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Mission of the University

Shippensburg University of Pennsylvania is a regional state supported institution. It is part of the State System of Higher Education of Pennsylvania, which is made up of fourteen universities located in various geographic regions throughout the Commonwealth. Founded in 1871, Shippensburg University serves the educational, social, and cultural needs of students primarily from south-central Pennsylvania. The university enrolls students from throughout the Commonwealth of Pennsylvania, the Mid-Atlantic region, the United States, and various foreign countries as well.

Shippensburg is a comprehensive university offering bachelor's and master's degree programs in the Colleges of Arts and Sciences, Business, and Education and Human Services. The curricula are organized to enable students both to develop their intellectual abilities and to obtain professional training in a variety of fields. The foundation of the undergraduate curriculum is a required core of courses in the arts and sciences. These courses prepare students to think logically, read critically, write clearly, and verbalize ideas in a succinct and articulate manner; they also broaden students' knowledge of the world, past and present.

The university's primary commitment is to student learning and personal development through effective and innovative teaching and a wide variety of high-quality, out-of-class experiences. The ultimate goal is to have students develop to their utmost the intellectual, personal, and social capabilities they need to perform as competent citizens prepared to embark on a career immediately upon graduation or after advanced study. The personal attention given each student at Shippensburg is reflective of the strong sense of community that exists on campus and the centrality of students within it. The university encourages and supports activities that give students many opportunities to apply the theories and methods learned in the classroom to real or practical situations, such as faculty-student research and student internships. Student life programs and activities complement the academic mission and further assist students in their personal, social, and ethical development.

Committed to public service and community-centered in its relationships to the region, the university works closely and collaboratively with other organizations at institutional, programmatic, and individual levels to develop common goals, share resources, and invest cooperatively in the future of the region.

Brief History

Shippensburg University was established in 1871 as the Cumberland Valley State Normal School. The school received official approval by the state on February 21, 1873, and admitted its first class of 217 students on April 15, 1873. In 1917 the school was purchased by the Commonwealth of Pennsylvania.

On June 4, 1926, the school was authorized to grant the bachelor of science in education degree in elementary and junior high education. The school received a charter on October 12, 1926, making it the first normal school in Pennsylvania to become a state teachers college. On June 3, 1927, the State Council of Education authorized the name change to the State Teachers College at Shippensburg.

The business education curriculum was approved on December 3, 1937. On December 8, 1939, Shippensburg State Teachers College became the first teachers college in Pennsylvania and the fourth in the United States to be accredited

by the Middle States Association of Colleges and Secondary Schools (now Middle States Commission on Higher Education).

The State Council of Education approved graduate work leading to the master of education degree on January 7, 1959. On January 8, 1960, the name change to Shippensburg State College was authorized.

The arts and sciences curriculum was authorized by the State Council of Education on April 18, 1962, and the bachelor of science in business administration degree program was initiated on September 1, 1967.

On November 12, 1982, the governor of the Commonwealth signed Senate Bill 506 establishing the State System of Higher Education. Shippensburg State College was designated Shippensburg University of Pennsylvania effective July 1, 1983.

Accreditation

Shippensburg University is accredited by the Middle States Commission on Higher Education; AACSB International- the Association to Advance Collegiate Schools of Business; ABET, Inc. (Computer Science); Academy of Criminal Justice Sciences; Accrediting Council on Education in Journalism and Mass Communication (ACEJMC); the American Chemical Society (ACS); the Council on Social Work Education (CSWE); the Council for Accreditation of Counseling and Related Educational Programs (CACREP); the International Association of Counseling Services (IACS); the Council for Exceptional Children (CEC); and the National Council for Accreditation of Teachers (NCATE).

The Campus

Shippensburg University is located in the Cumberland Valley of south-central Pennsylvania, overlooking the Blue Ridge Mountains. The campus itself is situated on 200 acres of rolling land and is surrounded by a vast array of cultural and recreational sites.

Travel Time

The interstate highway system puts Shippensburg within reasonable travel time of numerous East Coast cities:

Harrisburg	45 minutes
Gettysburg	30 minutes
Baltimore	2 hours
Washington D.C.	2 hours
Philadelphia	2.5 hours
Pittsburgh	2.5 hours
New York City	4 hours

Directions

If your point of departure is ...

East of Shippensburg: Use Pennsylvania Turnpike Exit 226 (Carlisle) to I-81 south. Take I-81 to Exit 29.

West of Shippensburg: Use Pennsylvania Turnpike Exit 201 (Blue Mountain) to Route 696 south.

North of Shippensburg: Take I-81 south to Exit 29.

South of Shippensburg: Take I-81 north to Exit 24.

Academic Programs

Shippensburg University offers a variety of undergraduate programs in three colleges: the College of Arts and Sciences, the John L. Grove College of Business, and the College of Education and Human Services.

The following table shows the number of students earning degrees and the average number of years taken to finish. These figures include students who entered as first-time freshmen from 2006 to 2008.

Program*	No.	Avg. Years
<i>College of Arts and Sciences</i>		
Art	68	4.42
Biology	135	4.29
Chemistry	15	4.14
Communication/Journalism	168	4.31
Computer Science and Engineering	44	4.50
Economics	18	4.67
English	90	4.31
Geography/Earth Science	111	4.53
History	118	4.39
Human Communication Studies	61	4.58
Interdisciplinary Arts	18	4.63
Mathematics	50	4.36
Modern Languages	20	4.23
Physics	30	4.57

Political Science	61	4.47
Psychology	208	4.31
Sociology	56	4.65
<i>John L. Grove College of Business</i>		
Accounting/Management Information Systems	178	4.22
Finance	159	4.27
Management/Marketing	397	4.32
<i>College of Education and Human Services</i>		
Criminal Justice	198	4.33
Exercise Science	70	4.45
Social Work	92	4.31
Teacher Education	395	4.12
University Total	2760	4.32

**Four-year programs only, suppressing departments with less than ten graduates*

Statements of Compliance

The Office of Social Equity, located in Old Main 200, coordinates the university's compliance with laws and regulations relating to equal opportunity, sexual harassment, and "reasonable" accommodations for persons with disabilities. Any questions or complaints should be directed to the Executive Director of Social Equity at (717) 477-1161.

Equal Opportunity

Shippensburg University is committed to creating an environment free of discrimination for all of its employees and students. The Office of Social Equity at Shippensburg University assists the University in ensuring equal opportunity and access to educational, employment and contract opportunities for all persons including students, faculty, staff and administrators. The University will make every effort to provide these opportunities to all persons regardless of race, color, religion, sex, national origin, disability, age, veteran status, sexual orientation or gender identity. This applies to all members of the University community, all applicants for admission or employment and all participants in

university-sponsored activities. The nondiscrimination policy sets clear expectations for an environment free of discrimination, defines discrimination and provides procedures for handling charges of discrimination.

Sexual Harassment

It is the policy of Shippensburg University to prohibit discrimination on the basis of sex in any of its educational programs or activities. This policy is in accordance with Title IX of the Education Amendments of 1972.

Prohibited sex discrimination covers sexual harassment including sexual violence. Sexual harassment is conduct that is sexual in nature and is sufficiently severe, persistent, or pervasive that it adversely affects a student's ability to participate in or benefit from the university's activities or educational programs or creates a hostile or abusive educational environment. Sexual violence is a form of sexual harassment, prohibited by Title IX, which includes conduct that is criminal in nature. Acts may include rape, sexual assault, sexual battery, sexual coercion, unwanted touching, dating violence, and sexually motivated stalking.

Inquiries concerning the application of Title IX may be referred to:

Shippensburg University Title IX Coordinator
Cecil Howard
Office of Social Equity
Old Main 200, (717) 477-1161, cehoward@ship.edu
Department of Education
<http://www2.ed.gov/about/offices/list/ocr/index.html>
E-mail: ocr@ed.gov
400 Maryland Ave SW
Washington, DC 20202-1100
Phone: (202) 245-6700
Toll-free: (800) 421-3481
TTY: (800) 877-8339

Office of Disability Services

Shippensburg University is committed to serving all students, including those with documented disabilities. The Office of Disability Services (ODS) determines, coordinates, and provides reasonable and appropriate accommodations for eligible students who present current and comprehensive documentation. In compliance with Section 504 of the *Rehabilitation Act of 1973*, the *Americans with Disabilities Act (ADA) of 1990*, and the ADA Amendments Act of 2008, ODS coordinates services as outlined by Pennsylvania's State System of Higher Education and by Shippensburg University's equity plans. Additionally, the office works with the Human Resource Office to coordinate accommodations for campus faculty and staff with diagnosed disabilities.

Located in Suite 324 Horton Hall, the Office of Disability Services is within the School of Academic Programs and Services and is easily accessible. For further information, visit the website at www.ship.edu/ods, or contact the office at (717) 477-1326 or the Director at (717) 477-1329.

Policy for Religious Observances for Students

Shippensburg University respects the principle of the separation of church and state, while promoting and encouraging a climate of dignity where individuals are not discriminated against or treated differently because of their religion or national origin.

To foster and advance the precepts of an inclusive environment, students desiring to participate in the religious observances of their particular faiths, creeds, or beliefs will be granted an excused absence from scheduled classes. Faculty will make appropriate accommodations for the excused absence(s), and students will be accountable for the material covered in class. Each academic semester students will be required to provide their faculty with the dates (in writing) of scheduled religious observances.

Access to Educational Records

In accordance with the Family Educational Rights and Privacy Act of 1974 (commonly known as the Buckley Amendment), Shippensburg University provides its students with privacy safeguards of their educational records. The university issues reports of progress including grades, written evaluations, and letters of warning directly to the student. A student may have access to all information pertaining to his or her educational records and academic status.

Under the provisions of the Buckley Amendment, the university may release directory information about current students without violating privacy rights. Directory information includes name, address, telephone number, e-mail address, enrollment status, major, degree, and honors. Individual students may request this directory information not be released by notifying the Registrar's Office.

Drug-Free Campus

Shippensburg University complies with the Drug-Free Schools and Communities Act Amendment of 1989 and has adopted a program to prevent the unlawful possession, use, or distribution of illicit drugs and alcohol by both its students and employees.

Campus Safety

In accordance with Pennsylvania's College and University Security Information Act of 1988, Shippensburg University provides information relating to crime statistics and security measures to prospective students, matriculated students, and employees. The university will also comply with all campus safety provisions of the Student Right-To-Know and Campus Security Act of 1990.

Right-To-Know

Shippensburg University will compile graduation and completion rates for all undergraduate students as well as for undergraduate students receiving athletically related student aid. These rates will be reported to the U.S. Secretary of Education and will be disclosed to prospective students as required by the Student Right-To-Know Act.

Consumerism

Shippensburg University complies with consumer information requirements set forth in Section 493A of Title IV of the Higher Education Act of 1965 and its amendments.

Veterans Benefits

Shippensburg University complies with the requirements of Title 38, U.S. Code, Veterans Benefits.

Nonimmigrant Alien Students

Shippensburg University is authorized under federal law to enroll nonimmigrant alien students.

Educational Diversity

As part of a public system of higher education, Shippensburg University is responsible for educating students to face the challenges of our ever-changing global society. Shippensburg University aims to create a campus culture that offers opportunities for increasing knowledge, awareness, and understanding of diversity and inclusiveness and promotes a climate that builds upon values that welcome and nurture all members of the university community. Creating an inclusive campus environment helps to prepare students to be productive public citizens in a society comprised of people with differing national, racial, religious, and cultural backgrounds.

Shippensburg University seeks to attain these goals by offering academic and co-curricular activities that address the differences that have historically divided people and have led to unjust and discriminatory practices based on race, sex, religion, national origin, and sexual lifestyle. The university also remains committed to the recruitment and retention of a broad, inclusive student body, faculty, staff, and administration who represent a diverse range of interests, talent, and cultures. By working to accomplish these goals, Shippensburg University will ensure students receive an education that prepares them for the challenges of a global society with its diverse beliefs, attitudes, and ways of thinking.

Catalog Provisions

This catalog is intended to be a description of the policies, academic programs, degree requirements, and course offerings in effect for the 2017-2018 and 2018-2019 academic years. It should not be construed as an irrevocable contract between the student and the university. Shippensburg University reserves the right to change any of the policies, procedures, or fees described in this catalog and to apply these changes to any or all of its students as it sees fit. The university may also choose to add or delete course offerings or degree programs at any time.

Catalog Home

Admission Policies and Procedures

Shippensburg University is a member of the National Association for College Admission Counseling and adheres to their Statement of Principles of Good Practice: NACAC's Code of Ethics and Professional Practices.

We strive to follow these principles set forth by NACAC:

- **Education** of students, families, and others about the transition to and within postsecondary education.
- **Professionalism**, including ethical behavior and integrity of actions.
- **Collaboration** by working together to advocate for students and their best interests.
- **Fairness and Equity** by striving to eliminate bias from the education system which is viewed as a fundamental responsibility of educators.
- **Civility** by conducting dialogue with respect and openness to differences.
- **Trust** with one another and students.
- **Social Responsibility** to serve students by safeguarding their rights and their access to and within post-secondary education.

All Applicants

The following general requirements apply to all applicants seeking admission to Shippensburg University.

General Requirements

Students must show evidence of academic experiences that indicate their capacity to accomplish satisfactory work at Shippensburg University in their selected area of study. Criteria include graduation from an approved secondary school or equivalent preparation (as determined by the Credentials Evaluation Division of the Pennsylvania Department of Education) or successful completion of significant college-level work at another institution. The grades earned and the relationship of the course work to college preparation is of particular importance.

Academic Potential

This is determined, in part, by scores from the SAT I: Reasoning Test of the College Entrance Examination Board or the entrance examination of the American College Testing Program (ACT). Placement tests may also be required.

Other Criteria

Letters of recommendation, interviews, and statements of personal experiences in some cases can represent an important part of the evaluation process, particularly in those cases where the decision may be in question. These items are optional.

New Freshman Applicants

1. Applicants should visit our website at www.ship.edu/admissions for application requirements and to apply online. You may also request general information on-line, call (717) 477-1231, or e-mail the Office of Admissions at admiss@ship.edu.
2. Freshman candidates are urged to initiate the application process (which includes a \$45 application fee) as soon as possible for the fall semester. Candidates for spring semester are encouraged to submit applications by December 1. Final dates for receiving applications in the Office of Admissions for any entry period are subject to change without notice.

** Shippensburg University subscribes to the CEEB fee waiver program. This program provides waivers for those students for whom the fee is judged a hardship. Students should request submission of the fee waiver form through the guidance counselor.*

1. The secondary school transcript must be requested from and sent by the counselor directly to the Office of Admissions for the paper and online applications. GED results must be sent directly from the Department of Education.
2. All applicants are required to submit at least one set of scores on the SAT I: Reasoning Test of the College Entrance Examination Board or American College Test (ACT). The writing portion of the SAT will be used for placement purposes only. Those students taking the ACT are encouraged to complete the optional writing test. Arrangements should be made with the guidance counselor to take the SAT I during the junior and senior year. Applicants who graduated from high school more than two years ago are exempt from this admission requirement.
3. Shippensburg University grants advanced placement (AP) and college level examination program (CLEP) credit for general and subject area examinations based on the guidelines established by the College Board.

The College Board administers examinations for these courses nationally each year. See [http://www.ship.edu/Admissions/\(CLEP\)_Credit____AP_Credit/](http://www.ship.edu/Admissions/(CLEP)_Credit____AP_Credit/) for more information on credits you can earn and how to register for the tests.

4. SAT II: Subject Tests are not used for the admission process. However, if submitted, these scores may be used to assist in course placement.
5. Although the university does not require specific numbers and types of high school courses, we strongly urge students to pursue a typical college preparatory program in senior high school which should include: four years of English, three years of social sciences, three years of sequential mathematics, three years of laboratory science, and three years of one foreign language.
6. Applications will be considered by the Office of Admissions on a rolling basis. The applicant will be notified after the application is complete.
7. When approved for admission to the university, each student will be required to make a NON-REFUNDABLE confirmation deposit. Those students admitted to the residence halls will make an additional non-refundable room deposit. The deposits are payable to Shippensburg University and will confirm the intention of the student to become a matriculated student. The deadline for submitting the confirmation deposit is: May 1 or, if admitted after May 1, the deadline prescribed in the offer of admission letter. Extensions of the confirmation deposit date may be requested by sending a letter to the Dean of Admissions.
8. A personal interview is not required for admission but in some situations is advisable. Please call in advance to arrange an appointment.
9. A medical form will be forwarded to all successful applicants following receipt of the confirmation deposit. Completion of the medical form is required for enrollment.
10. A favorable admission decision is based upon the student's qualifications at the time of the offer and is contingent upon his or her maintaining those standards through graduation from the secondary school. The student must request the final transcript (including date of graduation) be sent to the Office of Admissions. Failure to submit a final transcript will result in a hold on the applicant's file.
11. Placement testing may be required in English, reading, mathematics, and foreign language. Notification of test dates and which exams must be completed, will be provided after admission by the Placement Testing Office.
12. Orientation programs are held in the summer and prior to the beginning of the fall semester. An orientation program is also held at the beginning of the spring semester.

General Transfer Applicants

Admission Procedures and Requirements

1. Applicants may apply online at www.ship.edu/admissions. Recommended time for submission of all application materials is December 1 for the Spring semester and early summer for the Fall semester.
2. Submit official transcripts of ALL college-level course work you have attempted. Official transcripts must be mailed directly from the issuing institution to the Office of Admissions. If you are currently enrolled at an institution, please be sure the transcript lists your in-progress courses and course number. Shippensburg University's Office of Admissions MAY waive the submission of high school records and SAT I scores prior to the admissions decision for students who have successfully completed 12 or more credit hours of college-level work. In addition, applicants who graduated from high school more than two years ago are exempt from submitting SAT I scores but may be required to complete placement testing (English (Writing), Math, Reading) in order to determine eligibility for admission into the University.
3. An offer of admission is based upon the student's qualifications to date and is contingent upon continuing to meet those standards for enrollment. For a transfer student, it is also required that the final transcript indicate a cumulative quality point average comparable to that which the student possessed when originally offered admission. Transfer students presently enrolled at another institution are responsible for ensuring the Office of Admissions receives a final transcript upon completion of their programs. Failure to submit a final transcript will result in a hold being placed on the applicant's file.

4. If admitted, the Dean of the appropriate college will evaluate the student's transcript to determine the amount of transferable credits. This official evaluation will be emailed to the email address provided on the application, and after the initial letter of admission.
5. When admitted to the university, each student will be required to make a NON-REFUNDABLE confirmation deposit. Those students admitted to the residence halls will make an additional non-refundable room deposit. The deposits are payable to Shippensburg University and will confirm the intention of the student to become a matriculated student.
 - The deadlines for submitting the confirmation deposit is *May 1* or, if admitted after May 1, the deadline prescribed in the offer of admission letter.
 - Extensions of the confirmation deposit date may be requested by sending a letter to the Dean of Admissions.
1. A personal interview is not required for admission but in some situations is advisable. Please write or call in advance to arrange an appointment.
2. A medical form will be forwarded to all successful applicants following receipt of the confirmation deposit. Completion of the medical form is required for enrollment.
3. All transfer students seeking a degree must plan on:
 - A minimum program of 30 semester hours to include half the credits of their major at Shippensburg. (See Graduation Requirements and Majors.)
 - All course selections subject to prior approval by the appropriate academic dean.
1. Admitted transfer students who have not completed the appropriate courses in English, mathematics, or foreign language will be required to take placement tests prior to enrollment. Notification of test dates will be provided subsequent to transcript evaluation.
2. Orientation programs are held in the summer, prior to the beginning of the fall semester, and at the beginning of the spring semester.

If you are attending a Pennsylvania State System of Higher Education university, Commonwealth of Pennsylvania community college, Lackawanna College, Hagerstown Community College, Carroll Community College, Howard Community College, Frederick Community College, Raritan Valley Community College, Middlesex Community College, or Allegany College of Maryland please refer to the Pennsylvania State System Student Transfer Policy section for **important additional information.*

Transfer from Accredited Colleges

A minimum program of at least 30 semester hours must be taken at Shippensburg University. A transfer student who has completed an associate's degree in an academic program parallel to one at Shippensburg University will normally complete a baccalaureate program in two additional years; however, more than two additional years may be necessary to complete degree requirements in certain programs. The official evaluation will be provided following the offer of admission to the university.

Transfer from Non-Accredited Institutions

Transfer applicants from non-accredited institutions are normally evaluated on the same basis as a freshman applicant. Work from non-accredited institutions may be considered as a part of the evaluation to determine the ability of a student to perform successfully at Shippensburg University. Official transcripts of all post-secondary work must be submitted as a part of the application process. The transcript of an applicant from a non-accredited institution, however, will not be evaluated officially by the college dean until the student has completed one semester successfully (12 college level credits) at Shippensburg and has attained a cumulative quality point average of at least 2.0. Possible transfer of credits from the non-accredited institution will be considered only at that time. Once admitted, all transfer students from non-accredited institutions are expected to maintain the same academic standards required of those students already enrolled in the university.

Academic Requirements for Consideration as Transfer Students

Admission to Shippensburg University may be granted to transfer students whose records indicate reasonable probability of success. Certain programs, such as business, elementary education, biology, criminal justice, etc., require a higher quality point average for consideration. Please consult with the Office of Admissions for details. Non-transferable courses are not used in calculating cumulative quality point averages including developmental or remedial courses and vocational/occupational/technical courses. In evaluating a transfer student's application for admission, the university may take into account the total record in high school and college, quality of courses, test scores, and interviews. The major criterion used by the university in evaluating an applicant for admission is the overall quality of previous achievement.

Once admitted, all transfer students are expected to maintain the same academic standards required of those students already enrolled in the university.

