Studies
Business Administration	Park and Protected Area Management
Chemistry— <i>not open to Science Teaching—Chemistry majors</i>	Philosophy
Cluster	Physics— <i>not open to Science Teaching—Physical Sciences or Science Teaching—Physics majors</i>
Communication Studies	Plant Pathology
Computer Science	Political Science
Crop and Soil Environmental Science	Precision Agriculture
Digital Production Arts	Psychology
East Asian Studies	Public Policy
Economics	Recreational Therapy
Education	Religion
English— <i>not open to Secondary Education—English majors</i>	Russian Area Studies
Entomology	Science and Technology in Society
Entrepreneurship	Screenwriting
Environmental Science and Policy	Sociology
Equine Industry	Spanish-American Area Studies
Film Studies	Sustainability
Financial Management	Theatre
Food Science	Travel and Tourism
Forest Products	Turfgrass
Forest Resource Management	Urban Forestry
Gender, Sexuality and Women's Studies	Wildlife and Fisheries Biology
Genetics	Women's Leadership
Geography	Writing
Geology	
Global Politics	
Great Works	
History— <i>not open to Secondary Education: Social Studies (History) majors</i>	
Horticulture	

See pages 40-43 for details.