Pennsylvania State System Student Transfer Policy

The Student Transfer Policy is designed to promote the transfer of students from Pennsylvania community colleges to Shippensburg University and to support the transfer of undergraduate courses earned by students at other PA State System of Higher Education institutions. This encourages a seamless transfer for students into the University without unnecessary repetition of learning that has already been completed at another institution. Your coursework is applicable to the policy if you earned an Associate of Arts or an Associate of Science degree at one of the following community colleges or are an incumbent student of a State System institution with a 2.0 GPA or above.

At Shippensburg University, policy privileges apply only to students seeking transfer from a Pennsylvania community college, a Pennsylvania State System of Higher Education university, Lackawanna College, Raritan Valley Community College, Middlesex Community College, and the following community colleges in Maryland: Carroll, Frederick, Hagerstown, and Allegany College of Maryland.

Provisions provided under the Pennsylvania State System of Higher Education Student Transfer Policy

All college-level credits from regionally accredited institutions will be accepted in transfer, regardless of how the prior learning was acquired. The intent of this policy is to maximize the application of college-level credits awarded by regionally accredited institutions.

Shippensburg University will first apply as many college-level credits as possible toward the satisfaction of general education requirements, then to requirements in the major and finally to elective credits. A course by course match will not be required for general education courses. Vocational, technical and career courses may fulfill major curricular requirements or credits required for graduation in specific programs. Developmental and remedial coursework will not transfer.

1. Students transferring with an Associate Degree:

Admission to a State System university is guaranteed within the established university time frame for undergraduate students transferring from a Pennsylvania Community College with an Associate degree in an identified or a parallel P2P agreement, but not to specific major or degree programs. The requirements for admission to an academic program will be the same for native and transfer students. Students will receive junior standing. Exceptions such as a Criminal Conviction of a Felony Offense or Dismissal from a Previous Institution for Disciplinary Reasons, will be handled on a case-by-case basis.

2. Students transferring from a State System University

- a) Admission to a State System university within the established university time frame is guaranteed for undergraduate students transferring from one State System University to another State System University with at least 12 credits and a 2.0 GPA or above, but not to specific major or degree programs. The requirements for admission to an academic program will be the same for native and transfer students. Exceptions such as a Criminal Conviction of a Felony Offense or Dismissal from a Previous Institution for Disciplinary Reasons, will be handled on a case-by-case basis.
- b) Students transferring to Shippensburg University from another State System Institution who have completed the their general education program will have their general education requirements met at Shippensburg University unless their program has unique, specific general education requirements.

3. Students Transferring without an Associate Degree

- a) Pennsylvania community college students who seek to transfer WITHOUT a degree may apply to and be accepted by Shippensburg University.
- b) Students seeking to transfer course credits without the completed A.S. or A.A. degree must have a minimum cumulative GPA of 2.0 in all coursework presented for transfer for each institution attended. Capacity limits and/or higher admissions standards may apply to certain high demand.
- c) For students that have transferred from a PA community college without having earned their associate degree may be eligible to earn an A.A. or A.S. from their sending institution through Reverse Transfer. Credits earned while working toward their bachelor degree will be sent to the PA Community College for evaluation for possible credit towards the completion of the associate degree requirements.

4. Students from Pennsylvania community colleges and State System universities may transfer credits in courses where the grade of "D" is earned only if the student has an overall GPA of 2.0 or higher from each institution attended. Some academic programs at Shippensburg University may require the student to repeat certain courses in which a "D" grade was earned.

Dual Admission Programs

Shippensburg University maintains Dual Admission programs with the following community colleges: Harrisburg Area, Hagerstown, Frederick, Carroll, and Allegany College of Maryland. This program provides career and library services at Shippensburg University while the student is attending the community college as well as academic advisement to ensure the optimal transferability of credits. Dual Admission students must maintain continuous enrollment, and earn the associate's degree to receive the discounted tuition rate available to out-of-state Dual Admission participants. For more information, contact the Office of Admissions at Shippensburg University or one of the above named community colleges. Additional agreements are currently in process.

Acceptance and Application of Credits

All college-level credits from regionally accredited institutions will be accepted in transfer, regardless of how the prior learning was acquired. The intent of this policy is to maximize the application of college-level credits awarded by regionally accredited institutions.

Shippensburg University will first apply as many college-level credits as possible toward the satisfaction of general education requirements, then to requirements in the major and finally to elective credits. A course by course match will not be required for general education courses. Vocational, technical and career courses may fulfill major curricular requirements or credits required for graduation in specific programs. Developmental and remedial coursework will not transfer.

Transcript Evaluation and Credit

Transcripts submitted to meet entrance requirements by transfer students are evaluated by the dean of the college to which the student has applied. The transcript will be evaluated officially when the applicant has been formally admitted to the university. In most cases, the official evaluation of the student's transcript will be mailed along with the letter of admission.

Transfer credit will be awarded for equivalent Shippensburg University courses whenever appropriate. If there is not an equivalent course, credit will be awarded based on the academic discipline and type of course. Developmental and vocational courses will not be accepted as transfer credit.

Students who feel the original evaluation of their transfer credit is not correct may request another review by their academic dean's office. Shippensburg University will work with transfer students to ensure credit is awarded in the most appropriate way possible.

Reverse Transfer

Reverse transfer is the transfer of credits from a four-year institution to a two-year institution from which a student transferred from. It provides an opportunity for these students to receive an associate's degree once they have earned a combined total of at least 60 credits from both institutions. Eligible students can receive a first associate's degree that accurately reflects their educational attainment and allows them to compete more successfully in higher education and the workforce, even as he or she continues working toward a bachelor's degree or other certification or credential.

Eligibility

Students who have transferred to Shippensburg University (SU) benefit from Reverse Transfer agreements that have been established between all Pennsylvania Community Colleges and Pennsylvania's State System of Higher Education, as well as an agreement that has been established between SU and Hagerstown Community College.

For students who began their post-secondary education at a **community college in Pennsylvania**, they must have earned at least 45 credits, including those earned through Prior Learning Assessment (PLA), Advanced Placement (AP), College Level Examination Program (CLEP), Credit by Exam and the military, before transferring to a SU, from which they have earned at least 15 additional credits, excluding remedial and developmental credits.

For those students who began their post-secondary education at **Hagerstown Community College**, they must have earned at least 15 credits before transferring to SU. They must have earned at least 60 or more credits in total (including transfer and SU credits), excluding remedial and developmental credits.

How will the degree be awarded?

Qualified students will fill out a Reverse Transfer Agreement Release form, which will allow transcripts and contact information to be sent to the community college for review. The community college will review the eligible student's transcripts and make that determination. It will use upper-level courses to fulfill the community college's degree requirements when applicable. It also may determine if a student is eligible for an associate's degree in a program other than the intended program of study, based on courses completed at SU. Once the review is complete, the community college will submit a new student transcript to SU that denotes the conferment of the associate's degree.

Degree Completion Program

Shippensburg University offers degree completion options for transfer students. For our current offerings, go to www.ship.edu/pcde. For questions, please contact the Office of Admissions at 717-477-1231.

Homeschooled Applicants

Shippensburg University welcomes applications from students who have been homeschooled. Please review the guidelines under the freshman/transfer sections as well as the following information:

1. Homeschooled applicants are required to submit grade transcripts if available and also the official evaluation for each grade 9-11 (should be an estimated two pages in length and are an analysis of the student's annual portfolio). A final grade transcript (if applicable) and evaluation must be submitted when the final year of homeschooling is complete.
2. All homeschooled applicants are also required to submit at least one set of scores on the SAT I: Reasoning Test of the College Entrance Examination Board or American College Test (ACT).
3. If an official high school diploma is NOT being awarded by an agency, homeschooled applicants must submit a copy of the General Education Development Exam (GED) diploma and also the GED scores from the five sections of the test. This information must be mailed directly from the Department of Education of the state issuing the diploma.
4. Interviews for homeschooled applicants are not required, but are strongly encouraged for those students who will be graduating when they are less than 17 years old.

For additional information regarding a special situation, please contact the Office of Admissions for more information.

Options for Admissions

Honors Program

The Shippensburg University Honors Program admits outstanding students who will thrive in an atmosphere of creative learning and intellectual exploration. The program welcomes applications from high school seniors, first semester freshmen, and transfer students. Entering freshmen should have a minimum SAT score of 1200 and rank in the upper fifth of their high school class. First semester freshmen and transfer students must have a minimum 3.25 grade point average to be eligible for membership in the program. Evidence of leadership and active involvement in community service projects are also considered in admissions decisions.

Application forms for high school seniors, first semester freshmen, and transfer students are available on the Honors Program's website at <http://www.ship.edu/honors> or by contacting the Honors Program at 717-477-1604 or honors@ship.edu.

Early Admission

The university offers an early admission plan as a desirable option for those mature and academically talented students who are fully ready for college before completion of the 12th year of high school.

The early admission of full-time students should be reserved for those high school students who, in the judgment of both the secondary school and the university, are clearly outstanding academically and who demonstrate the personal maturity necessary for successful adjustment to the university. Normally such students will have exceeded the

academic limits of their secondary schools and will have attained a level of maturity greater than that of their chronological peers. They should be able to logically justify reasons for early entrance. Since an assessment of social maturity is a consideration, the university requires a personal interview of all early admission candidates. With the needs of the student in mind, the institution is obligated to consider whether the first year of the university or the last year of the secondary school will be more beneficial for the student, given the student's academic ability and maturity.

The usual academic guidelines for the selection of students through Early Admission are:

1. Rank in the upper ten percent of the high school class.
2. College Board SAT I scores totaling at least 1100 with a verbal score of at least 500.
3. Must have followed a college preparatory or academic high school program to the end of the eleventh year with at least three years of English, three years of college preparatory mathematics, at least two laboratory sciences, including biology, two social sciences, and two years of the same foreign language.
4. A letter of recommendation from the high school guidance counselor or principal.
5. A letter from the candidate's parents supporting the application for early admission.
6. A personal interview with a member of the admissions staff.
7. The high school must agree to issuing a high school diploma to the student upon successfully completing the freshman year as a student at Shippensburg.

The Dean of Admissions may use early admission for academically talented students who are fully ready for the university. However, it is not in the best interest of those not fully qualified either academically or personally to apply for early admission. Please write or call the Office of Admissions for information pertaining to application procedures.

Ship Start (Concurrent High School Enrollment)

Ship Start is an early to college program for high school students. These students can be enrolled part-time or full-time in university-level courses while concurrently completing secondary school requirements. Ship Start offers opportunities for those students to enrich their high school program while at the same time functioning within their traditional peer groups. The student might also wish to engage in university-level courses during the summer sessions. This program may be desirable to individuals as long as the student is capable of handling the academic demands involved. Students should first exhaust all required course options in high school before considering becoming a Ship Start student. The following guidelines apply for Ship Start students:

1. Must have completed at least the tenth grade year of high school.
2. Must submit official high school transcript and SAT or ACT scores. College Board SAT scores should total at least an 1100 or an ACT score equivalent to a 22 composite score.
3. Must submit the Ship Start - Early to College Application.
4. Must submit the Consent & Registration Form signed by school counselor as well as parent or guardian demonstrating approval of participation

For more information visit <http://www.ship.edu/shipstart/> or call the Office of Admissions for information pertaining to application materials and procedures.

Academic Success/Summer Bridge Program

Students who do not meet regular admission criteria but who have demonstrated the potential, desire, and motivation to succeed in college may be able to gain admission to Shippensburg by successfully completing the Academic Success/Summer Bridge Program. Students who are offered this option enroll in two courses during the summer and are required to participate in Summer Bridge programming as assigned. Students must pay for summer tuition and room and board for the five week summer term, unless they meet the ACT 101 (Pennsylvania's Higher Education Equal Opportunity Program) income guidelines. Students are also required to pay for their textbooks.

Details are located in the School of Academic Programs and Services chapter in this catalog or at www.ship.edu/asp.

Non-Degree Status

Shippensburg University provides educational learning experiences for interested adults on a part-time basis. Undergraduate courses for college credit are available for high school graduates or those who have achieved equivalency status as well as for students who have received a bachelor's degree but are not interested in pursuing a master's degree or certification.

This non-degree status is for those who wish to add to their specific subject area knowledge, to review or improve certain skills, or to broaden their interests. Non-degree students will be scheduled after degree-seeking students to ensure space exists for regularly admitted students. Contact the Office of Professional, Continuing and Distance Education for more information.

Non-degree students who wish to matriculate must apply through the regular admission process. All prerequisite course work requirements of degree-seeking students apply to non-degree students. A maximum of 30 credit hours earned in non-degree status may be credited toward an undergraduate degree. Non-degree students are required to meet the minimum academic standards outlined under Academic Policies and Procedures.

Individuals who apply for regular admission and are denied may not attend the university as a non-degree student.

Visiting Students

Visiting students are those who wish to enter the institution for the purpose of earning credit to be used for graduation at another institution. Please refer to Visiting Student Program under Academic Policies and Procedures for State System participants. These students should contact the Registrar's Office at Shippensburg University concerning application procedures.

International Students

Applicants from outside the United States who do not hold nonimmigrant visas or a permanent resident/resident alien status must complete a Shippensburg University Undergraduate international application for admission. Useful information can be obtained at www.ship.edu/admissions/international. Check the web site for application deadlines.

1. You are encouraged to submit the application online at www.ship.edu/admissions/apply or request a paper application from the Office of Admissions by emailing admiss@ship.edu. A \$45 application fee is required. Payment can be made online with the application or submit a check that includes a banking bar code or a money order. We will not accept paper currency.
2. For evaluation purposes, an official copy of the complete academic record/transcripts including courses and grades from the secondary school (and, if appropriate, post-secondary school) must be sent from those institutions directly to one of the following professional credential evaluation services. A Course-by-Course (CxC) report IS REQUIRED of those applying to or who wish to transfer credit into any of our degree programs.

Educational Credential Evaluators, Inc. (ECE)
P.O. Box 514070
Milwaukee, WI 53203-3470, USA
ECE Phone number: 414-289-3400
ECE Fax number: 414-289-3411
ECE E-mail: eval@ece.org
ECE Website: www.ece.org

or

World Education Services (WES)
P.O. Box 745, Old Chelsea Station
New York, NY 10011-0745, USA
WES Phone number: 212-966-6311 or 800-937-3895
WES Fax number: 212-966-6395
WES E-mail: info@wes.org
WES Website: www.wes.org

ECE or WES will then forward their official evaluation of your credentials to the Office of Admissions. You need not supply a copy of your official high school or post-secondary record/transcript.

1. International Applicants who speak English as a second language must present an official TOEFL scores report (sent directly from Educational Testing Services, ETS). Students may choose to take the IELTS; an official score report must be sent directly from British Council et al. We will accept scores from the paper-based, computer-based, or internet-based TOEFL. Students whose native language is English must take and submit SAT Test scores and may not take the TOEFL or IELTS.
2. Immigration regulations require the student's sponsor to complete the Statement of Financial Support for International Students and supply documentation to demonstrate the capacity to meet educational and related expenses. A student's sponsor may include parent(s), guardian(s), a government or international agency. Once these documents have been processed and approved, the Office of Admissions will notify the student of their status. In order to receive the I-20 document (required to apply for F-1 student visa), you must be admitted to the degree program AND have your financial information (statement of financial support, current bank statement, and income verification) approved by our Director of International Programs. An I-20 will not be issued prior to receiving and reviewing all required documents.

International students are required to pay out-of-state tuition and are not permitted to work off campus without proper authorization. Limited on-campus employment is sometimes available for qualified students after their first semester. All international students are required to carry adequate health and accident insurance.

Immediately upon arrival on campus, holders of F-1 visas are required to report to the Director of International Programs, Ceddia Union Building, bringing with them their passport, I-94, I-20, and visa.

Further questions regarding international students at Shippensburg University should be addressed to the Office of International Programs, Ceddia Union Building, Shippensburg University, 1871 Old Main Drive, Shippensburg, PA 17257-2299 USA, 717-477-1279 or email internationalprograms@ship.edu. Online at www.ship.edu/international.

Commonwealth Tuition Waiver (John F. Kennedy)

Award

The Commonwealth of Pennsylvania grants a limited number of tuition waiver awards at each of the fourteen state universities. The award is a remission of out-of-state tuition costs, but does not cover room and board, insurance, activities fee, or residence hall room deposits.

Any non-U.S. citizen eligible for an F-1 undergraduate student visa may apply for this award *making formal application to the university*. However, only a limited number of awards are available in any given year. Once an international student has been granted a tuition waiver, the award is renewable on a semester-by-semester basis for as long as the review committee considers reasonable for the completion of the student's academic program. This renewal is contingent upon full-time student status, an acceptable grade point average, and participation in the International Student Organization. If a student is seeking fall admission, application for the waiver should be made by May 1 of the same year. If a student is seeking spring admission, application for the waiver should be made by December 1 of the previous year. Interested applicants must gain admission and acceptance into the university before consideration for the scholarship can be granted. Recipients of the JFK tuition reduction must live on campus and have a meal plan for the

duration of their first academic year. Applications for the JFK Tuition Waiver can be submitted along with application for admission. The forms can be obtained at www.ship.edu/International/International_Students/JFK_Process.

Post-Baccalaureate Graduates Seeking Certification

Students who have a four-year degree and are interested in earning teacher certification must have achieved a 3.0 grade point average in their baccalaureate degree program. Those interested in teacher certification should contact the Dean of the College of Education and Human Services at 717-477-1141 for an application. Those seeking a master's degree along with certification courses should enroll through the Office of Admissions at 717-477-1231. The certification portion of the master's program will be developed by the Dean of the College of Education and Human Services.

Readmission of Former Students

Students who previously attended Shippensburg University and wish to resume their studies must apply through the Registrar's Office (not the Admissions Office) for readmission.

For more information on applying, see Readmission of Students in the Academic Policies and Procedures chapter or contact the Registrar's Office at 717-477-1381.

Choice of Major

Enrollment is limited in certain majors and programs offered by the university. Applicants who meet criteria for admission to the university, but who cannot be accommodated in the major or program of their first choice may be offered admission into another major. Those choosing to enter the university as an exploratory student must meet all departmental requirements and prerequisites for the major they eventually select. Students transferring to Shippensburg University with more than 30 college-level credits must declare a major.

Exploratory students should be aware there is no assurance they will be able to declare any major they choose. Programs with limited capacity may be restricted or closed.

Falsification of Records

Students furnishing the university with false, misleading, or incomplete information relating to their application for admission or academic record will be subject to denial or dismissal.

Academic Policies and Procedures

Once you are admitted to Shippensburg University, you will need to understand and follow all academic policies and procedures in order to successfully complete your course of study. University officials such as your faculty advisor, department chair, and academic dean can provide assistance, but it is ultimately your responsibility to be aware of policies relating to grading, academic progress, withdrawal from courses, declaring or changing majors, and requirements for graduation. This chapter explains the general academic policies. The chapter, University Curricula, discusses the particular degree programs, majors, and the general education requirements.

Applicable Policies

In general, you will be subject to the academic policies and degree requirements that are in effect during the semester you matriculate at Shippensburg University. You matriculate by registering for and starting an academic semester as a degree-seeking student. You do not need to declare a major in order to matriculate. If you begin taking classes in the summer, you will be considered as matriculating in the fall semester.

This catalog is intended to be a description of the policies, academic programs, degree requirements, and course offerings in effect for the 2016-2017 and 2017-2018 academic years. It should not be construed as a contract between the student and the university. Shippensburg University reserves the right to change any of the policies and procedures contained in this catalog and to apply these changes to any or all of its students as it sees fit. The university may also choose to add or delete course offerings or degree programs at any time.

Time Definition

Many of the policies in this catalog refer to time periods such as the first week of the semester. A week of the semester (or week of classes) is defined as seven calendar days beginning with and including the first day of daytime classes. For example, if daytime classes begin on a Thursday, the first week of the semester ends the following Wednesday at the official closing time of university offices (usually 4:30 p.m.).

Student Outcome Assessment

An essential aspect of the mission of Shippensburg University is the evaluation of educational input and student learning. You will be expected to participate in some phase of program evaluation activities such as standardized tests, questionnaires, and personal interviews. Students will be randomly selected beginning with freshman orientation and continuing through graduation. Participation in this program of evaluation will assist in providing sound academic learning experiences for you as well as future students at Shippensburg University.

Grading and Point System

To understand many of the university's academic policies and procedures, you first need to understand the grading system. The following system of grades is used to indicate the quality of academic work:

Regular Letter Grades

A Excellent

A-

B+

B Good

B-

C+

C Satisfactory

D Unsatisfactory, but passing

F Failure

Special Grades

I Incomplete

Q Deferred grade

S Satisfactory

U Unsatisfactory

P Passed

T Credit By Exam

TR Transfer Credit

N Audit (no credit)

The plus/minus system of letter grades took effect with the 1992 fall semester. Before then, the only regular letter grades were A, B, C, D, and F. Individual faculty members may choose to continue using single letter grades and not award plus/minus grades.

In certain cases, a grade of D may not be considered passing; and you may be required to repeat the course by your major department.

Quality Point Average (QPA)

Your quality point average or QPA is determined by assigning numerical values to the letter marks and weighing them according to the number of class hours. The values assigned to the letters are:

A 4.0 quality points

A- 3.7 quality points

B+ 3.3 quality points

B 3.0 quality points

B- 2.7 quality points

C+ 2.3 quality points

C 2.0 quality points

D 1.0 quality points

F 0.0 quality points

To calculate your QPA, follow these steps:

1. Compute the number of quality points earned for each course by multiplying the value of your letter grade by the number of credits earned. For example, your grade of B+ (3.3 points) in a 3-credit course earns you 9.9 quality points.
 2. Add up the quality points earned in all your classes.
 3. Add up the number of credits attempted in all your classes. This total should include all classes in which you received a regular letter grade (A through F).
 4. Divide the total number of quality points earned by the total number of credits attempted. This is your QPA.
- Only courses in which you received a regular letter grade (A through F) are used in calculating your QPA. Courses you have repeated will have an impact on the way your QPA is calculated. See the section on Repeated Courses for details.

The following example illustrates how to calculate your QPA for one semester:

Course	Credits	Grade	Qty. Pts. Earned	
1st subject	3	B-	$3 \times 2.7 =$	8.1
2nd subject	3	A	$3 \times 4.0 =$	12.0
3rd subject	3	F	$3 \times 0.0 =$	0.0
4th subject	4	B	$4 \times 3.0 =$	12.0
5th subject	3	B	$3 \times 3.0 =$	9.0
Total	16			41.1

Quality Point Average = $41.1/16 = 2.56$

Your *semester QPA* is the average for one semester or summer term, while your *cumulative QPA* refers to the average for all courses completed at Shippensburg.

Temporary Grades ('Q' and 'I')

The grades 'Q' and 'I' are temporary grades, which mean you have not completed all the requirements for a particular course. Apply to your college dean if you are unable to complete the requirements of all your courses.

With prior approval of the appropriate dean, the grade of Q (deferred grade) may be awarded for courses such as research, thesis, and internship, which are designed to extend over more than one grade period. If you receive a Q grade in a course, you should work closely with the instructor to plan a schedule in order to complete the work within a specified time period (maximum of three years) or the grade will convert to an F.

The grade of I (incomplete) should only be requested if you have successfully completed a majority of the work for the course and due to overwhelming and unavoidable circumstances that are beyond your control (e.g., serious illness, death in the family), you are unable to complete all the requirements of the course. Being awarded an I is a privilege not a right of the student and the decision to grant an incomplete grade rests solely with the course instructor. When permission is granted by a faculty member, the approval signature affirms that the remaining assignments/requirements will be communicated to the student.

Stipulations regarding incomplete grades:

- Students should rarely request an incomplete grade.
- You must be passing the course and be able to complete the remaining course assignments without attending additional classes or needing additional instruction from the faculty member. Incomplete grades are typically

awarded near the end of the semester when only a small amount of graded materials is required of the student.

- If you do not complete the work for a course in which you received a grade of I by the last day of classes (before final exam week) of the next full semester, you will receive a grade of F for that course.
- If the student is failing a course, an I cannot be awarded in place of the failing grade.

Incompletes can be extremely problematic:

- You cannot graduate from the university with a temporary grade on your record.
- An incomplete grade does not prevent academic action for dismissal.
- Incomplete grades affect the number of credits earned in the short term and may have an impact on financial aid eligibility, athletic eligibility, or visa status for international students.

Satisfactory-Unsatisfactory Option

The grades S and U are used for courses that are taken under the satisfactory-unsatisfactory option. If you have completed at least one academic year (30 semester hours) at Shippensburg University and are maintaining a cumulative QPA of 2.5 or better, you may schedule up to a maximum of three credits (or one four credit course) per semester under the satisfactory-unsatisfactory option. Transfer students with more than 30 semester hours accepted in transfer may adopt the satisfactory-unsatisfactory option for their first semester at Shippensburg.

Certain policies and procedures pertain to this option:

- You may adopt or rescind the satisfactory-unsatisfactory option during the first two weeks of the regular fall or spring semester. No changes may be made after the deadline. Only full-time students are eligible. You must visit http://www.ship.edu/Registrar/Registrar_Office_Forms/ to submit the online web form to request this option.
- The maximum number of credits you may schedule under the satisfactory-unsatisfactory option while attending Shippensburg University will not exceed ten.
- Only courses taken outside your major and/or minor field may be scheduled on the satisfactory-unsatisfactory basis. Courses in the professional education sequence are considered a part of major requirements and therefore may not be taken satisfactory-unsatisfactory. Independent study may not be taken satisfactory-unsatisfactory.
- Under this option, you will not be identified to the instructor of the course and all students will continue to be graded on a letter basis. Grades will be submitted to the registrar's office, which will convert grades to satisfactory-unsatisfactory when applicable. Satisfactory shall be defined as A, B, or C on the conventional grading system and shall be recorded on the transcript as S (satisfactory). If you receive a D or F grade you will have this grade recorded on the transcript as U (unsatisfactory). The transcript will include a legend explaining the satisfactory-unsatisfactory grading system.
- Grades received from courses taken on the satisfactory-unsatisfactory basis will not be used in determining the cumulative quality point average. If you receive a grade of S, the credits earned will be recorded toward graduation requirements; however, no credit will be earned if a grade of U is assigned.
- You may not schedule more than one course on a satisfactory-unsatisfactory basis in a given department or in a required sequence of course offerings within a major. The five required courses in general education may not be taken on a satisfactory-unsatisfactory basis.
- You may select the satisfactory-unsatisfactory option during the summer or winter terms if you are a full-time student during the regular semester. No changes to the satisfactory-unsatisfactory option may be made after the drop period for any summer or winter term.

Other Types of Grades

A grade of P is given for courses where you successfully complete the requirements of the course and a letter grade is not appropriate. Examples of such courses include internships and other field experiences. If you register for such a course and do not complete the requirements, a grade of F will be given.

T grades are used to indicate credits earned through examination rather than by attending classes. See the section Credit by Examination for details.

Credits you earn at another institution that are accepted towards your degree at Shippensburg are indicated with a grade of TR. See the Transfer Credits section for further details.

Credits earned with grades of P, T, or TR will be counted towards the total number of credits required for your degree, but they are not used in calculating your QPA.

A grade of N indicates you have audited a class. When you audit, you can attend class and participate in class activities, but you do not receive academic credit. You may audit a course by receiving the written permission of the instructor and approval of your dean on an audit form. This form must be returned to the registrar's office during the first week of the semester. You must schedule and pay the regular fee for any courses you audit, and you may not receive credit or a grade for these courses at a later date.

W grades indicate courses from which you withdrew. Further information may be found in the Withdrawal from a Class section.

Academic Progress and Standing

Your progress in each class is regularly evaluated by the instructor of the course. Instructors schedule regular office hours to allow you to confer regarding academic achievements or particular problems with course work. At the end of each semester a final grade is recorded on your permanent record for each course taken.

Students are officially classified according to the number of credit hours completed as follows:

Freshman	0-29 credit hours
Sophomore	30-59 credit hours
Junior	60-89 credit hours
Senior	90 or more credit hours

Students classified as juniors or seniors are considered to be upperclassmen.

Issuance of Grades

In accordance with the Family Educational Rights and Privacy Act, commonly known as the Buckley Amendment, students are provided with privacy safeguards of their educational records. The university provides reports of progress including grades, written evaluations, and letters of warning. You may have access to all information pertaining to your educational records and academic status.

During your academic career, you will receive early warning reports. These reports, which do not become part of your academic record, are intended to warn you about classes you are in danger of failing. The early warning reports are posted on the myShip portal, and a notification of availability of early warning grades is sent to your university e-mail account.

Dean's List

A dean's list is published at the end of each semester of the academic year. It includes the names of those full-time students whose semester QPA is 3.50 or better. Only the course work completed in the current term is considered in computing this score. The achievement of the high academic status, which this listing represents, is a great honor to the student's ability and willingness to work.

If you are a part-time student, you are eligible for dean's list any semester in which you have a QPA of 3.50 or better in the last 15 or more sequential credits of part-time work, including summer and winter term courses, if taken. These credits must have been earned since your last inclusion on the dean's list. You must apply to your academic dean to have part-time dean's list honors recorded on your academic record.

Grade Appeals Procedure

(I) Introduction

An undergraduate student contemplating filing a grade appeal understands that consistent with the practice of academic freedom, faculty bear responsibility for assigning course grades in accordance with professionally acceptable standards which have previously been communicated to students verbally or in writing. At the same time, students have a right to ensure that grades are calculated accurately and consistently, fairly and equitably, and without discrimination.

Note: *Any grade appeals or grade change requests initiated on the basis of alleged academic dishonesty shall be handled under the procedures set forth for academic dishonesty discussed later in this chapter.*

(II) Basis for Appealing a Final Course Grade

Undergraduate students may appeal a final course grade assigned to them by an instructor based on one of three conditions:

1. The course instructor miscalculated the final course grade.
2. The course instructor committed an oversight in calculating the final course grade.
3. The course instructor acted in an arbitrary, and/or capricious manner in assigning grades to the student, including the final course grade.

For an instructor to act in an arbitrary and/or capricious manner in assigning grades is defined as follows:

- a. The instructor assigned a course grade to a student on some basis other than performance in the course
- b. The instructor assigned a course grade to a student by resorting to unreasonable standards different from those which were applied to other students in that course
- c. The instructor assigned a course grade to a student in a manner that represented a substantial, unreasonable, and unannounced departure from the instructor's previously articulated standards.

(III) Selection and Composition of the Academic Appeals Committee

The Academic Appeals Committee of the department shall consist of a minimum of three regular tenure-track faculty members in the department (excluding the department chairperson) and an equal number of undergraduate students who are majors in the department, with a faculty member and student serving as co-chairs. In the event a faculty or student member of the Academic Appeals Committee is a party in a grade appeal, an alternate previously selected shall serve in his or her place.

Within the first week of the fall semester, each academic department shall elect at least three faculty members and one faculty member alternate to serve on the Academic Appeals Committee for the academic year and designate three undergraduate students and one undergraduate alternate enrolled in the academic department to serve on the Academic Appeals Committee. Each academic department shall develop a standard process for selecting student members for the Academic Appeals Committee. By the end of the first full week of the fall semester, the names of the faculty and

student members of the Academic Appeals Committee and alternates selected for each academic year shall then be forwarded to the dean's office of the college within which the department is located. In the event a department lacks sufficient faculty to staff the Academic Appeals Committee and provide a faculty alternate member, it shall notify the dean of the college in which the department is located. The Dean's Office shall provide assistance in identifying a suitable pool of faculty from the college to staff the Academic Appeals Committee and provide an alternate member for the committee if the need should arise.

(IV) Timetable and Procedures for the Grade Appeal Process

Compliance with all timelines set forth in this policy is required.

A student may initiate a grade appeal within thirty (30) calendar days following the first day of the next regular (fall or spring) academic semester. However, appeals from the winter term shall be filed within sixty (60) calendar days following the first day of spring semester; appeals from the summer terms shall be filed within thirty (30) calendar days from the first day of fall semester. Should the deadline for completing a step in the grade appeal process set forth below fall on a day the university is not open for business, that deadline shall be moved to the next date the university is open for business

In the event a faculty member, department chairperson (or chair of the department's Professional Affairs Committee if necessary) fails to comply with the timelines or procedures set forth in this policy, the student shall have the right to appeal to the dean of the college in which the appeal has arisen. If the dean determines the student's rights under this policy have been violated he or she shall direct the department to schedule the Formal Grade Appeal Hearing in a timely fashion consistent with the intent of the policy.

A. Meeting with the Faculty Member Assigning the Final Course Grade-Following notification of a final grade assigned in a course a student disagreeing with a final course grade shall meet informally with the course instructor at a mutually acceptable place in an effort to resolve the matter, prior to resorting to the formal appeal process.* Either party may choose to have another person present at this meeting. This informal meeting between the student and the faculty member assigning the disputed grade shall occur no later than thirty (30) calendar days following the onset of the next regular (fall or spring) academic semester.** If the faculty member finds in favor of the student, a grade change will be sent to the Registrar's Office after the department chair has signed the grade change form. A copy will be sent to the student. However, if the faculty member decides the grade as given was correct, the student will be notified in writing within seven (7) calendar days. Students who are not satisfied with the results may initiate a formal appeal of the final grade assigned in the course, as outlined below.

**In the event the faculty member assigning the final grade in the course is no longer an employee of Shippensburg University the student desiring to appeal a course grade shall meet with the department chairperson to establish procedures consistent with this policy and past practice for entertaining the desired grade appeal.*

***Shippensburg University policy permits faculty members to change grades if there has been a miscalculation or oversight in grading, but not on the basis of additional student work or revision of previously accepted work.*

B. Initiating a Formal Grade Appeal-A student wishing to formally appeal a final course grade based on the factors listed in Section II, Basis for Appealing a Final Course Grade, must file a written appeal with the chairperson of the academic department home to the course whose grade they are seeking to appeal no later than thirty (30) calendar days following the first day of the next regular (fall or spring) academic semester. Appeals from the winter term shall be filed within sixty (60) calendar days following the first day of spring semester; appeals from the summer terms shall be filed within thirty (30) calendar days from the first day of fall semester.

Formal appeals from the spring semester and summer terms shall be filed no later than thirty (30) calendar days from the first day of the fall semester; formal appeals from the fall semester shall be filed no later than thirty (30) calendar days from the first day of the spring semester; formal appeals from winter term shall be filed no later than sixty (60) calendar days from the first day of spring semester. Failure to meet the deadline for formally filing a grade appeal shall result in the forfeiture of a student's appeal rights.

A student wishing to pursue a grade appeal shall by this date*** submit to the department chairperson (or chair of the department's Professional Affairs Committee in the event that the student is appealing a grade assigned by the department chairperson) the completed grade appeal form, signed and dated, and supporting documentation which sets forth the basis for the appeal and the desired resolution. An undergraduate grade appeal form may be obtained in the department office of the major/program where the appeal is filed or from an academic dean's office. Formal Grade Appeals may not be filed electronically; a fax with legal signature is acceptable.

****Both the informal attempt at resolving the disputed grade with the faculty member assigning such grade and the formal initiation of the formal grade appeal must be completed no later than thirty (30) calendar days following the first day of the next regular (fall or spring) academic semester. Winter term formal appeals must be initiated no later than sixty (60) days following the first day of the subsequent spring semester.*

C. Meeting with Department Chairperson-Within seven (7) calendar days of receiving a completed grade appeal form, the department chairperson (or designee) will notify the faculty member that a formal appeal has been filed and shall meet individually and/or jointly, if useful, with the student and the faculty member to discuss the disputed grade in an effort to mediate an amicable resolution to disagreement over the final grade assigned. Such meeting(s) may occur in person or via conference call if necessary. The mediated result must be given in writing to both the student and faculty.

D. Formal Departmental Grade Appeal Hearing-If the student finds that the mediated effort fails to address his or her concerns or achieve the desired results, he or she must notify the department chairperson in writing within fourteen (14) calendar days of the meeting with the department chairperson (or designee) of his or her desire to continue on to the formal grade appeal hearing before the Academic Appeals Committee of the department. Failure to meet this fourteen (14) day deadline for proceeding with the formal grade appeal shall result in the forfeiture of a student's appeal rights.

1. Scheduling of the Academic Appeals Hearing-Upon notification by the student of his or her desire to continue with the appeal, the Academic Appeals Committee shall have fourteen (14) calendar days to conduct a hearing on the matter and to issue its findings and recommendations.
2. An equal number of students and faculty, but in no case fewer than four members, shall be present at the Appeals Hearing.
3. Conduct of the Academic Appeals Hearing-The chairpersons of the Academic Appeals Committee shall have sole responsibility for the conduct of the hearing. Prior to the hearing the student shall submit to the committee a written statement setting forth the issue(s) in the dispute and the desired resolution. Only the student and the faculty member in the dispute have the right to attend the hearing. Both the student and faculty member involved in the grade appeal shall have the right to be present during the grade appeal hearing itself. Both the student and the faculty member have the right to introduce materials into the hearing that are directly relevant to the assignment of the final grade in the course, including such items as:
 - Course syllabi as given to the student
 - Graded assignments such as, but not limited to, journals, research papers, group projects, examinations
 - Other material relevant to the determination of the student's final course grade

E. Decision of the Academic Appeals Committee-Only members of the undergraduate Academic Appeals Committee shall be present during the discussion of and deliberations on the outcome of the student's grade appeal. The Academic Appeals Committee's deliberations shall be viewed as confidential and no transcripts, notes, or records shall be made regarding their discussion other than a record of their final decision. The record of the final decision will be maintained in the department office for three years. The committee has the power to decide the outcome of the final grade dispute by simple majority vote taken by secret ballot. A tie vote upholds the faculty member's decision in the case. If the committee sustains the appeal (i.e., rules in favor of the student) a grade change form will be sent to the Registrar's Office after being signed by the department chair. With the exception of the grade, no part of these proceedings will become part of the student's official academic record. In addition, no part of these proceedings will become part of the faculty member's record or file. The evidence, proceedings, and the final decision of the Academic Appeals Committee shall remain confidential.

(V) Request for Reconsideration

A student whose grade appeal has been denied may file a written request for reconsideration within seven (7) calendar days with the appropriate academic dean of the college in which the academic department is housed upon the following grounds:

1. The student can demonstrate substantial procedural irregularities or inequities in the conduct of the hearing.
2. The student provides substantial new evidence that was not available at the time of the hearing that would have had a bearing on the outcome of the appeal.
3. The student is able to demonstrate that the Academic Appeals Committee's decision was erroneous or unfair.

In the absence of a written request for reconsideration of the committee's decision filed with the appropriate academic dean in the college wherein the appeal arose within the specified seven (7) day period, the committee's initial findings and action on the appeal filed shall be final.

(VI) Reconsideration of the Academic Appeals Committee Determination

Within seven (7) calendar days of the request for reconsideration, the academic dean of the college in which the grade appeal arose shall determine whether a compelling reason has been presented for setting aside the initial decision of the Academic Appeals Committee. If the dean finds that a compelling reason exists to take such action he or she may direct the committee to reconsider their findings and determination or take other appropriate action consistent with the guidelines. If the dean does not find a compelling reason to ask the Academic Appeals Committee to reconsider, the dean communicates with the student and this record will be maintained by the dean's office for three years.

Upon direction from the dean, the departmental Academic Appeals Committee shall have ten (10) calendar days to reconvene and reconsider their initial decision on the grade appeal. The committee in undertaking such review and reconsideration shall examine and take into account the concerns raised by the dean.

The decision of the Grade Appeals Committee, following review and reconsideration, shall be final.

Academic Standards and Policy on Probation, Continuing Probation, and Academic Dismissal Status

Students admitted to the university are expected to maintain satisfactory academic standing, which requires a cumulative quality point average (QPA) of 2.0 (C) or better in their total program of courses and minimum 2.0 in the course work of their major areas of specialization.

The Registrar's Office reviews the academic progress of students at the end of each semester and places those students who fail to maintain a cumulative QPA of 2.0 or better on academic probation or dismissal. Students who do not meet the required quality point average may be granted one probationary semester in which to raise their average. Students who show academic progress, i.e., greater than a 2.0 semester QPA, may be continued on academic probation.

Any student who fails to meet the conditions of academic probation is subject to dismissal. A student whose adjusted cumulative average beyond the first semester falls below 1.7 or whose semester average is below a 1.0 is subject to immediate dismissal unless the overall QPA remains at 2.0 or above. A first-year student must pass at least 3 or more credits of the courses attempted during his or her first semester or he/she will be academically dismissed for a minimum of one academic year.

A student cannot be considered for readmission to the university for at least one calendar year following dismissal. A decision to readmit is made only when a student presents compelling evidence of some fundamental change which allows the student to perform academically at the level needed to graduate. Typically, this would include at least three transferable courses taken at another accredited institution of higher education, resulting in a grade point average of at least 2.5. Courses for which a student has received a D or F grade at Shippensburg can only be repeated at Shippensburg and any specific courses taken at another institution must have prior approval of the academic dean. If a

student has been dismissed twice for academic reasons, including when a dismissal appeal has been granted, he/she is ineligible for readmission to the university for at least five years, when he/she may be considered for academic forgiveness upon readmission.

Notice and Appeal

If you are placed in one of these categories (probation or dismissal), you will be notified in writing and via email by the registrar's office. If you are academically dismissed you may appeal your dismissal by writing a letter to your academic dean by the date indicated in the letter from the registrar. Appeals should be accompanied by appropriate written documentation. All appeals will be considered by the Academic Review Committee.

Withdrawal and Leave of Absence

If you decide to withdraw from the university, you must contact your academic dean. The dean's office will process your withdrawal and assist you if you intend to return to the university at a future date.

If you are in good standing with a cumulative QPA of 2.0 or better, you may apply to your academic dean for a leave of absence. This would permit you to return to Shippensburg University without having to apply for readmission. Leaves may be granted for up to one year.

When a leave of absence is granted, you must contact your academic dean before you return in order to schedule classes. If you do not return to the university within one year, you must apply for readmission.

Involuntary Withdrawal

Occasionally a university physician and a licensed counseling psychologist determine a student has medical or psychological problems that make it impossible to function effectively in the university environment. The following involuntary withdrawal policy is necessary in those cases where a student in that condition refuses to voluntarily withdraw from the university.

In those cases where counseling or medical evaluation indicate it is necessary for a student to withdraw from Shippensburg University and the student refuses to withdraw voluntarily, an involuntary withdrawal may be imposed by the vice president for student affairs upon the recommendation of a university physician and a licensed counseling psychologist.

A copy of the involuntary withdrawal letter will be forwarded to the Registrar's Office and will become part of the student's official file. When evidence is presented to the director of health services and the director of counseling services that the health condition has been satisfactorily resolved, the student may seek readmission. The student may be readmitted after filing a formal application for readmission and upon recommendation of the director of counseling services and the director of health services.

Readmission of Students

If you would like to return to the university and were not on an approved leave of absence or if you were dismissed or withdrew for academic reasons, you must file a formal application for readmission with the Registrar's Office. The application and fee must be submitted by one of the following dates: May 1 if requesting readmission for summer session; July 15 for the fall semester; November 1 for the winter term; or December 1 for the spring semester.

If you were in good standing at the time of your withdrawal, your application will be reviewed by your academic dean and other university officials, if necessary. Readmission may be denied or deferred if university enrollment is full or if you are applying for a program that is restricted or closed.

If you were dismissed or withdrew for academic reasons, you will not be considered for possible readmission for at least one calendar year following your dismissal or withdrawal. If a student has been dismissed twice for academic reasons, including when a dismissal appeal has been granted, he/she is ineligible for readmission to the university for at least five years, when he/she may be considered for academic forgiveness upon readmission.

Readmission is never guaranteed following academic dismissal. It may be granted only if you present compelling evidence of some fundamental change that will then allow you to perform academically at the level needed to graduate. Approval of the Academic Review Committee is required.

If you are readmitted within one year of leaving the university, you will be subject to the academic policies and requirements that were in effect at the time of your original matriculation date as defined at the beginning of this chapter. After one year, your academic dean may determine current policies and requirements (in whole or part) will be applied.

Academic Forgiveness

Former Shippensburg University students may request the Academic Review Committee to consider them for academic forgiveness. If you have an unacceptable QPA for readmission and you have withdrawn from the university for at least five years, you may request your previous record not be calculated in your QPA for subsequent course work at Shippensburg.

Under academic forgiveness, previous course work at Shippensburg in which you received at least a C and which is appropriate in meeting current requirements will be treated as transfer credit. The grades will appear on your academic record, but they will not be calculated in your QPA. If you are approved for readmission under this program, you will be considered as newly matriculating; and you will be subject to all policies and requirements in effect at the time of your new matriculation.

Graduation Requirements and Majors

As a fulfillment of its obligation to higher education, Shippensburg University has established high standards of achievement and promise for its students, which must be met without question before graduation is approved by the university's faculty or administration. Specific requirements relating to general education and individual majors may be found in the chapter, University Curricula. The university has established certain academic requirements for all students seeking a bachelor's degree.

Requirements for Graduation

In order to graduate you must meet the following requirements:

- The completion of a minimum of 120 credit hours in the selected curriculum. Note: Developmental course work does not count towards the 120-credit minimum. If your program includes developmental course work, your degree program will require more than the 120-credit minimum.
- The completion of all general education courses and the course sequence requirements in effect in the selected curriculum
- A cumulative QPA of at least 2.0 (C average) for the total program of courses
- A QPA of at least 2.0 (C average) in the academic sequences or majors

- In the case of teacher education students, a satisfactory history of development in student teaching
- The resolution of all outstanding judicial and/or academic dishonesty matters
- Completion of all final course work

To receive a bachelor's degree you must complete a minimum of 30 credit hours of work at Shippensburg, where those 30 credits must be completed within your last 60 credit hours of work at Shippensburg. At least one half of all courses in your major field must be completed at Shippensburg except where program requirements dictate a higher percentage of courses in the major be completed here. Students in programs requiring off-campus instruction may be exempted from this requirement by the provost.

It is your responsibility to make certain all requirements for graduation have been met. An application for graduation must be filed with the Registrar's Office prior to the beginning of your final semester. Applications will be reviewed by your academic dean, and you will be notified if there are any problems.

Commencement ceremonies are generally held on the Saturday at the end of final examination week. Students who complete all graduation requirements during the fall or spring semester are expected to participate in the commencement ceremonies at the end of the semester in which they complete all requirements for graduation. Students who, at the completion of either the fall or spring semester, are within six credits of completing their degree requirements may petition their academic dean's office to participate in the preceding semester's commencement ceremony. Final approval is given by the Provost's Office. Approval will be granted when there is evidence that the student will be unable to attend the ceremony following completion of all requirements.

Students who complete all graduation requirements in the summer are expected to participate in the commencement ceremony at the end of the spring semester. Students who meet those requirements in the winter are expected to participate in the commencement ceremony at the end of the fall semester. Students who are completing their degree requirements at the end of the summer or winter may petition their academic dean's office to participate in the commencement ceremony immediately following the completion of their requirements. Final approval is given by the Provost's Office. Approval will be granted when there is evidence that the student will be unable to attend the ceremony directly preceding the completion of all requirements.

Graduation Honors

Students with appropriate academic records may be graduated with one of the following distinctions. Such recognition becomes a permanent part of every graduating senior's record, with designation based upon the following cumulative QPA: *Cum Laude* (3.40 or better), *Magna Cum Laude* (3.60 or better), *Summa Cum Laude* (3.80 or better).

Graduation honors will be noted in the commencement program if you have attained the appropriate QPA at the time you apply for graduation. A list of students with honors is posted in the registrar's office for review. Honors posted on your permanent record will be based on your final cumulative QPA.

Transfer students who have earned at least 15 semester hours at Shippensburg University at the time they apply for graduation will be eligible for honors recognition in the commencement program. Transfer students who have earned at least 30 semester hours at Shippensburg University by the end of their program of study will be eligible for graduation honors to be posted on their permanent record.

Major Field of Study

You may declare a major field of study during the admissions process or you may choose to remain undeclared and select a major at some point during your first three semesters at Shippensburg University.

In deciding on a major, you may receive personal and academic advisement and guidance from your faculty advisor and from your classroom professors who maintain regularly scheduled office hours for this purpose.

Each department chair arranges for the assignment of declared students to faculty advisors who will help students as they plan their academic programs. When you have declared a major field of study, your departmental academic advisor will review your academic record and assist you with the selection of a schedule of courses for each semester prior to registration.

Selecting a Major

Many students select a major field of study prior to beginning their freshman year. If you have chosen not to declare a major prior to matriculating at the university, you are considered undeclared and you will be assigned an advisor by the dean of the School of Academic Programs and Services. This advisor will assist you in preparing an appropriate schedule of predominantly general education courses. These courses should be acceptable as general education background for any major you eventually select. Undeclared students are cautioned that any specialized courses they take which are not listed as general education may not be applicable in the major field eventually chosen.

If you are undeclared, you should select and declare a major program by the middle of your sophomore year. In some majors, such as those of the natural sciences and education, it is essential the declaration be made even earlier so as to allow adequate time to schedule the required courses to graduate in four years.

You should begin the selection process early. The more time you spend exploring majors and preparing for your career, the easier it will be to make the right choice. To help you select a major visit the Office of Undeclared Students website at www.ship.edu/undeclared.

You should be aware there is no assurance you will be able to declare any program you choose. Programs with limited capacity may be restricted or closed. The key to improving your ability to declare any major is your academic performance. If you earn good grades (a 3.0 or higher), you will have more and better choices.

Make It Count

Finish in Four

Your time and money are valuable. When you make every class and credit count to finish your Ship degree in four years instead of five or more, here's what you save or receive.

1. **Classes** - Make your classes count toward your degree. You've paid for it; don't waste it with a Withdrawal. Attend class, engage in discussion, and participate in your learning.
2. **Credits** - Take 15 credits a semester, 30 per year, to finish your degree on time in four years. Work with your academic advisor to develop a plan to take 15 credits per semester or 30 in a calendar year, and revise it every semester until you graduate.
3. **Money** - In-state students who finish their degree in four years instead of five save about \$20,000 and avoid additional school loan debt.
4. **Time** - When you finish in four instead of five you can start grad school or your career sooner... and you'll make your parents very happy.

Changing Majors

Changing from one major into another major field of your choice is not automatic or guaranteed. The change is subject to the approval of the dean of the college in which the new or intended major is located following a review of your academic record prior to the request. All submitted requests for and processing of changes in declarations of majors and minors can take place at any time except during scheduling, which includes schedule clean-up, and the two weeks prior to scheduling (typically an eight to nine week period). A change of major is permitted only when you meet university and departmental qualifications for transfer and when no program enrollment restrictions apply.

To change from one college within the university to another you must meet certain conditions. You may not have any F grades in courses applicable to the new program. Your cumulative QPA must meet any requirements set by the new department and you must receive approval of the appropriate college dean.

You should also be aware if you have accumulated more than 60 credit hours, you may change from one division to another only if you have the agreement of all appropriate deans and you understand you might lose a significant number of credit hours which would not be appropriate for graduation in the new curriculum.

To be graduated from the university, any student changing majors must meet the requirements of the curriculum to which he or she is transferring.

Dual Degrees

Dual degrees are earned when students enroll in programs that have different degree designations, such as a B.S. and a B.A. If you wish to simultaneously pursue two bachelor's degrees, you must consult with the dean and department chair of your primary program of study as to the procedure to be followed. Where such an option is available, students intending to opt for two degrees shall be required to take a minimum of 150 credit hours and complete the prescribed specified courses in each respective program of study.

Double Majors

Double majors are earned when students enroll in programs that have the same degree designations, such as both programs are a B.S. or both programs are a B.A.

If you wish to pursue a second major, you must consult with the dean and department chair of your primary major as to the procedure to be followed. Students intending to opt for two majors shall be required to take a minimum of 120 credits and complete the prescribed specified courses in each respective major. Only one (three credit) course may be double counted toward both majors. Exceptions will be made for students majoring in the departments of biology, chemistry, computer science and engineering, economics, mathematics, and physics because of the large number of duplicate requirements in each of these fields. Double majors must share the same degree designation. Interdisciplinary majors declaring a second major in a related discipline may double-count a maximum of 12 credit hours between the requirements of their two majors. Courses fulfilling general education requirements of both majors may be double-counted without restriction.

Second Baccalaureate Degree

It may be desirable for certain students, who already hold a baccalaureate degree, to obtain a second baccalaureate degree in a different or related field. Where such an option is available, you are expected to complete a minimum of 30 credit hours in courses not included in your original degree (usually these credit hours are in the new major) and any other requirements for the second degree, which cannot be equated to courses taken in the first degree program. To exercise this option you must be admitted through the Office of Admissions.

Minors

An academic minor is an organized program of study that comprises the fundamental requirements of an academic major (core and cognate courses) equivalent to a minimum of 18 semester credit hours. As a secondary field of study, the academic minor should reflect a minimum of six credits of advanced standing coursework from the academic major. Exceptions to the advanced standing requirements may be granted on a case-by-case basis per request to the

chancellor. If you are interested in electing a minor, you should confer with the chair of your major department and the dean of your college. A full list of minors is available on the Programs of Study page.

It is possible to have more than one minor. Only six credit hours taken in one minor may be counted toward the fulfillment of another minor.

A minimum of a 2.0 QPA in the minor is the university requirement for the granting of a minor. At least 50 percent of the minor must consist of coursework completed at Shippensburg University.

Academic Requirements for Undergraduate Certificates

Undergraduate Certificates awarded by Shippensburg University have the following common denominators:

- Must be a minimum of 9 credits
- Minimum required QPA for courses satisfying the requirements: 2.0
- Courses may not be taken on a satisfactory/unsatisfactory basis
- Half or more of the courses must be taken at Shippensburg University
- Only six credit hours taken for one Certificate may be counted toward another Certificate

Earning Academic Credits

You may earn academic credits at Shippensburg University in several ways: by taking normal course work at the university, through the Advanced Placement Program, through credit by examination, and by taking courses at other accredited institutions for transfer back to Shippensburg University.

Registering for Classes

The normal semester hour workload varies between 15 and 18 credit hours. Students with less than 12 credit hours are classified as part-time. To take more than 17 credit hours in a semester you must have approval of your academic dean. If you schedule 19 or more credits, you must pay an additional per credit fee (see section on Fees). Freshmen may not take more than 17 credit hours during their first semester.

Current students may register for classes at the university during the registration period held each semester for the next semester or during official schedule adjustment periods. New students (freshmen and transfers) will schedule their first semester classes at a special orientation session prior to the beginning of their first term.

If you have an outstanding obligation to the university, a hold may be placed on your account and you will not be permitted to schedule. Reasons for holds include but are not limited to: unpaid tuition or fees, health form not submitted, placement test not taken, unpaid library fines, parking fines, and final transcripts not submitted. You will be notified in writing about these obligations before a hold is placed. It is your responsibility to satisfy the obligation with the office that placed the hold before you will be allowed to schedule.

Even though you may be scheduled for classes, you must also meet all financial obligations by clearing your semester bill with full payment or by notifying the Student Accounts Office of any anticipated financial aid. If you do not pay or clear your bill by the stated deadline, your schedule of classes may be canceled.

Satisfying Your Bill

It is the policy of Shippensburg University that students who fail to make appropriate, acceptable payment arrangements by the published deadline will have their semester schedule canceled.

When a schedule is canceled, the student may attempt to reschedule in the Registrar's Office, subject to space availability in the classes. Payment is required at the time of re-registration.

Students who have not registered and satisfied their bill for class(es) by the end of the W grade period will not receive any credit or grades for the course(s). Payment cannot be made and a grade retroactively assigned.

First Day Attendance

If you are unable to attend the first class session of a course in which you plan to remain enrolled, you must give notice of your intended absence to the instructor, academic department secretary, or academic dean's office of that course. Failure to provide such notification may result in your name being removed from the roster by the instructor and your place in that class being given to another student. If you do not attend the first day of class, you cannot assume, however, that you have been dropped from this class. It is your responsibility to verify your enrollment status by checking your schedule on the myShip portal.

Class Attendance

At Shippensburg University, your participation in class is viewed as essential to the teaching/learning process. Therefore, it is expected you will miss classes infrequently and only for good reason.

Each instructor shall state the course requirements including attendance expectations as part of the clearly written course information distributed at the beginning of each semester. An instructor must make provision for excused absences. However, if you elect to be absent from a class without being excused, you must be prepared to accept an evaluation for any graded activity, consistent with course requirements, which takes place at that session.

You will be held responsible for all material covered in classes. Only when an absence has been approved by the instructor, preferably in advance, will the instructor be expected to provide a makeup opportunity. Except under the most unusual circumstances, you are not permitted to make up a scheduled examination that has been missed.

Withdrawal from a Class

Courses may be added or dropped without penalty or record notation during the official schedule adjustment period. The drop and add periods extend to the eighth calendar day in a typical semester, excluding holidays, to adjust schedules. Dates for this schedule adjustment period will be announced by the Registrar's Office.

You may withdraw from a class through the tenth week of the semester subject to the restrictions listed here. Requests for withdrawals may be initiated online during the spring and fall semesters by full-time undergraduate students who have attended the university at least one spring or fall semester previously and who have not applied for graduation. All other requests for withdrawals must be initiated through your academic dean. Following the initial schedule adjustment period, any courses from which you withdraw will remain on your academic record and will be assigned a grade of W. You may not withdraw from a course in which you have been accused of or found guilty of academic dishonesty and have been assigned the penalty of an F grade for the course, according to the Academic Dishonesty policy.

You should be aware that if you drop or withdraw from the following courses, you may not be able to register for them in future semesters without permission: ENG 050 Basic Writing, ENG 114 Writing Intensive First-Year Seminar, ENG 113 Introduction to Academic Writing, ENG 115 Advanced Placement Writing, MAT 050 Developmental Mathematics, RDG 050 Developmental Reading and Study Skills, HCS 100 Introduction to Human Communication, HIS 105 Historical Foundation of Global Cultures, and HIS 106 Thinking Historically in a Global Age. The skills

learned in these courses are essential for successful progression through your academic degree and therefore you need to take these during your first year at Shippensburg.

You should carefully consider the ramifications before you withdraw from a course. Course withdrawal may delay your graduation and increase your costs by preventing you from accumulating the necessary number of credits or by disrupting the timing of a required sequence of courses in your major. If withdrawing from a course causes you to drop below 12 credit hours for the semester, you will be considered a part-time student, which may jeopardize financial aid, athletic eligibility, health insurance, and residence hall status. You should consult with your academic advisor, department chair, or dean before you withdraw from any course after the initial schedule adjustment period.

Should you withdraw from any class, it is your responsibility to do so officially, whether or not you have ever attended that class. If you do not attend and do not withdraw, your name will remain on the class roll until the final grading period and you will receive a grade of F for the course.

You may be allowed to withdraw from all your classes with grades of W after the normal withdrawal period if you provide your academic dean with clear medical evidence you are unable to continue your course work. It will be the determination of the dean whether this evidence is substantial enough to merit a medical withdrawal. Notification of a medical withdrawal must be received by the academic dean prior to the end of the current semester. Medical withdrawals are not permitted after the semester ends. If you receive a medical withdrawal, you will be eligible for a refund only if your withdrawal occurs within the time period normally allowed for refunds.

Repeated Courses

Students may avail themselves of the repeat/grade replacement option a total of six times. However, the most recent grade of the course will be used in the QPA calculation, regardless of whether that grade is higher or lower.

Students may repeat any course taken previously, no matter what letter grade was initially earned, and the most recent grade will replace the previous grade. Grade replacement of a repeated course is not limited to courses in which D and F grades were originally earned. If you repeat a passed course and fail, you will lose both the quality points and the credits you had previously earned.

A single course repeat for grade improvement will be limited to two times. The six repeats may include repeating six courses one time each, repeating three single courses two times each, or any combination which adds up to six instances where a single course is not repeated more than two times. After the sixth repeat instance, any additional course repeats will include both the previous and new grade in the QPA calculation.

Prior to any student athlete and/or any student with financial aid utilizing the repeat option, the student should ensure it will not jeopardize their status as a student athlete or their ability to receive financial aid.

A previously failed course may not be repeated through an online course.

A D or F grade earned at Shippensburg University may not be made up or replaced by credits earned at another institution of higher learning for the same course.

Online Courses

Undergraduate students must have a minimum of 12 credits and a 2.0 QPA prior to registering for an online course. A previously failed course (grade of F) may not be repeated through an online course. Students can schedule no more than 11 credits in online and/or face-to-face format per summer term. Students can schedule no more than 8 credits in online and/or face-to-face for the winter term.

Transfer Credits

If you wish to do work at another college or university for transfer credit back to Shippensburg University, you must first obtain approval of your academic dean. In order for transfer credit to be posted to your academic record, you must have an official transcript of the work sent to your dean for final review and approval. In general, a grade of C or better is required for transfer credit to be accepted. The transfer credit will appear on your transcript with a grade of TR and will not be used in calculating your QPA. Transfer credit will not be awarded to replace a D or F grade earned at Shippensburg University.

Advanced Placement Program

The university participates in the College Entrance Examination Board's Advanced Placement Program. Under this program, consideration is given to advanced credit and placement for those able and ambitious students admitted to the university who participate in this program in high school and who take the Advanced Placement Program Examinations.

The Advanced Placement Program, administered by the College Entrance Examination Board, is designed for all high school students who are about to enter college and who wish to demonstrate their readiness for courses more advanced than those most frequently studied in the freshman year.

Advanced classes are offered in many high schools in one or more of the following subjects: French, Latin, German, Spanish, English literature, English composition, American history, European history, chemistry, physics, and mathematics.

A national examination in each subject is administered in May by the Educational Testing Service, which is designed to test the competence of the student relative to the point at which college study could begin in that subject. The score required for credit and/or advanced placement is determined by the department chair along with the appropriate dean. Scores of 3, 4, or 5 generally will earn college credit.

College-Level Examination Program

The College-Level Examination Program (CLEP), administered by the College Entrance Examination Board, is utilized by the university primarily to evaluate nontraditional college-level education for the purpose of granting credit and placement. *This will apply particularly to adults who have acquired their knowledge and understanding through independent study, work experience, service schools, or from university courses taken years before.* The amount of credit and the score required for granting credit is determined by the appropriate dean. You may earn up to 30 credits through CLEP Examinations. Contact the Admissions Office for additional information regarding the test.

International Baccalaureate Program

The International Baccalaureate (IB) Program is an internationally recognized curriculum that offers 11th and 12th grade students an opportunity to earn the IB diploma. The IB diploma is a passport to higher education. The program is offered in over 800 public and private secondary schools in more than 100 countries around the world. To earn the diploma, students complete and test in six subjects; write an extended essay of independent research guided by a faculty mentor, complete 150 hours of creative, action, and service activities (CAS); and participate in a critical thinking course called Theory of Knowledge. This advanced, comprehensive program of study offers an integrated approach to learning across the disciplines with an emphasis on meeting the challenges of living and working in a global, technological society. Students who take IB courses without completing the entire program may earn IB certificates by testing in selected IB courses.

Shippensburg University recognizes the IB Diploma as well as IB Certificates.

Credit by Examination

If you are in good academic standing, you are entitled to request from your dean the opportunity to take a comprehensive examination in a particular course offered at the university if there is reasonable evidence you have covered essentially the same materials before in other classes or from private study and experience. The Credit by Examination form is available in the Registrar's Office. The \$80 administrative fee must be paid before the exam is administered. If you make satisfactory scores on the examination, you will receive full credit-hour credit toward meeting graduation requirements. The courses will be listed on your transcript with the symbol T in the semester in which the credits were awarded through examination.

Students with advanced high school courses recognized by the university are invited to request from the chair of the department in which the course is offered the opportunity to take examinations in the areas of special preparation.

Credit in Performance Areas

It is possible to earn academic credit through participation in certain musical performance areas. These include Brass Ensemble, Concert Band, Concert Choir, Women's Chorale, Inspirational Chorale, Jazz Ensemble, Madrigals, Marching Band, Orchestra, and Woodwind Ensemble. Students participating in these areas must schedule the appropriate course through the music department. All grades received in these courses will be included in your cumulative QPA; however, a maximum of three credits earned in performance areas can be counted towards graduation.

Requesting Transcripts

Shippensburg University has retained Credentials Inc. to accept transcript orders over the Internet. This option allows you to submit transcript requests 24 hours a day, 7 days a week.

Credentials Inc. has been appointed as the designated agent for processing and sending official electronic transcripts on behalf of Shippensburg University. This option is available to anyone attending Shippensburg University in 1992 or later. The PDF transcript that is produced using this service contains the identical information as the printed transcript and can be certified as unaltered by uploading the file to the company's website that is provided during the delivery process. Credentials Inc. has been granted the authority to deliver all such electronic transcript requests on behalf of Shippensburg University and respond to any inquiries regarding the transactions.

Requests for electronic transcripts cost \$8 per individual transcript. Requests for paper transcripts cost \$10 per individual transcript. Paper transcripts will be mailed within three (3) business days. Additional fees will be incurred if same business day or international mailing is required. All fees are outlined at the Credentials Inc. order site and will be summarized prior to your submission of your request.

Please click on the appropriate link below to enter your order.

- [Order Transcripts Online - Current Students \(with University ID and Password REQUIRED\)](#)
- [Order Transcripts Online - Alumni and Former Students \(without University ID and Password\)](#)

If you are uncomfortable placing an order over the Internet, you can call Credentials Inc. at 847-716-3005 to place your transcript request. There is an additional operator surcharge for placing orders over the telephone.

If you have placed an order through TranscriptsPlus, you may check the status of your order by navigating to the Credential's Self-ServicePlus screen.

[Click here to check the status of your order.](#)

Questions regarding this process should be directed to the Registrar's Office, located in Old Main 111. To contact the office call (717) 477-1381.

Academic Options

In addition to its regular academic programs, Shippensburg University provides a variety of academic options to interested and qualified students. These include independent study, internships and field experiences, the Honors Program, foreign study, graduate course work, and cooperative arrangements with other institutions.

Independent Study

Shippensburg University affords opportunity to deserving and capable students to engage in independent study related to their major field, a supporting area, or specialized interest. This program is highly individualized, related entirely to the student's preparation and interest, and the overall appropriateness of study as judged by the department and college dean.

Independent study must include some new experience of inquiry, evaluation, and/or creative activity. This experience must be one that is not available through an established course, including a course by appointment.

To be selected and approved for an independent study project you should have a cumulative QPA of at least 2.50. The faculty member you would like to work with must agree to oversee your project. You will also need approval from your department chair and academic dean as well as the faculty member's chair and dean. Final approval is required from the provost and senior vice president for academic affairs. You must register for the independent study project in the semester for which it is approved. The independent study must be accepted as a part of your student course load (not to exceed 18 credits per semester at the undergraduate level).

The acceptance of independent study students shall be voluntary on the part of the faculty member; however, when such students are accepted, at least five hours of faculty time per credit offered shall be made available upon request of each student. This time shall be outside the periods already allocated by the faculty member to classroom and office commitments.

In some unusual cases it is possible for independent study to span several semesters if the department chair(s) and college dean(s) are convinced of the need. A special designation by the dean will indicate approval for continuation of the independent study. A grade will be given during the semester of its completion only. At the time a grade is given, there should be a one-page written record of the completion and the evaluation of the independent study project prepared and signed by both the student and the faculty member. A copy should be placed in the college dean's office and, if desired, in the department office.

An independent study course may not be used to repeat or replace a course in which a grade of D or F was earned.

Individualized Instruction

In some cases, you may be able to earn credit for a course during a semester in which the course is not offered. If a faculty member is willing to work with you on an individual basis, you may apply for individualized instruction. These courses are generally restricted to students who have completed a substantial portion of their degree program and who need the particular course to complete their degree requirements.

Application forms for individualized instruction are available in your academic department or dean's office. Your course must be agreed to by the faculty member you would like to work with and then approved by your advisor or department chair as well as the faculty member's chair and dean. Final approval is required from the Provost's Office.

Individualized instruction may not be used to repeat or replace a course in which a grade of D or F was earned.

Internships

Experiential learning in the form of internships and field experiences is available to students in many areas of study. You should contact your academic advisor or department chair for information regarding these academic opportunities. When the department chair in your major approves an internship, you must schedule the appropriate number of credit hours and pay all course fees.

The Harrisburg Internship Semester (THIS)

During the fall and spring semesters, the university selects an undergraduate student to participate in The Harrisburg Internship Semester (THIS), sponsored by the Pennsylvania State System of Higher Education and administered by the Dixon University Center in Harrisburg. Students selected are placed with policy makers in state government offices and agencies. Each THIS intern earns 15 credits: 9 credits for the internship, 3 credits for a research project, and 3 credits for participating in an academic seminar. A stipend is involved.

To be eligible to apply, a student must have a 3.0 QPA and must have completed at least 45 credit hours. THIS is open to students from all majors. To apply contact the Provost's Office for the name of the THIS campus coordinator.

The Washington Center Internship Semester

Shippensburg University has a relationship with The Washington Center for Internships and Academic Seminars, an organization that provides quality internship experiences and academic seminars for credit, either in the regular term or during the summer. Participating students get 12-15 credits for both the internship and the course, which is transferred back in either a student's program or as an elective. Internships are available for virtually every major with over 4,000 companies, agencies, and organizations-federal, private, and non-profit.

The Washington Center has a new home. Its new Residential and Academic Facility is located near Union Station in northwest Washington, D.C., close to metro stations in the heart of the city. Students live in state-of-the art apartments with classroom space in the same building, along with a fitness center, computer lab, and common space. Each student has a program advisor who assists in setting up the internship placement and who monitors progress, career goals, and professional development.

Acceptance to the program is somewhat selective, and the application process requires letters of recommendation, an essay, and transcripts as well as the endorsement of the campus liaison. Students can read more about the program at <http://www.twc.edu>, or contact the Associate Dean of Arts and Sciences, the campus liaison for The Washington Center.

Honors Program

The Honors Program is dedicated to promoting scholarship, leadership, and service. The program is designed for academically motivated students who thrive in an atmosphere of creative learning and intellectual exploration. The University Honors Program involves students in every major at every class level. Honors courses at Shippensburg University are distinguished by their high levels of energy, participation, motivation, and expectations. They focus on innovative active-learning strategies, including discussions, debates, and simulations, that provide appropriate academic challenges for motivated, high-ability students.

The Honors Program provides numerous opportunities for students to enrich their undergraduate education by participating in study abroad programs, undergraduate research projects, and internships. Honors students are eligible to apply for the Honors Program study abroad scholarship, and they can earn Honors credits for their study abroad experiences. Each year, two Honors students are awarded full scholarships to participate in the Pennsylvania State System of Higher Education Summer Honors Program, which is held in diverse locations around the world, including France, Costa Rica, and South Africa. Honors students are also eligible to apply for Honors and university grants to support their undergraduate research projects.

The Honors Program not only helps students achieve their academic potential, but it also encourages their involvement in significant leadership and service opportunities. All Honors students are members of the Honors Student Organization (HSO). The HSO's officers and committee chairs organize service projects, recreational events, and cultural activities for Honors students. The Shippensburg University Honors Program is an active member of the National Collegiate Honors Council (NCHC), the national organization for Honors Programs, and Shippensburg University Honors students regularly attend and make presentations at the annual NCHC conferences.

To earn the University Honors Program designation, students who enter the Honors Program as first-semester freshmen must complete at least 36 Honors credits, including 24 credits of Honors general education courses, 9 credits of upper-division Honors coursework, and a 3-credit Honors capstone project. The curricular requirements for students who enter the Honors Program after the first semester of their freshman year are prorated based on consultation with the Honors director. Students must also maintain a 3.25 QPA overall and in their Honors courses and fulfill the program's participation requirement.

Additional information about the Honors Program, including the program application and back issues of the program newsletter, The Honors Chronicle , are available on the Honors Program website at www.ship.edu/honors.

Study Abroad

Shippensburg University encourages students in all majors to consider the value of a semester or year studying in a foreign country. The Study Abroad Program is designed to assist students in deciding if foreign study is appropriate and then help them to select a country, choose a program, complete the application process, and support them while they are abroad. The university has educational agreements with universities in the United Kingdom, Canada, Denmark, and other countries. Our membership in the Pennsylvania State System of Higher Education International Studies Consortium enables our students to study abroad in each member's programs. We also have access to more than 4,500 other international programs. These experiences enable students to gain cultural knowledge and social skills that enhance their opportunities for advanced study and careers.

Courses taken by students who study in an institutionally approved Shippensburg University study abroad program will be counted toward residency requirements. Grades equivalent to C or above will appear as TR on the academic record. Grades equivalent to D or F will not earn transfer credit.

For further information about the Study Abroad program, contact the Center for Global Education, Ceddia Union Building, or call 717-477-1279.

Taking Graduate Courses

If you are a senior in good academic standing with a cumulative QPA of 3.0 or higher, you will be permitted to register for graduate courses with the written approval of your advisor, your department chair, your college dean, and the dean of Graduate Studies. This process is initiated by your major department. You may enroll for only one graduate course at each registration period for a maximum of nine graduate credits over a 12-month period.

If the graduate level course you take is to be used in meeting the baccalaureate degree requirements, it will be entered only on your undergraduate record. It will not be entered on the graduate record.

Earning Graduate Credit

If you are a senior in good academic standing who qualifies for admission to graduate study and you do not need to carry a full load of undergraduate courses in your final semester to complete the requirements for the bachelor's degree, it is possible to take courses for graduate credit. You may register in the final semester for up to two graduate courses for which you receive graduate credit and which may be counted toward a master's degree. To register for graduate courses, you must have the approval of your department chair, the appropriate academic dean, and the dean of Graduate Studies.

When you are approved to register for a graduate class, you will complete a formal application for non-degree admission to graduate study in the Registrar's Office. You will not be charged an application fee. If you wish to take graduate work at Shippensburg after completing the bachelor's degree, you will then be required to pay the application fee when you apply to a master's degree program.

Full-time undergraduate seniors taking graduate courses within the 12-18 semester credit hour range pay the full-time undergraduate tuition rate; undergraduate seniors taking graduate courses beyond 18 semester credit hours pay additional undergraduate course fees for each credit over 18.

Undergraduate part-time seniors taking a mix of undergraduate and graduate courses pay at the undergraduate rate for any combination of courses short of a total 12 semester credit hours.

Undergraduate seniors who are permitted to register for a graduate class in any of the summer sessions pay at the undergraduate rate.

Cooperative Agreement with Wilson College

Through a cooperative agreement Wilson College and Shippensburg University students may schedule courses on each other's campus. Wilson College students may schedule courses at Shippensburg, and Shippensburg University students may schedule courses at Wilson. The course credit will not be treated as transfer credit. Course work will appear on the student's official record along with the grade earned. Students will register and pay tuition at the institution at which they have been matriculated.

A list of courses being offered at each institution will be available. To schedule one of these courses you will need to have the approval of your major department and your academic dean. Once this permission is obtained, you will schedule the course through the Registrar's Office at your home institution. Attendance will also have to be approved by the other institution through appropriate procedures. Most course offerings at each institution will be open to those students at the other institution who have the necessary prerequisites for entry into a course. However, you may not schedule at the alternate institution a course available on your own campus. Your course load, including the course scheduled at the other institution, should not exceed the maximum for your home institution.

Visiting Student Program

Students at Shippensburg University have the option of taking courses at one of the thirteen other schools in Pennsylvania's State System of Higher Education. Under the Visiting Student Program, courses you take will be recorded on your academic record at Shippensburg and the grades you receive will be included in your QPA calculation. This program is intended to allow you to take advantage of courses available across the State System, without loss of institutional residency, eligibility for honors or athletics, or credits toward graduation at the home institution.

To participate in the Visiting Student Program you must have completed at least 12 credits and be in good academic standing. Students may take a maximum of 24 credits via the Visiting Student Policy. Advance approval is required

from your academic dean. This program may not be used to repeat any D or F grades earned at Shippensburg University.

Academic Dishonesty

It is the policy of Shippensburg University to expect academic honesty. Students who commit breaches of academic honesty will be subject to the various sanctions outlined in this section. This policy applies to all students enrolled at Shippensburg during and after their time of enrollment.

Definition

As used in this policy, the term academic dishonesty means deceit or misrepresentation in attempting (successfully or unsuccessfully) to influence the grading process or to obtain academic credit by a means that is not authorized by the course instructor or university policy. A breach of academic honesty is committed by students who give, as well as receive, unauthorized assistance in course and laboratory work and/or who purposefully evade or assist other students in evading, the university's policy against academic dishonesty.

- Academic dishonesty includes but is not limited to:
- Bribing or attempting to bribe, faculty or staff personnel in order to attain an unfair academic advantage.
- Possessing course examination materials prior to administration of the examination by the instructor without the instructor's consent.
- Using unauthorized materials or devices such as crib notes during an examination.
- Providing and/or receiving unauthorized assistance during an examination.
- Using a substitute to take an examination or course.
- Misusing transcripts, records or identification, such as forgery or alteration of transcripts.
- Allowing others to conduct research for you or prepare your work without advance authorization from the instructor, including, but not limited to, the services of commercial term paper companies.
- Plagiarism, as the term is defined in the section Plagiarism.
- Intentionally and without authorization falsifying or inventing any information or citation in an academic exercise, such as making up data in an experiment or observation.

The preceding list is only for purposes of illustration. Other forms of inappropriate conduct may also be subject to charges of academic dishonesty.

Resolution of Charges

When an instance of academic dishonesty is alleged, the issue should be resolved on an informal basis between the student and faculty member. If an informal resolution cannot be achieved, a formal process of deciding culpability and assessing sanctions will be followed. If the student has committed a previous violation, the formal process must be followed.

Informal Resolution

A faculty member who obtains information a student has been dishonest should act promptly to resolve the issue. The faculty member should first contact the dean of students to determine if this is the first violation for the student. If the suspected incident is **not** the first violation, the offense must be handled through the formal resolution process.

For a first violation, the faculty member may attempt to resolve the issue informally with the maximum penalty to be a grade of F in the course. If the faculty member feels the offense warrants a more severe penalty, the matter must be resolved through the formal process.

For the matter to be resolved informally, the faculty member must meet with the student and present any evidence of a violation. The student will be given an opportunity to provide an explanation after hearing the evidence. If the faculty member determines a violation has occurred, he/she will complete the Settlement of a Charge of Academic Dishonesty form. This form will include the penalty the faculty member will apply.

The form is then given to the student, who has 72 hours to seek advice and decide whether to sign. If the student agrees to accept the penalty, he/she must sign in the presence of the faculty member. The faculty member will then implement the accepted penalty and forward the settlement form to the dean of students. The form will be kept on record for five years and may be used if the student is accused of another academic dishonesty offense or any other violation of the Student Code of Conduct. The information will only be used for internal purposes and will not be disclosed outside the university.

If the student refuses to sign, the faculty member may pursue the matter through the formal resolution process.

Formal Resolution

An allegation of academic dishonesty must be resolved through a formal process if the student disputes the charges or does not accept the penalty proposed by the faculty member. The formal process must also be followed if the incident is **not** the student's first violation.

In the formal process, an allegation of academic dishonesty will be treated as a violation of the Student Code of Conduct. The charges will be resolved through the judicial process administered by the dean of students. The faculty member initiates a written complaint by providing details of the incident to the dean of students. The dean of students and an academic administrator designated by the provost will consult to determine if sufficient information is present to warrant further action.

If there is sufficient information to proceed with the complaint, the steps outlined in the Student Code of Conduct and Judicial Process section of the student handbook *Swatoney* will be followed. Academic dishonesty cases must be heard by the university judicial hearing board; the judicial officer option is not available for these cases. Appeals of academic dishonesty decisions will be handled by the vice president for student affairs and the provost.

Penalties

The Student Code of Conduct contains a list of sanctions that may be imposed for violations. In addition to those in the Code of Conduct, the following two sanctions may be imposed against students found to have committed acts of academic dishonesty:

Grade Reduction. The grade for a particular unit of work or for the entire course may be reduced.

Imposition of a Failing (F) Grade. The student may receive an F grade for the course.

These two penalties may be imposed through the informal settlement process or the formal hearing process. More severe penalties, including suspension or expulsion, may only be imposed through the formal process. Additional stipulations may also be attached to any sanctions.

Plagiarism

Plagiarism is a form of academic dishonesty. Shippensburg University will not tolerate plagiarism and the faculty will make all reasonable efforts to discourage it.

Plagiarism is your unacknowledged use of another writer's own words or specific facts or propositions or materials in your own writing. When other writers' words or materials (even short phrases or specific terminology) are used, you should put these words, phrases, or sentences inside quotation marks (or else indent and single-space more extended quotations) and you should then cite the source of the quotation either in the text of your writing or in footnotes. Failure to do so may be considered plagiarism. When the propositions of another writer are restated in your own words (paraphrased), you should also indicate the source of the paraphrased material in your own text or in footnotes. Comparable citation should be made for borrowings from media other than printed texts, such as lectures, interviews, broadcast information, or computer programs.

The more flagrant form of plagiarism is your submission of an entire paper or computer program or lab report (or a substantial portion of a longer work) written by someone else and presented as your own work. This can include material obtained from a friend, from a fraternity or sorority file, from duplicated student writings used for analysis in other writing courses, from commercial sources, or from published materials. Another common form of plagiarism is the unacknowledged borrowing from other sources (either words or propositions) and the integration of such material in your own work.

Certain situations may cause conscientious students to fear plagiarizing when they are not really plagiarizing. These include:

- *Improper format for documentation.* Improper documentation is not plagiarism but a technical academic problem. Different professors, different academic departments, and different academic disciplines have various ways of documenting borrowed materials. Each professor should make clear to you how he/she wants borrowed materials documented for given writing or programming assignments. You should make every effort to understand precisely what your professor expects regarding documentation. As long as you make a clear effort to document all borrowed materials, you are not plagiarizing.
- *Use of supplemental individualized instruction on an assignment.* Various tutorial resources are available at the university, including a writing center and assistance from faculty who assist students during the process of composing a paper. When you seek these kinds of legitimate academic assistance, you are not plagiarizing. In fact, you are making an extraordinary attempt to improve your writing and academic performance. In such cases, you should inform your instructor of the fact you have sought assistance from a given source on an assignment. This acknowledgment should be stated on the cover sheet of your paper or program. The prohibition against plagiarism should in no way inhibit or discourage you from seeking legitimate supplemental instruction in developing an assignment.
- *Use of a proofreader.* If you are unsure of your ability to produce finished drafts that are virtually error-free, you may use such resources as hired typists, more editorially proficient friends, tutors, or writing center personnel to insure your finished papers are relatively error-free. You should indicate on the title page the fact your paper was typed and/or proofread by someone else. The prohibition against plagiarism should in no way inhibit or discourage you from using available reference and/or human editorial resources in seeking to produce an error-free final copy of a paper.

In summary, plagiarism is the unacknowledged borrowing of another writer's, speaker's or programmer's words and/or propositions. To avoid plagiarism, you should acknowledge assistance received in developing and/or proofreading a paper. If you need or desire such assistance, you should not be discouraged from seeking it because of the university policy on plagiarism.

Elnetta G. Jones School of Academic and Exploratory Programs

The Elnetta G. Jones School of Academic and Exploratory Programs supports collaboratively the mission and goals of Shippensburg University by providing quality academic support services to the campus community that aid student

transition to college; encourage and support the potential for learning and personal development; enhance student academic success; and support persistence to graduation. All programs offered by the offices within the school are committed to helping students reach their full academic potential. We respect and appreciate the diversity of our students and embrace the changing needs of the university within an evolving global community. For further details, visit www.ship.edu/aps.

Office for Exploratory Studies

If you do not declare a major at the time you are admitted, you will be enrolled as an exploratory student, and the Office for Exploratory Studies, within the Elnetta G. Jones School of Academic and Exploratory Programs, will serve as your academic home until you declare a major. The office provides exploratory students with a wide variety of academic support services so they can make normal progress toward a degree while exploring educational and career options. (Unlike the three undergraduate colleges, the Office for Exploratory Studies does not grant degrees.) By the middle of their sophomore year, exploratory students are required to have in place a plan to declare a major. The Dean of Academic and Exploratory Programs is the academic dean for all exploratory students.

Services provided by the Office for Exploratory Studies include an academic orientation to the university, assistance in understanding the university's policies and procedures, and an administrative unit for your academic records. However, probably the most important service and resource provided is your faculty academic advisor. You will be assigned an advisor before you arrive at Shippensburg University and will be expected to meet with him or her at least twice during the semester. Your advisor might wish to see you more frequently if he or she believes additional support will enhance your academic success. Your academic advisor will be your primary resource for assistance with selection of appropriate courses, registration information, and other important academic advice and information, particularly with regard to your selection of a major. He or she will also direct you to other appropriate support resources should you need them. We consider your relationship with your academic advisor an integral part of your successful experience as an exploratory student at Shippensburg University.

Developmental Education

Shippensburg University is committed to creating a responsive learning environment in which all students can develop the skills and attitudes necessary for the attainment of academic, career, and life goals. Developmental education is a process to assist students in overcoming individual barriers to academic success. This process includes

- Ensuring proper placement in writing, reading, and mathematics by assessing each learner's level of preparedness for college-level coursework; and
- Providing developmental courses for students who need to improve their academic foundation for success in college-level studies.

Developmental courses are offered in writing, mathematics, and reading. These courses provide opportunities for students to develop academic proficiencies necessary for college success. A grade of C or better is required in developmental-level courses; students earning a D or F will need to repeat the course in the following semester.

Credits earned in courses numbered 050 taken at Shippensburg are included in determining a student's class standing, and the grades are computed in the student's quality grade point average; however, these credits do not count toward the total number of credits required for graduation.

Students who earn placement into a developmental-level course are strongly encouraged to contact the Testing Center for options to satisfy the placement before entering Shippensburg University.

Learning Center

The Learning Center, located on the first floor of the Ezra Lehman Memorial Library, is the university's primary site for tutoring services and academic support. Within the center, students are able to select from an array of options that can help them improve their academic performance, writing proficiency, and learning abilities. Outside the center, students can peruse the Learning Center's website at <http://learning.ship.edu/home> to obtain information on tutoring options, view virtual workshops, find schedules for face-to-face workshops, access writing and study skills resources, and learn how to schedule an appointment with a tutor or a Learning Specialist. The Learning Center works with the faculty and student affairs offices to provide services and programs that enhance the learning experiences of students.

Tutoring Services

Content tutoring is available in most general education courses and a number of upper-level disciplinary courses. Free one-on-one tutoring, small group tutoring, and drop-in tutoring is provided through peer tutors and graduate assistants who are carefully trained, and regularly evaluated. Students seeking tutoring sessions can schedule an appointment or simply stop by the Learning Center to see if a tutor is available on a walk-in basis. For students who enjoy studying in a collaborative environment, small group tutoring offers students the chance to meet in study groups where a tutor helps explain problem areas and guides the direction of the group. Students who desire flexibility and a casual tutoring environment will enjoy the drop-in tutoring option where they can choose to meet with a tutor or small group for as little as a few minutes or up to a few hours. The many options for tutoring provide students with choices to fit their learning styles and academic needs.

The Learning Center also offers individual appointments, workshops, and resources for helping students improve their writing or address writing concerns. Students can schedule an individual appointment with a trained writing tutor where they can discuss their work-in-progress and enhance their writing abilities. Through the Learning Center's website, students can also view on-line writing workshops, learn about interactive workshops available at the center, and access writing resources to help them throughout the writing process. Students will find that talking with a writing tutor can help them strengthen their writing skills and improve the quality of their writing assignments.

Learning Specialists

Professional learning specialists are available to help students develop effective learning strategies and reach their academic goals. Learning specialists are equipped to help students improve their study and testing habits and learn how to manage their time, test anxiety, and stress. Not only can a learning specialist serve as a mentor to students experiencing difficulties in their academic skills, but learning specialists can also successfully help students on probation improve their academic standing. Learning specialists meet with students on a one-to-one basis, and students should schedule an appointment to meet with a Learning Specialist.

Academic Improvement Plan

The Academic Improvement Plan (AIM) assists students on academic probation in developing strategies and skills that will help them to improve their cumulative grade point average. Learning specialists guide students in the AIM program to help them experience success in college. This structured program is designed to give students skills in studying, self-management, emotional intelligence, and personal responsibility, all of which can help them to improve their academic standing and achieve success in their courses.

The Learning Center staff endeavors to be a central resource for all learners in the university community. To learn more about the resources and services provided by the Learning Center, call (717) 477-1420 or visit the center's website at www.ship.edu/learning/.

Academic Success Program/ACT 101

The Academic Success Program (ASP) provides access and academic support to students who do not meet the regular admission criteria to Shippensburg University but who have demonstrated the potential, desire, and motivation to succeed in college. The ACT 101 component of ASP is Pennsylvania legislation that provides educational funding support to qualified students seeking admission to the institutions of higher learning in Pennsylvania.

As part of the Elnetta G. Jones School of Academic and Exploratory Programs, ASP's goals are to promote academic success and to build self-confidence with guided supportive services throughout our students' college experience.

Summer Bridge Program

The Summer Bridge program is a mandatory five-week program. The focus of the program is to provide a realistic orientation to the roles and expectations of Shippensburg University students. Upon successful completion of this required experience, students are considered for admission to Shippensburg for the fall semester.

The Summer Bridge Program provides:

- An extensive orientation to college life
- An assessment of academic strengths and areas needing improvement
- An opportunity to develop academic skills in reading and writing
- An opportunity to explore and improve attitudes and expectations about the nature of college-level work

Summer Bridge students will:

- *Enroll in Introduction to Higher Education (ASP 101):* This three-credit course is designed to provide students with an orientation to academic and social expectations of higher education. Topics include study skills; skill development in reading, writing and critical thinking; leadership skills; career exploration; community awareness; and service-learning.
- Enroll in a second three-credit course, taught by university faculty, that is paired with ASP 101.
- Participate in workshops, seminars, and selected activities
- Participate in individual and small group meetings with program faculty and staff members
- Attend campus and community cultural events and activities

Note: The cost of tuition and room and board is waived to those students who meet all of the ACT 101 State Guidelines, but all students are required to pay for textbooks at the beginning of the summer program.

Academic Year Support Program

The Academic Year Support Program is designed to further develop the overall preparedness of the ASP students who have successfully completed the Summer Bridge program. ASP counselors closely monitor assigned students to ensure they are on track and focused on academic and personal success. Counselors emphasize helping students build on the base of knowledge established during the summer program.

The following are components of the Academic Year Support Program:

- Academic advising: Students learn to understand policies and procedures and general education and major requirements.

- Career counseling: Career assessments assist students in evaluating their academic skills as they relate to choosing academic majors and possible careers.
- Financial aid advising: Students learn about financial aid and other monetary obligations related to their educational goals.
- Personal and social adjustment counseling: Advisors support students throughout their years at Shippensburg in the areas of personal and social adjustment as they relate to academic success.

Testing Center

The Testing Center administers placement tests to students under the auspices of the Elnetta G. Jones School of Academic and Exploratory Programs. Details regarding the placement testing program are available under the General Education section of this catalog and through the placement testing website at www.ship.edu/testing.

Student Matters

Full-time students at Shippensburg University spend an average of 16 hours each week attending classes. It is evident, then, the individual student determines to a large extent how much will be gained from an education at Shippensburg. The university makes every effort to provide an environment of curricular and extracurricular activities to enhance student life.

University Housing

Shippensburg University provides accommodations for approximately 2,200 registered full-time degree-seeking students in eight residence facilities. The university offers six suite-style residence halls: Kieffer Hall, Lackhove Hall, McCune Hall, Naugle Hall, Presidents Hall, and Seavers Hall. All suites are fully furnished. Full suites include food prep and living rooms. No more than two students share a bathroom in any of the five suite unit types.

McLean Hall and Mowrey Hall are traditional residence halls with double occupancy and common bathrooms. Stone Ridge Commons offers one, two, and four bedroom apartments.

All housing facilities are wired with a free wireless computer network that allows each student access to e-mail, the Internet, library resources, and the university mainframe computer. Each room, suite, and apartment also has cable television, HBO, phone service, and voice mail. Laundry services are also available in all of the residential buildings. Student mail is processed at the UPS Store in the CUB, except for Stone Ridge Commons, which is processed at the apartment building.

Residency requirements for residing in campus housing are posted on the campus housing website. All students who either choose or are required to live in university campus housing are obligated to reside there for the entire academic year. Those students who live in university campus housing, with the exception of those living in the apartment building, are required to enroll in one of the required university campus food service plans. Furthermore, all students living in university campus housing are required to have a meningitis vaccination or a signed declination statement on file prior to moving into their assignment.

For more detailed information concerning university campus housing, go to housing.ship.edu.

Student Services

Career and Community Engagement Center

The Career and Community Engagement Center (CCEC), located in the Ceddia Union Building (CUB 108), provides student/alumni-centered career and community engagement programs, experiences, and learning opportunities to assist students to develop and achieve personal and professional goals. The Center implements career and community engagement program initiatives through service-learning, employer and alumni collaboration, and outreach on and off the University campus to foster campus and community partnerships.

CCEC provides resources in exploring career options, organizing job search programs such as preparing a resume, cover letter, and interview skills.

In addition, the CCEC provides students with career and employer information as well as volunteer opportunities through *Ship Career Connection*, which lists on/off campus opportunities, internships, and career events. Keeping with the CCEC's commitment to meet students' schedules and needs, the CCEC conducts walk-in hours, workshops on job search and interviews, mock interviews, outreach programs for classes and organizations, appointments, and holds evening hours. Give the CCEC a call at (717) 477-1484, an email at career@ship.edu or stop by the office for more information. Visit our website at www.ship.edu/career for more career and community engagement resources.

Child Care

The university offers childcare through the Child and Family Center conveniently located on campus in the Grace B. Luhrs University Elementary School. The center offers developmentally appropriate curriculum, designed and led by four-year degreed teachers, as well as plenty of free play. Classes are tailored to five age ranges which include: Toddler A (12-24 months), Toddler B (24-36 months), Pre-school A (30 months-age 3), Pre-school B (ages 4-6), and School Age. Students enrolled at Shippensburg University are invited to make use of the Child and Family Center. In 2006, the center achieved NAEYC accreditation and currently holds a Keystone STARS Four-Star rating. Tuition subsidies may be available for qualified applicants. For information call 717-477-1792 or visit the Child and Family Center website at www.sufoundation.org/services/childfamilycenter.

Computing and Network Services

The university provides computing and network services for instruction, research, and administration. Students may access university e-mail, file space, and academic records. Students may also create a personal web site. Visit our website at www.ship.edu/technology.

Computer Labs

The university maintains five general-purpose computer labs as well as dozens of departmental labs and computer classrooms. All campus labs include access to printing, the complete Microsoft Office suite, SPSS statistical software, and other standard course applications. Internet access for e-mail services, research, and accessing course management systems is available in each facility. General purpose labs in MCT are open 24 hours, 7 days per week. Computer workstations and laptops are also available in Ezra Lehman Memorial Library.

Technology Help Desk

The university technology help desk provides a single point of contact for students experiencing problems relating to personal computer systems and/or network connectivity. Services provided to all students include assistance with

wireless connectivity, computer cleanup (virus, spyware and malware) and help with installation of university supplied software (such as anti-virus programs).

Electronic Communication Policy

At Shippensburg University electronic mail (e-mail) offers efficient, effective, and timely communication between members of the university community. Thus e-mail is an official means of communication and the primary method for university faculty, administrators, and staff to contact all students. Students are expected to use the campus e-mail service and check their e-mail accounts on a regular basis because correspondence about administrative requirements, academic issues, public safety and health, judicial affairs, emergencies, and general matters will be sent in this manner. Much of this correspondence will be time-sensitive.

Students will be given a campus e-mail account at no cost. The account is active throughout a student's period of enrollment, including all vacation periods. Students wishing to utilize only off campus e-mail services are expected to forward their campus e-mail to that Internet provider or server. Otherwise, they are still expected to check their campus e-mail account on a regular basis. Failure to check one's campus e-mail account in a timely manner shall not be an excuse for missing deadlines or failing to meet communicated expectations.

Therefore, all students **must** do the following:

- Regularly check their accounts and read any e-mail in a timely fashion. It is preferable students read their e-mail on a daily basis but they are expected to do so at least four times per week, including all vacation and summer periods.
- Maintain their ship.edu inbox. In particular, all students are expected to ensure use of the university's computing systems and networks do not exceed current published limits, thereby interfering with one's ability to receive e-mail. All students are also expected to comply with all published policies governing computing and information networking.
- If people choose to use software to sort incoming e-mail into folders or to filter out unsolicited advertising e-mail (SPAM), they are responsible for making sure the filter rules do not accidentally delete official correspondence from the university.
- If students choose to forward e-mail from ship.edu to another e-mail server, they are responsible for making sure the e-mail is forwarded and working properly. They must also ensure their e-mail account has adequate space available to accept new messages.

Counseling Services

The University Counseling Center (UCC) offers free, confidential counseling and psychological services for a wide range of issues, from personal growth and development to mental health concerns. Services provided include individual, couples, and group counseling; crisis intervention; and psychiatric services for undergraduate and graduate students; as well as prevention and consultation services for the entire university community.

Students' more common concerns include the following: depression; anxiety; self-critical feelings; academic concerns including procrastination and time management; sleeping problems; uncertainty about future/life after college; finances; relationships with family, friends, roommates, or romantic partners; problems with body image, eating, or weight; sexual concerns; and alcohol/other drug abuse.

The UCC is accredited by the International Association of Counseling Services, Inc. UCC records are confidential, and do not become a part of students' academic records. Only with a client's written permission will information be released to anyone outside of the UCC, except as required by law. The UCC is located in the Wellness Center in Naugle Hall and is open Monday through Friday, 8:30 a.m. to 5:00 p.m. when classes are in session. Call (717) 477-1481 or visit www.ship.edu/counseling_center/ for more information.

Health Services

Student Health Services are provided by the Etter Health Center, located in the Wellness Center in Naugle Hall. It is open 7:30 a.m. through 11:30 p.m., seven days a week when school is in session. Hours may vary during semester breaks and holidays. Health care services are provided by registered nurses and a licensed medical physician. For further information, please refer to the health center web page: www.ship.edu/Health_Center/.

Insurance

Because medical care outside Etter Health Center can be so expensive, students are strongly urged to subscribe to the Consolidated Health Plan Student Policy offered by the university, if they are not adequately covered by their parent's insurance. Remember that athletic insurance only covers costs related to that sport being played. For more information on the Student Insurance Plan, please see the Etter Health Center website: www.ship.edu/Health_Center/.

Library and Multi-Media Services

The mission of the Ezra Lehman Memorial Library is to foster a community of academic success in an environment of personalized service, research mentorship and instruction, and connection to resources. In fulfilling this mission, the Library, Instructional Design and Web Technologies, Media, Technology Support Services, and Broadcasting Departments provide a variety of services, including the following:

- Individualized assistance in locating books, articles, and other resources in the Lehman Library, Luhrs Library (juvenile collection), online, or from other libraries.
- Document delivery of resources housed in the Lehman or Luhrs Libraries and acquired through interlibrary loan services.
- Help in evaluating useful Internet resources.
- Guidance in citing resources, avoiding plagiarism, and understanding copyright law and fair use guidelines.
- Personalized research consultations, for one-on-one research support and mentorship.
- Basic support with computer literacy and software applications used at the university, including D2L Learning Management System.
- Technology support in presentation software including video, audio, and image editing.
- Support and assistance with campus technology and student computing at the Technology Help Desk.
- Videoconferencing and classroom media support.
- Television studio production facilities and remote television production support.
- Equipment check-out for digital cameras, digital camcorders, LCD projectors, laptops, etc.

Visit the library online at library.ship.edu and Multi-Media Services at www.ship.edu/media and Technology Support Services at www.ship.edu/technology. For more information or assistance with an information or media-related need, call:

Lehman Library Circulation Desk
(717) 477-1465

Lehman Library Research & Information Desk
(717) 477-1474

Luhrs Library (Juvenile Collection)
(717) 477-1003

Instructional Design and Web Technologies
(717) 477-1816

Media Services
(717) 477-1646

Broadcast Services
(717) 477-1759

Technology Help Desk
(717) 477-4357

Multicultural Student Center

The Office of Multicultural Student Affairs (MSA) serves as a resource for all students. In addition to supporting academic success, the MSA strives to help students develop leadership skills, increase self-awareness, and participate in experiences that will enhance cultural awareness.

Located in Gilbert Hall, the staff members in the MSA office also assist groups such as the African American Organization, Latino Student Organization, Asian American Organization, Building Bridges, along with a host of other groups, with program development and implementation. The MSA works to improve the quality of life for all students enrolled at the university.

MSA is a family who supports, advocates, challenges, and encourages one another to succeed. Our mission is to educate and graduate students who will possess a vision for leadership and a will to excel. MSA touches the lives of people who will shape the future. We hope that you will visit us at our office, utilize our meeting rooms, and attend the events that we sponsor as well as those sponsored by our student groups.

Please feel free to contact Diane Jefferson directly at dljeff@ship.edu if you would like to become involved with MSA or if you have ideas or suggestions!

Religious Life

Students are encouraged to continue to participate in religious services of their choice while attending the university. As such, a Protestant Minister as well as a Roman Catholic Priest and Catholic Campus Minister are provided to the University community through the United Campus Ministries. Many local churches also minister to the spiritual concerns of all students and provide programming.

Contact Information: Cora I. Grove Spiritual Center
Catholic Campus Ministry Office Room 215, (717) 477-1244
United Campus Ministry Office Room 213, (717) 477-1672

University Store

The University Store is located in the Ceddia Union Building.

The store provides textbooks, trade books, school supplies, gift items, imprinted clothing, greeting cards, and book-buy-back. The store is open Monday through Thursday, 8:00 a.m. to 7:00 p.m.; Friday, 8:00 a.m. to 5:00 p.m.; and 11:00 a.m. to 4:00 p.m. on Saturday during the school year. For additional information, call (717) 477-1600 or visit our website <http://ship.bkstr.com>.

Veteran's Services

The Veterans Service Office provides support for students who are veterans or recipients of veteran's benefits. The office coordinates veteran's benefits and supports students with academic and personal issues. It develops activities and programs to help vets become involved with each other and the entire campus community including picnics, Veterans Day events, fundraisers for Wounded Warriors, and a 9/11-remembrance program.

The Veterans Resource Center, located in the Ceddia Union Building (CUB 235), provides a space to gather and meet with other vets. The university also has an active chapter of Student Veterans of America (SVA), which provides a fellowship of like-minded individuals and creates a network of students and alumni for professional and leadership development.

For more information, go to www.ship.edu/veterans/.

Women's Center

The Women's Center of Shippensburg University advances the equality and empowerment of woman-identified students, faculty and staff. In line with the Shippensburg University Mission Statement, the Women's Center assists students in their personal, social and ethical development through educational programs, specialized resources, celebration of achievements by and for women, and the pursuit of social justice.

Using empowerment theory to guide our actions, the staff and volunteers of the Women's Center advocate for victims of sexual misconduct, intimate partner abuse, and other violent crimes. We are dedicated to fostering a safe educational environment that is both respectful and inclusive to all members of our campus community. All women and men are welcomed and encouraged to use the Women's Center services and resources.

Guided by empathy, integrity, open-mindedness and a strong commitment to collaboration, the Women's Center works towards equality, empowerment and ending violence for all members of the Shippensburg University community. The Women's Center serves the campus community by hosting programs, conferences, workshops and other events. The Women's Center's conference room, lounge, and library are valuable resources to members of the campus community. The Women's Center is located on the first floor of Horton Hall and is online at www.ship.edu/womens_center. You can contact the Women's Center at 717.477.1790 or womenscenter@ship.edu.

Weather Conditions

Information pertaining to cancellation of classes due to bad weather will be available by calling HOTLINE at (717) 477-1200 or visiting ship.edu/weather. When classes are canceled, radio stations in the general area will be notified. When classes are not canceled students should use their own good judgment as to whether they can make it to classes without taking unnecessary risks regarding their own safety. Accordingly, students who are unable to attend classes are responsible for contacting the instructor to make arrangements for making up any work missed.

Tuition and Fees

Please note: All fees and dates listed in this chapter are subject to change. For up-to-date information, go to www.ship.edu/Student_Accounts/Tuition_and_Fees/.

Summary of Costs for Pennsylvania Residents

Fees Per Semester 2017-18**Commuting Students**

Tuition 15 credits	\$4,500.00
Technology Tuition Fee	\$232.00
Student Activity	\$272.00
Student Recreation Fee	\$185.00
Student Union Fee	\$300.00
Comprehensive Health Fee	\$170.00
Educational Services Fee	\$384.00

Total \$6,043.00**Residence Hall Students**

Tuition 15 credits	\$4,500.00
Technology Tuition Fee	\$232.00
Student Activity	\$272.00
Student Recreation Fee	\$185.00
Student Union Fee	\$300.00
Room and Board**	\$5,770.00
Comprehensive Health Fee	\$170.00
Educational Services Fee	\$384.00

Total \$11,813.00**Off-Campus Students**

Tuition 15 credits	\$4,500.00
Technology Tuition Fee	\$232.00
Student Activity	\$272.00
Student Recreation Fee	\$185.00
Student Union Fee	\$300.00

Board* (15-meal plan with \$250 Flex)	\$1,830.00
Comprehensive Health Fee	\$170.00
Educational Services Fee	\$384.00

Total \$7,873.00

** These students live in the town of Shippensburg and take their meals at the university (optional).*

*** Based on 2 person, 1 bedroom semi-suite and 15-meal plan with \$250 Flex; other plans available.*

Fees for Summer Sessions 2017

Fees and due dates are subject to change.

Tuition	per credit \$281.00
Technology Tuition Fee	per credit \$19.00
Educational Services Fee	per credit \$30.00
Student Union Fee	per credit \$20.00
Student Activity	per credit \$18.00
Comprehensive Health Fee	per credit \$11.00
Student Recreation Fee	per credit \$12.00

Payment of Fees

The fees for each student are payable in advance as indicated below. Payment may be made online with check or credit card (Visa, MC, Discover, American Express) or by mail with check or money order. All checks shall be made payable to Shippensburg University. **Do not send cash by mail.** To be admitted to classes, the dining halls, or any university activity, each student must have satisfied their semester tuition bill and be in possession of a valid identification card. Fee payment for fall semester is due early August and for spring semester is due early January.

Delinquent Accounts

No student shall be enrolled, graduated, or receive a transcript until all previous accounts have been paid. Accounts delinquent for 90 days are turned over to the Pennsylvania Attorney General for collection.

Tuition

Pennsylvania Residents

For 2017-2018, a basic tuition fee of \$300 per credit will be charged to each registered student (**all fees subject to change**). Summer session basic fee shall be \$300 per credit hour for all Pennsylvania residents.

Undergraduate students pay the undergraduate rate for all courses, both undergraduate and graduate courses.

Tuition policy subject to change.

Out-of-State Students

For 2017-2018, full-time students whose legal residence is not in the state of Pennsylvania shall be charged an out-of-state tuition fee of \$8,429 per semester in addition to all other fees. Students taking more than 18 credit hours shall pay the out-of-state tuition fee plus \$702 per credit hour over 18.

Out-of-state students who are part-time shall be charged a tuition fee of \$702 per credit hour and other applicable fees. Summer sessions fees are \$702 per credit hour.

High-achieving non-residents and non-residents who select a STEM or STEM education major are charged a tuition fee of \$6,556. per semester. Qualifications for this Out-of-State Tuition Advantage Program can be found at www.ship.edu/Admissions/TAP/.

Non-resident students enrolled in the Dual Admission Program are charged a tuition fee of \$5,619 per semester. Information on the Dual Admissions Program can be found at www.ship.edu/Admissions/Transfers/Dual_Admissions_FAQ/.

Fees are subject to change. Summer fees are for 2017 only and are subject to change.

Semester Fees

Please note: All fees and dates listed in this chapter are subject to change.

Room and Board Fee

Students may currently choose to live in traditional or suite-style residence halls. The 2017-2018 room fee for traditional halls is currently \$2,423 per semester. The room fee for suite living ranges from \$3,940 to \$4,999. All students residing in the residence halls must pay the room fee, as well as the board (meal) fee. The most common meal plan, 15 meals per week with \$250 flex, currently costs \$1,830. Room and board is available for summer sessions.

Students arranging for housing services for periods of time differing from those set forth in the foregoing regulations shall pay fees on a pro-rated basis.

All arrangements for housing services other than those indicated above shall require prior approval by the Vice President for Student Affairs.

For a comprehensive list of room and meal rates, visit the Student Accounts web page.

Student Activity Fee

This fee is collected from all undergraduate students and is administered through Student Services, Inc. under regulations approved by the Council of Trustees. This fee covers the cost of supporting student organizations, athletics, lectures, entertainment, and publications.

The student activity fee is currently \$272 per semester for students taking 12 or more credits. Students taking 1-11 credits pay \$23 per credit. The summer activity fee is \$18 per credit. (2017-18 rates)

Student Recreation Fee

This fee is collected from all undergraduate students and is administered through Student Services, Inc. under regulations approved by the Council of Trustees. This fee is used to fund the construction, maintenance/operational, and personnel costs related to the student recreation building and the 12-acre lighted outdoor recreation facility which includes playing fields for football, rugby, soccer, and baseball/softball; volleyball courts; fitness track; street hockey pavilion; and picnic pavilion.

The student recreation fee is currently \$185 per semester for students taking 12 or more credits; students taking 1-11 credits pay \$15 per credit. The summer recreation fee is \$12 per credit. (2017-18 rates)

Student Union Fee

State law and policies of the Board of Governors of Pennsylvania's State System of Higher Education require the cost of constructing the original Ceddia Union Building and its additions be paid by students enrolled at the university. This fee is applicable to all full- and part-time students, both graduate and undergraduate, during both regular semesters and summer sessions, in accordance with the following schedule established by the university Council of Trustees:

The student union fee is currently \$300 per semester for undergraduates taking 12 or more credits; students taking 1-11 credits pay \$25 per credit. The summer student union fee is \$20 per credit. (2017-18 rates)

Comprehensive Health Fee

A Comprehensive Health Fee will be charged to all full- and part-time students in all semesters and sessions to finance, in part, the Etter Health Center and its various programs of treatments and education and the Counseling Center. Students have access to the services of the health center 24 hours a day, 7 days a week. Under the policies of the State System Board of Governors, auxiliary enterprises, such as health centers, must be financially self-sufficient. The Comprehensive Health Fee is not an insurance fee and must be paid whether or not the student has his/her own health insurance. This fee is currently \$170 per semester for students taking 12 credits or more. Students taking 1-11 credits pay \$14 per credit.

The summer Comprehensive Health Fee is \$11 per credit. (2017-18 rates)

Educational Services Fee

An educational services fee will be charged to all students in all semesters and sessions to cover unusual costs of certain special programs and/or operational and equipment needs. This fee is currently \$384 per semester for students taking 12 credits or more. Students taking 1-11 credits pay \$32 per credit.

The summer educational services fee is \$30 per credit. (2017-18 rates)

Technology Tuition Fee

This fee is set annually by the State System Board of Governors. Purposes of the technology tuition fee are: to acquire, install, and maintain up-to-date and emerging technologies for the purpose of enhancing student-learning outcomes; to

provide equitable access to technology resources; and to ensure State System graduates are competitive in the technologically sophisticated workplace.

The technology tuition fee is not a user fee. It is a fee paid by all students, proportional to their enrollment status (full-time/part-time) and to their residency status (in-state/out-of-state).

Currently, the technology tuition fee for full-time students is \$232 in-state and \$353 out-of-state. Part-time students are charged \$20 per credit in-state and \$30 per credit out-of-state. The summer technology tuition fee is \$19 per credit in-state, \$29 per credit out-of-state. *(2017-18 rates)*

Special Fees

Please note: All fees and dates listed in this chapter are subject to change.

Application Fee

An application fee of \$45 for students seeking admission or readmission to the university shall accompany the application for admission. This fee covers processing the application and is not refundable. Non-degree students shall pay an application fee of \$15.

Orientation Fee

A one-time \$150 orientation fee will be paid by each new student (first year and transfer) to support orientation programs at the university. This fee will be charged whether or not the student chooses to attend orientation.

Damage Fee

Students are financially liable for damage, breakage, loss, or delayed return of university property, as determined by the appropriate university administrators. A common damage fee of \$10 per semester per residence hall student will be charged.

Degree Fee

A fee of \$35 shall be paid by each undergraduate candidate to cover the cost of the diploma.

Bad Check Fee

A fee of \$35 may be charged for each paper check or electronic check that is not honored by the payer's bank.

Credit by Exam Fee

An administrative fee of \$80 will be charged for each course taken by examination for credit, regardless of the number of credits. This fee is payable prior to sitting for the examination.

Late Registration Fee

Students confirming attendance by submitting the semester payment after the semester billing due date will be required to pay a late payment fee of \$100.

Deposits

Please note: All fees, deposits, refunds, and dates listed in this chapter are subject to change.

Advance Registration Deposit

An advance registration deposit of \$100 shall be paid by all new students. This deposit is required when the student is approved for admission to the university. This is a guarantee of the applicant's intention to register at the university for the semester indicated on the admissions letter. The amount of \$100 is deposited with Shippensburg University to the credit of the student's basic fee. Advance deposits are non-refundable.

Residence Hall Room Deposit

Returning students who arrange to live in university housing during the academic year are required to confirm the room assignment by paying a deposit. New students will pay the deposit when they are approved for admission to the university. This deposit will be an advance payment toward the room fee for the second semester of the academic year. No residence hall reservation will be held unless it is confirmed by the payment of this deposit.

A refund of the deposit will be allowed only if the student is dismissed from the university for academic reasons.

Refunds to Students

Please note: All fees, deposits, refunds, and dates listed in this chapter are subject to change.

The refund procedure and schedules below are currently in effect. Refund policies and percentages may be changed by Pennsylvania's State System of Higher Education.

Requests for refunds must be submitted in writing to the dean of the appropriate college, who must consider each such request and forward a recommendation to the registrar, who will notify the Student Accounts Office. For refunding purposes, a student is considered to be in class attendance up to the date on which official notification of withdrawal is given. **Students will not receive refunds for courses dropped after the drop period each semester.** Refunds are only issued for full university withdrawals from all classes in the semester. The official date of withdrawal is the date the college dean approved withdrawal. Refunds are not authorized for temporary absences within the semester.

The housing fee is not refundable when a student terminates occupancy of a residence hall for reasons other than withdrawal from the university, except when a student moves to his/her permanent home address because of financial or other emergency reasons. This exception must be authorized by the housing director.

The refund policy is summarized below and applies to students who withdraw from the university. The policy is mandated by the State System Board of Governors.

Refund Policy for University Withdrawals for classes held in the full 16 week semester

Reduction in Charges

Through drop period	100%
Drop period through 2nd week	80%
3rd week	60%
4th week	50%
5th week	40%
After 5th week	No refund

Refund Policy for Room and Board

Reduction in Charges

Day 1- end of 1st week	90%
2nd week	80%
3rd week	60%
4th week	50%
5th week	40%
After 5th week	No refund

Charges are based on the check-out date and date of last meals or flex eaten. Block meal plans and flex plans are based on actual usage through the 5th week. Standard meal plans are based on the percentages above.

Advance deposits, orientation fee, and technology fee are non-refundable.

Refund Policy for Summer Sessions (2017)

Reduction in Charges

6-Week Term	
Day 1-3	100%
Day 4-5	80%

Day 6-8	60%
Day 9-11	50%
Day 12-13	40%
Day 14	No Refund

Days in the summer refund schedule include weekend days.

The refund schedules assume the student account is paid in full and the percentages are not being applied to a partial payment of tuition.

If a student is a recipient of federal Title IV financial aid, calculations must be made to determine the percentage of earned and unearned aid based upon the official withdrawal date. The amount of aid that is earned is determined on a pro-rated basis. For example, if 30 percent of the semester has been completed, then 30 percent of the aid is earned. Once more than 60 percent of the semester has been completed, then 100 percent of the aid is earned. If more Title IV aid has been earned than received, then a post withdrawal disbursement may be due to the student. If more Title IV aid has been received than earned, the school must return a portion of the excess aid.

Returns of unearned aid to the federal programs are required by law to be the first priority and must be returned in the following order:

1. Federal Unsubsidized Loan
2. Federal Subsidized Loan
3. Federal Perkins Loan
4. Federal Parent PLUS Loan
5. Federal Pell Grant
6. Federal SEOG
7. Federal TEACH Grant

In many cases a student may owe a balance to the university after Title IV aid is returned.

For more up-to-date detailed information regarding refunding and the calculations of earned and unearned aid, please visit the Student Accounts link of the Shippensburg University website at www.ship.edu.

Refund policies are subject to change by the university and the State System.

Fee Waiver for Senior Citizens

Tuition charges and all fees, except the Educational Service Fee and Technology Fee, may be waived for senior citizens enrolled in any undergraduate program providing space is available within the desired course(s) and class(es). Applications for this waiver should be initiated by the requesting student, through the dean of the college in which the student is enrolling, prior to registration for the course(s) to which it will apply. Requests for retroactive waivers will not be considered. All other fees described in this catalog are due and payable at time of registration.

A senior citizen is defined as a retired United States citizen residing in the Commonwealth of Pennsylvania who is 60 or more years of age. Documentation proving the requesting student meets the above eligibility criteria will be required.

Pennsylvania Resident Status

Students enrolling at Shippensburg University shall be classified as resident or nonresident for admission, tuition, and fee purposes by the Admissions Office. The decision shall be based upon information furnished by the student and all other relevant information. The Admissions Office is authorized to require such written documents, affidavits, verifications, or other evidence as are deemed necessary to establish the domicile of a student. The burden of establishing residency for tuition and fee purposes is upon the student.

If there is a question as to residence after the student matriculates, the matter must be brought to the attention of the vice president for student affairs at least two weeks prior to the deadline for the payment of tuition and fees. Any student found to have made a false or misleading statement concerning residence shall be subject to institutional disciplinary action and will be charged the non-resident fees for each academic term heretofore attended.

Residence Determined by Domicile

A minor is presumed to have the domicile of his/her parent(s) or guardian. The age of majority in the Commonwealth for establishing a domicile for tuition purposes is 22. Domicile within the Commonwealth means adoption of the state as a fixed permanent home and involves personal presence within the state with no intent on the part of the applicant or, in the case of the dependent student, the applicant's parent(s) to return to another state or country. Residing with relatives (other than parent(s)/legal guardian) does not, in and of itself, cause the student to attain residence in the Commonwealth for admission or fee payment purposes. Pennsylvania domicile may be established upon the completion of at least 12 months of continued residence within the state prior to the date of registration, provided such 12 months residency is not primarily for the purpose of attendance at Shippensburg University.

Establishment of Pennsylvania domicile with less than 12 months residence prior to the date of registration must be supported by proof of positive and unequivocal action. Priority consideration will normally be given to such evidence as the purchase of a Pennsylvania home, full-time employment within the state, paying Pennsylvania property tax, filing Pennsylvania income tax returns, and registering motor vehicles in Pennsylvania. Other items of importance that are required are registering to vote in Pennsylvania and the actual exercise of such right, possessing a valid Pennsylvania driver's license, and various other acts which may give evidence of intent to remain indefinitely within the state. Proof of a number of these actions shall be considered only as evidence which may be used in determining whether or not a domicile has been established. Factors mitigating against establishment of Pennsylvania residency might include such considerations as the student not being self-supporting, being claimed as a dependent on federal or state income tax returns, or the parents' health insurance if the parents reside out-of-state, and receiving financial assistance from state student aid programs in other states.

A student receiving a scholarship or grant dependent upon domicile from a state other than Pennsylvania is not domiciled in Pennsylvania.

Dependency Status

A dependent student is one who is listed as a dependent on the federal or state income tax return of his/her parent(s) or legal guardian or who received major financial support from that person. Such a student maintains the same residency as that of the parent(s) or legal guardian. In the event the parents are divorced or legally separated, the dependent student takes the residence of the parent with whom he/she lives or to whom he/she has been assigned by court order.

A minor may prove emancipation and independent domicile through convincing evidence. A non-resident student who becomes independent while a student at Shippensburg University does not, by reason of such independence alone, attain residence in the state for admission and fee payment purposes.

Change of Residence

A student who has been classified as an out-of-state resident and who seeks resident status must assume the burden of providing conclusive evidence he/she has established domicile in Pennsylvania with the intention of making his/her permanent home in this state. The intent to remain indefinitely in Pennsylvania is evidenced not only by a person's statements but also by that person's actions.

An application should be obtained from the Office of the Vice President for Student Affairs and returned to that office at least two weeks prior to the deadline for the payment of tuition and fees with sufficient evidence to support a request for a change to in-state residency for fee paying purposes.

A student who changes domicile from Pennsylvania to another state must promptly give written notice to the Office of the Vice President for Student Affairs.

Military

A member of the armed forces who was domiciled in the Commonwealth immediately preceding entry into government service and who has continuously maintained Pennsylvania as his or her legal residence shall be presumed to have a Pennsylvania domicile.

Any military personnel or their dependents who are assigned to an active duty station in Pennsylvania and who reside in Pennsylvania shall be considered Pennsylvania residents for tuition payment purposes.

Aliens

A person attempting to establish domicile shall be a citizen or shall have indicated by formal action intention to become a citizen or shall have been admitted to the United States on an Immigrant Visa.

Financial Aid

The university makes every effort to serve eligible students in need of financial assistance through part-time employment, loans and grants, or scholarships.

Please note: All fees, dates and aid amounts listed in this chapter are subject to change .

Financial Aid Application

All prospective and returning students who wish to receive financial aid (grants, loans, and student employment) must complete the Free Application for Federal Student Aid (FAFSA) every year. Financial need will be determined by subtracting the Expected Family Contribution (calculated using a federally legislated formula and the information provided on the FAFSA) from the total cost of attendance for a year at Shippensburg University, to determine need for aid.

The results of the FAFSA must be received by the Financial Aid Office by May 1 of the upcoming academic year for a Pennsylvania student to be considered for PHEAA State Grant. Students are advised to complete the FAFSA by March 30 in order to meet the State Grant date of May 1st. Our Title IV School Code is 003326.

Course Program of Study

Your enrollment affects eligibility for federal financial aid. Federal regulations require students to be enrolled in an approved degree-seeking program. Only coursework that counts toward the completion of the degree will be used in determining enrollment status for federal financial aid purposes (grants, loans, and Federal Work-Study).

Academic Progress

Federal regulation requires students to make Satisfactory Academic Progress (SAP) toward the completion of a degree in order to maintain their eligibility for the following programs: Federal Pell Grant, Federal Teach Grant, Federal Perkins Loan, Federal Supplemental Educational Opportunity Grant (SEOG), Federal Work Study, Federal Direct Loans, and Federal PLUS Loan. Federal policies concerning SAP dictate that SAP must be measured three ways. By:

- Cumulative GPA
- Percentage of Credits Earned (Pace)
- Maximum Time Frame

Undergraduates must meet the following guidelines for federal aid:

- Maintain a 1.7 cumulative GPA during your first three terms of enrollment (transfer credits from other schools will be counted based on terms enrolled at previous school)
- Maintain a 2.0 cumulative GPA for your fourth term of enrollment and beyond
- Complete (pass) at least 67% of credits attempted. Example: if you have attempted 30 credits, and have passed 21 credits, you have passed 70% of your credits. If you attempted 30 credits and passed only 18 credits, you have earned only 60% of your credits and would not be making Satisfactory Academic Progress.

The PHEAA State Grant program has slightly different criteria for determining satisfactory academic progress. A full-time State Grant recipient must complete 24 new credits* per academic year to maintain eligibility for the grant. A part-time student must complete the proportional equivalent in order to maintain eligibility (e.g., if two half-time awards are awarded in a year, the student must complete at least 12 new credits in that year).

Satisfactory Academic Progress for federal aid will be measured at the end of fall, spring and summer terms.

Satisfactory Academic Progress for PHEAA state grant is determined annually, at the end of spring term.

For complete information on Satisfactory Academic Progress, go to http://www.ship.edu/Financial_Aid/Eligibility/.

*Repeated courses count as new credits only if the student originally received an F or W in the course.

Student Campus Employment

Part-time employment opportunities on campus are available through the Federal (FWS) and Commonwealth work programs. Students with financial need as demonstrated through the completion of a Free Application for Federal Student Aid (FAFSA) are considered for Federal Work Study (FWS). Students receiving FWS can receive guidance in job placement from the Financial Aid Office. These positions include work in administrative and faculty offices, the library, residence halls, and campus grounds.

All students interested in working on campus (both FWS awarded students, and all other students) are encouraged to utilize the electronic job board hosted by the Office of Career Development. Directions on setting up your profile and exploring available positions on campus and in the surrounding area can be found at: <http://www.ship.edu/Career/>.

Summer Campus Employment

Summer employment opportunities can be accessed through the Ship Career Website. Please refer to Student Campus Employment section and follow those instructions.

Grants and Loans

PHEAA State Grant

The Pennsylvania State Grant program is a potential source of funding for Shippensburg University students who are residents of Pennsylvania. The PA state grant program is administered by PHEAA (Pennsylvania Higher Education Assistance Agency). Pennsylvania state grant awards can range from \$500 to \$4000 depending on the level of funding set by PHEAA each year. A student's eligibility will be determined by PHEAA based on financial need and cost of attendance at the college. Students must be enrolled in courses applicable to the degree or program objective to which funds are disbursed.

Students apply for the PA state grant by completing the FAFSA application no later than May 1st of each year. Students must complete their FAFSA (Free Application for Federal Student Aid) by the May 1st deadline to be considered for the PA state grant for the award year. All FAFSA applications submitted after May 1st will be considered late for the PA state grant program.

When students complete the FAFSA and indicate Pennsylvania residency, they will be offered an optional link on the FAFSA certification page that will ask if they would like to complete the PA State Grant form. Those students who choose this link will be moved directly to the on-line State Grant form. For students who do not complete the State Grant form at the same time as they submit their initial FAFSA, an email from PHEAA will be generated directing the student to Account Access at www.pheaa.org to complete the State Grant form.

Additional information may be requested by PHEAA after the initial PA State Grant form is filed. This request will be sent to the email address provided on the FAFSA. Students and parents should respond directly to PHEAA with the information requested.

Federal PELL Grant

The Federal Pell Grant is gift aid and awarded to undergraduate students pursuing their first bachelor's degree. Eligibility is based on a federal formula using the information provided on the Free Application for Federal Student Aid (FAFSA). Awards vary from \$626 to \$5,920 (in the 17-18 year) depending on financial need. Eligibility will vary based on credit hours. Amounts may change based on federal regulations. Not all students will qualify.

Federal Supplemental Educational Opportunity Grant (SEOG)

A limited amount of funds from the Federal Supplemental Grant (SEOG) program are available for students demonstrating highest financial need. The information provided on the FAFSA will be used to determine student eligibility. Federal SEOG is awarded to Pell eligible students. Awards vary based on financial need and fund availability. Not all students will qualify.

Federal Direct Loan Program

The Federal Direct Loan

The Federal Direct Loan is available for all students enrolled at least half-time. There are two types of Federal Direct Loans: subsidized and unsubsidized. The subsidized loan is interest-free while the student is in school and is awarded based on financial need. Interest accrues on the unsubsidized loan while the student is enrolled in school. The borrower may opt to pay it as it accrues, or allow it to accrue and capitalize. The unsubsidized loan is a non-need based loan program.

The maximum Federal Direct Loan per academic year is currently \$5,500 for freshmen, \$6,500 for sophomores, and \$7,500 for juniors and seniors. An independent student may borrow an additional \$4,000 per year as a freshman or sophomore, and an additional \$5,000 per year as a junior or senior. To be eligible for a loan, a student must be accepted for matriculation or matriculating at Shippensburg University.

The Federal Direct Parent Loan

The Federal Direct Parent Loan for Undergraduate Students is available for parents of dependent undergraduate students. A parent may borrow up to the cost of attendance less any other financial aid received. It is a fixed interest rate loan on which the parent may begin repayment 60 days after it is disbursed or allow it to accrue and capitalize.

Application Instructions and Disbursement Information

To apply for a Federal Direct Loan, the student/parent should apply online at www.studentloans.gov.

The amount borrowed will be issued via electronic funds transfer. Loans are disbursed in two equal disbursements over the course of the loan period (for example, a fall/spring loan would have two disbursements: one in the fall semester and the other in the spring semester). The loan must be for educational expenses. The student borrower, regardless of age, will be solely responsible for receiving and repaying any student loan under the Federal Direct Loan program.

University Curricula

All undergraduate curricula of the university lead to the bachelor's degree and have a common area of general education subjects, which provide a rich, liberal education. The selection of a particular curriculum is one of the most important decisions you will make as a college student. It determines your major area of concentrated study and also directly or indirectly determines your professional future.

The selection of a curriculum or area of specialization should be made with care after considering your academic strengths, areas of interest, plans for future study, and career goals. You may want to consult with friends, family members, university counselors, or faculty advisors before making a decision. If you plan to undertake graduate study after completing your bachelor's degree, you should look into the admissions requirements for the schools and graduate programs you are considering.

If you do not declare a major at the time you are admitted, you will be enrolled as an exploratory studies student under the Office for Exploratory Studies. The office provides a wide variety of academic support services so exploratory studies students can make normal progress toward a degree while exploring educational and career options. Exploratory Studies students must declare a major by the middle of their sophomore year. The dean of the School of Academic Programs and Services is the academic dean for all exploratory studies students.

Undergraduate Degrees

Shippensburg University provides undergraduate curricula leading to five degrees:

- *Bachelor of Arts (B.A.)*
- *Bachelor of Science (B.S.)*
- *Bachelor of Science in Business Administration (B.S.B.A.)*
- *Bachelor of Science in Education (B.S.Ed.)*
- *Bachelor of Social Work (B.S.W.)*

These degree programs are offered by the College of Arts and Sciences, the John L. Grove College of Business, and the College of Education and Human Services.

Departments and Majors

The following table lists the departments in each college and the major programs available for each department.

General Education

- General Education

Shippensburg University

College of Arts and Sciences

College of Arts and Sciences Overview

The College of Arts and Sciences has three primary areas of emphasis: educating undergraduates, offering master's level programs where the college can offer a program that is distinctive and of high quality and providing general education courses to all undergraduate students. The college, the largest in the university, occupies a central place in the education of all undergraduate students because of its general education mission. The college also has a public service role it fulfills through the activities of the Center for Land Use and the SU Fashion Archives and Museum.

In both its degree programs and in the general education curriculum, the college strives to enable students:

- to read critically
- to write and speak clearly and eloquently
- to use numbers and scientific methodology effectively
- to understand the fundamentals of the current state of scientific knowledge
- to appreciate works of art and other cultural artifacts from their own and other societies
- to understand the fundamentals of world history and geography, the importance of other cultures, and the increasing interdependence of cultures
- to understand the structure of social, political and psychological processes
- to function effectively as informed and active participants in a democratic society

For many students, participating in an internship connects classroom learning with real-world experience. The college offers internships in many programs, subject to approval. Check with the department chair for more information.

The ultimate aim of the college is to enhance the development of students so they may lead meaningful lives as private individuals, professionals, and citizens.

Providing students with opportunities to acquire the knowledge and habits of mind that lead to present and future accomplishment is the goal of a liberal arts education and of the programs that define Shippensburg University's College of Arts and Sciences.

In the College of Arts and Sciences, students have available to them programs leading to the degree of Bachelor of Arts, Bachelor of Science, or Bachelor of Science in Education.

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level *or* three years of any one foreign language in high school.

Students may also meet this requirement through AP testing or CLEP testing.

Bachelor of Science in Education Degree Programs

Earth-Space Science

Physics

Comprehensive Social Studies

(Geography Concentration)

(History Concentration)

The specific requirements for each of these fields are presented in the following pages under each department.

Transfer students should note the restrictions that apply to transfer admission into programs in the biology, chemistry, communication/journalism, and psychology programs.

Students interested in law school should consult with Dr. Steven Lichtman of the Political Science Department, who is the representative of the American Law School Committee of Admissions.

The graduate programs of the College of Arts and Sciences are presented in the Graduate Catalog.

Art and Design Department

The Department of Art and Design offers an undergraduate program leading to a Bachelor of Arts degree or a Bachelor of Arts in Art Education Certification, K-12. For successful completion of both B.A. degree in art and art education certification, K-12, each student is expected to demonstrate knowledge, skills, and understandings within the following five categories (No. 5 pertains to the B.A. in Art Education Certification, K-12):

1. Promote visual literacy; e.g., the understanding of a work of art through its connections with history, criticism, aesthetics, culture, style, and the formal elements.
2. Demonstrate the ability to create and solve the production of original, visual forms of expression in different media designed around a theme and to promote the interdisciplinary importance of art making as a method of knowing.
3. Develop critical thinking in strategies of inquiry, iconology, and comparative studies that will promote cross-cultural and ethnically diverse methods of art making.
4. Establish methods of working and understanding the creative process and production in a variety of two- and three-dimensional media-graphics, computers, painting, ceramics, sculpture, printmaking, and conceptual/interdisciplinary work styles.
5. Develop methodology for effective teaching; creating lesson plans appropriate for a variety of academic venues; learn how to communicate effectively; be able to demonstrate effective technical skills; and understand the role of art education in human development.

Foundation Portfolio Requirements

After admission to the art major and art education certification (K-12) programs, students must present a portfolio of their original artwork for review to the art and design department faculty. Specific requirements for content of this portfolio can be requested from the art department chairperson, departmental secretary, or the art department website at www.ship.edu/art. The Foundation Portfolio is a required component of the art and design department for all freshmen and transfer students from other colleges or internal transfers within SU. The Foundation Portfolio Review is given one time per year, the third Tuesday of September. All new and transfer students will participate in this review the first September after they have become an official art or art education major.

Yearly Student Art Exhibit

Each year art majors are required to submit a minimum of two pieces of art for the annual student art exhibit. These works of art must be properly framed or mounted using appropriate materials for display.

Senior Art Seminar and Exhibit

The Senior Art Seminar is a three-credit capstone course which is a two semester sequential program beginning in the fall semester of each academic year. Students may not enter the course mid-year and must plan their schedule accordingly. Students planning to graduate in December must complete this course the academic year prior to their graduation. Students enrolled in the Senior Art Seminar examine contemporary artists, art movements and influences which directly impact their work and area of concentration. Emphasis will be placed on creating a portfolio of work with a specific focus conceived by the student. These works will be presented in a public exhibition, which is juried and held annually the week before graduation. Participation in this exhibition is required for graduation. Résumé preparation and developing a career portfolio will also be included in this course.

Art and Design Features

The Department of Art and Design offers an undergraduate program leading to a Bachelor of Arts degree in art or Bachelor of Arts in Art Education Certification-K-12. For students who wish to pursue a career in graphic design, the department offers a Certificate in Graphic Design and an interdisciplinary concentration in computer graphics with the Department of Computer Science and Engineering. Students may enroll in one or both of these programs of study. Because of the department's variety of courses and degrees, its cooperative programs with two major institutions, the Art Institutes International (AII) and the Fashion Institute of Technology (FIT), the Shippensburg art graduate has a wide range of career opportunities.

The Department of Art and Design has a strong and effective advising program which encompasses the entire educational experience of every art and art education major. Twice yearly, advising meetings bring alumni back to the university for panel discussions and "real-life" dialogue. Continual development of selected topics, visiting artists' programs, trips to Washington, D.C., New York City, Philadelphia, and credit-bearing trips to foreign countries provide students with ample opportunities to view the world of art.

Other options: With the 33 credits of free electives, many students choose a number of different options. The student can double major, minor in another field such as business, or strengthen their art major by taking additional unrestricted art electives. Selecting a double major, including art/communication, art/business or art/psychology, increases career options. Programs such as the Interdisciplinary Arts degree allow students to create a program to match their needs.

Students who transfer into the Art Education Program from outside or from within Shippensburg University must complete an Application for Professional Standing. The requirements necessary to become an art education major include: passing the required Praxis I examinations, maintaining a 3.0 QPA, and attending an interview with art department faculty where a basic art portfolio demonstrating specific competencies is presented. Specifics of this portfolio are available from the chair or secretary, as well as from the art department website at www.ship.edu/art. Art education majors will complete some of their courses in the Department of Teacher Education in the College of Education and Human Services. Candidates will complete a 15-week student practicum and pass the PRAXIS II exam prior to graduation and certification. All Art Education majors are subject to the rules and regulations set forth by the Office of Field Services at Shippensburg University. A post baccalaureate program in Art Education Certification is offered through the College of Education and Human Services. These programs are regulated by the Pennsylvania Department of Education.

Internships provide important real-life experiences. Some students serve as interns in galleries, museums, advertising agencies, or art supply stores. Some art students, especially those in the art education program, assist in local community art centers by helping to teach classes for adults and children. Others have worked as apprentices on art projects in the Department Art and Design's Golden Apple Computer Lab or Sculpture Studio, or in computer graphics

agencies. Some students have apprenticed with professional painters, ceramicists, and sculptors. The department is continually developing a pool of sources for internships in both the public and private sector.

Three Department of Art and Design organizations give students an opportunity to have some first-hand experiences in the field. One organization, the Student Art League, holds weekly "art making and critiquing" studios. The Visivo Club creates a professional artistic publication yearly using the computer creatively to design and lay out the work for the book. Through this publication students gain practical experiences in design, photography, writing, editing, and printing. The Art Exhibitions Committee gains practical gallery training through organizing and staging eight exhibitions yearly.

Art students who may one day wish to own and operate their own businesses are encouraged to take the Business Minor offered through the John L. Grove College of Business.

Art Career Opportunities

Art is actually used in any circumstance that requires visual discrimination: What looks better, this or that? The fine artist attempts to make a visual statement through a painting or a piece of sculpture by continuously discriminating with the art elements. All of the design fields actively engage in visual decision making—industrial, fabric, fashion, interior, graphic and advertising design.

Courses provide students with a sound fine arts background in studio experience, art history, and art criticism. Computer design courses prepare students' marketability in industry, publishing, and advertising. They can prepare for a number of art-related careers. Our graduates are museum curators, art educators, gallery directors, illustrators, photographers, practicing and exhibiting artists/craftspeople, graphic designers, fabric designers, and antique dealers. A number of our graduates have opted to go on for advanced degrees in art, particularly the Master of Fine Arts degree. These graduates are practicing and exhibiting artists, and some teach at colleges and universities. Students are well prepared for their careers.

Cooperative Art Programs

A cooperative program has been established between Shippensburg University and the Art Institutes International, which are the Art Institute of Pittsburgh, the Art Institute of Philadelphia, and six additional Art Institutes in Houston and Dallas, Texas; Ft. Lauderdale, Florida; Atlanta, Georgia; and Seattle, Washington. This plan is for students interested in pursuing specialized careers in commercial art who also want the advantage of an academic degree. Under this program students may select a junior year optional program in either visual communications, interior design, photography/multimedia or computer animation/multimedia, and then return to Shippensburg University for their senior year.

Art majors at Shippensburg University who wish to enroll in the junior year option at one of the Art Institutes must have junior status and have completed all foundation courses and other required art course work.

Following the completion of one of the above junior year options, students would return to Shippensburg University to complete the senior year of their program. Students electing to enroll in one of these options would, in addition to the 30 credit hours of specialized instruction completed at one of the Art Institutes, also complete all specifically required art courses at Shippensburg (37 credit hours: 22 credit hours of required art courses and 15 credit hours of unrestricted art electives), the prescribed distribution of general education courses (48 credit hours), plus 5 credit hours of free electives at Shippensburg University. The total number of hours required for graduation would remain at 120. Junior option courses would be accepted for transfer upon receipt of an official transcript from the Art Institute (only C grades or above will transfer).

There is also a reciprocal agreement for graduates of an Art Institute. Any student from one of the Art Institutes who has successfully completed a two-year program in either visual communication, interior design,

photography/multimedia, or computer animation/multimedia would be accepted into the baccalaureate degree program in art at Shippensburg University. Art Institute graduates would be accepted with 45 credit hours of transferred credits, with C grades or better, applicable toward the 120 credits required for graduation. These students would complete 19 credit hours of art (as determined by the associate dean of the College of Arts and Sciences and the chair of the Department of Art and Design) and 48 credit hours of general education course work as required for graduation and 8 credits of free electives.

A visiting student program has been established between Shippensburg University and the Fashion Institute of Technology of New York City, N.Y. This program offers art majors the opportunity to take courses at FIT in order to supplement the art program at Shippensburg University without the necessity of a formal transfer. The areas in which art majors may apply are fashion design, advertising design, textile/surface design, and accessories design. The same policy of transfer credits applies as with the Art Institute previously stated.

Bachelor of Arts

Art, B.A.

Requirements for the Art Major - 39 crs.

The art major program for a B.A. in art consists of basic core courses plus a selected concentration, which may be fine arts, history, or studio. Please note that some courses are only offered in the fall or spring. Students should plan their schedules accordingly and with care. All art majors are required to take the following courses:

Foundation Courses (12 crs.)

(Taken during first year of program)

- ART 101 - Art Appreciation Credits: 3
- ART 110 - Basic Drawing Credits: 3
- ART 215 - Color and Two-Dimensional Design Credits: 3 offered in fall only
- ART 218 - Three-Dimensional Design Credits: 3 offered in spring only

Additional Foundation Courses (12 crs.)

- ART 210 - Drawing II Credits: 3
- ART 232 - Art History II Credits: 3 offered in fall only
- ART 233 - Art History III Credits: 3 offered in spring only
- ART 385 - Senior Art Seminar Credits: 3 (One year sequential course which begins in the fall; students may not enter mid-year.)

Art Electives (15 crs.)

All art majors also must elect five courses (15 crs.) or six courses (18 crs.) if ART 101, ART 232, or ART 233 is taken as a general education elective in Category B of the General Elective credits required by Shippensburg University. Not all courses are offered every semester. Students should check with their advisor to learn the sequence of courses and the general education courses required for their major as they develop their four-year plan. Four of the six electives must be 300 level or higher. Courses are selected from the following list:

- ART 211 - Figure Drawing Credits: 3 offered in 'even' year fall only
- ART 217 - Computer Design I Credits: 3
- ART 231 - Art History I Credits: 3 offered in 'even' year fall only
- ART 300 - Independent Studio/Ceramics Credits: 3
- ART 301 - Independent Studio/Drawing Credits: 3
- ART 302 - Independent Studio/Enameling Credits: 3
- ART 303 - Independent Studio/Painting Credits: 3
- ART 304 - Independent Studio/Sculpture Credits: 3
- ART 305 - Independent Studio /Computer Design Credits: 3
- ART 306 - Computer Design II Credits: 3 offered in spring only
- ART 309 - Independent Studio Credits: 3
- ART 319 - Computer Design III Credits: 3 offered in spring only
- ART 321 - Watercolor I Credits: 3 offered in spring only
- ART 322 - Watercolor II Credits: 3 offered in fall only
- ART 326 - Painting I Credits: 3 offered in fall only
- ART 327 - Painting II Credits: 3 offered in spring only
- ART 337 - Printmaking I Credits: 3
- ART 339 - History of American Art Credits: 3 offered in 'even' year fall only
- ART 340 - Ceramics Credits: 3 offered in fall only
- ART 341 - Advanced Ceramics Credits: 3 offered in spring only
- ART 356 - Social Structures of Aesthetics, Philosophy and Criticism in the Arts Credits: 3
- ART 370 - Sculpture Credits: 3 offered in fall only
- ART 393 - Selected Topics in Art Credits: 1-3
- ART 395 - Internship in Art I Credits: 3
- ART 399 - Independent Study Credits: 3
- ART 400 - Contemporary Methods in Art Education Credits: 3
- ART 425 - Computer Design IV Credits: 3 offered in spring only
- ART 430 - Computer Design V Credits: 3
- ART 435 - Computer Design VI Credits: 3 offered in spring only
- ART 490 - Selected Topics in Art Credits: 1-3

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

Art Education Certification, B.A.

In addition to the 24 credits of foundation courses listed under the Art (B.A.), the following are required courses for the Art Education Certification program, including the College of Education and Human Services required courses for Pennsylvania Certification, K-12.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Required Art Courses

- ART 217 - Computer Design I Credits: 3
- ART 326 - Painting I Credits: 3 offered in fall only
- ART 340 - Ceramics Credits: 3
- ART 356 - Social Structures of Aesthetics, Philosophy and Criticism in the Arts Credits: 3
- ART 370 - Sculpture Credits: 3 offered in fall only
- ART 400 - Contemporary Methods in Art Education Credits: 3

Required General Education Courses

Students are required to complete the following courses as part of their general education requirements:

- BIO 145 - Environmental Biology Credits: 3
- ESS 108 - Conservation of Natural Resources Credits: 3
- GEO 103 - Geography of the United States and Canada Credits: 3
- PSY 101 - General Psychology Credits: 3
- Students must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185).

Required College of Education and Human Services courses

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
(Students in the K-12 Art Certification program will take 12 crs. of EDU 495)

Note:

Students must also take the Praxis I and II Examinations and complete all Pennsylvania Certification requirements to earn K-12 certification from the Pennsylvania Department of Education (PDE).

Certificate

Graphic Design Certificate

Required Courses (18 crs.)

- ART 217 - Computer Design I Credits: 3

- ART 306 - Computer Design II Credits: 3 offered in spring only
- ART 319 - Computer Design III Credits: 3 offered in fall only
- ART 425 - Computer Design IV Credits: 3 offered in spring only
- ART 430 - Computer Design V Credits: 3 offered in fall only
- ART 435 - Computer Design VI Credits: 3 offered in spring only

Minor

Art Minor

21 crs.

Foundation Courses (9 crs.)

- ART 110 - Basic Drawing Credits: 3
- ART 215 - Color and Two-Dimensional Design Credits: 3 Offered in fall only
- ART 218 - Three-Dimensional Design Credits: 3 Offered in spring only

Art History Elective (3 crs.)

- ART 231 - Art History I Credits: 3 Offered in 'even year' fall only
- ART 232 - Art History II Credits: 3 Offered in fall only
- ART 233 - Art History III Credits: 3 Offered in spring only
- ART 339 - History of American Art Credits: 3

Art Electives (9 crs.)

At least 6 credits must be 300/400 level courses.

- ART 210 - Drawing II Credits: 3
- ART 211 - Figure Drawing Credits: 3
- ART 217 - Computer Design I Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 300 - Independent Studio/Ceramics Credits: 3
- ART 301 - Independent Studio/Drawing Credits: 3
- ART 302 - Independent Studio/Enameling Credits: 3
- ART 303 - Independent Studio/Painting Credits: 3
- ART 304 - Independent Studio/Sculpture Credits: 3
- ART 305 - Independent Studio /Computer Design Credits: 3
- ART 306 - Computer Design II Credits: 3 Offered in spring only
- ART 309 - Independent Studio Credits: 3
- ART 319 - Computer Design III Credits: 3 Offered in fall only
- ART 321 - Watercolor I Credits: 3 Offered in spring only
- ART 322 - Watercolor II Credits: 3 Offered in fall only
- ART 326 - Painting I Credits: 3 Offered in fall only

- ART 327 - Painting II Credits: 3 Offered in spring only
- ART 340 - Ceramics Credits: 3
- ART 341 - Advanced Ceramics Credits: 3 Offered in spring only
- ART 356 - Social Structures of Aesthetics, Philosophy and Criticism in the Arts Credits: 3
- ART 370 - Sculpture Credits: 3 Offered in fall only
- ART 393 - Selected Topics in Art Credits: 1-3
- ART 395 - Internship in Art I Credits: 3
- ART 399 - Independent Study Credits: 3
- ART 400 - Contemporary Methods in Art Education Credits: 3
- ART 425 - Computer Design IV Credits: 3 Offered in spring only
- ART 430 - Computer Design V Credits: 3 Offered in fall only
- ART 435 - Computer Design VI Credits: 3 Offered in spring only
- ART 490 - Selected Topics in Art Credits: 1-3

Biology Department

The Department of Biology offers undergraduate programs leading to the Bachelor of Science degree in Biology with concentrations in health professions, ecology and environmental biology, biotechnology, clinical sciences and secondary education certification. The undergraduate program in biology is designed to provide students with a comprehensive foundation in life science, including experience with both theoretical and practical aspects of the discipline. Students will develop an understanding of significant core areas, including genetics, cellular biology, physiology, ecology, and organismal biology. In addition to the core curriculum, students may choose from a broad selection of courses that focus intensely on the various biological sub-disciplines. The program features exposure to the biological sciences through experiences in a combination of classroom, laboratory, and field studies. Studies in cognate areas such as chemistry, mathematics, and physics are an integral and significant component of contemporary biological education.

Biology Features

In addition to earning a Bachelor of Science (B.S.) degree in biology, students may choose to gain specialized training in one of the following concentrations: biotechnology (with a pre-forensics option), clinical sciences, ecology and environmental biology, health professions, and secondary education certification (with an environmental education certification option). As the cornerstone of the biology department, our faculty is concerned about instruction and our students. In addition to small classes taught by highly trained professors with expertise in their fields, we also offer the opportunity to participate directly in research with faculty members. Students may receive small research grants from the Shippensburg University Foundation to purchase supplies or to help defray the cost of attending professional meetings. Students are assigned a faculty advisor from the department to help guide them in course selection and career goals. Numerous opportunities exist for students to engage in internship experiences off campus. Students with an interest in marine science may enroll in summer courses through our affiliation with the Chincoteague Bay Field Station at Wallops Island, Virginia. Beta Beta Beta Biological Honor Society, the Biology Club, and the Health Sciences Club provide opportunities for service, learning, and recreation.

Biology Career Opportunities

Undergraduate degree programs in the Department of Biology make possible a multitude of career options. Students with an interest in a career in the health fields may enter professional schools to train for careers in medicine, veterinary science, optometry, dentistry, podiatry, chiropractic, physical therapy, or pharmacy. The clinical sciences concentration allows students to incorporate their clinical education in medical technology, histotechnology, cytotechnology or

respiratory therapy as their fourth year of undergraduate studies. Students with an interest in field studies and the environment can consider careers or graduate programs in conservation, wildlife biology, fisheries management, forestry, and ecology. Industries and pharmaceutical companies recruit students with a background in cell biology, microbiology, and biotechnology. Students who earn secondary education certification begin professions as secondary school teachers. Careers in clinical or academic research, college teaching, and other specialized fields usually require master's or doctoral-level degrees.

Chincoteague Bay Field Station

Shippensburg University is a charter member of the Chincoteague Bay Field Station, a joint venture with a number of the other Pennsylvania State System of Higher Education universities and several colleges and universities of neighboring states. The field station operates at Wallops Island, Virginia, for field and laboratory studies in marine sciences. An assortment of small boats provides a wide range of teaching and research capabilities. A laboratory, dormitory, dining facilities, and a full-time permanent staff are a part of the station. Four separate three-week sessions operate during the summer months with a variety of courses taught during each session by faculty from the member institutions. In addition, the station facilities are available for class field trips or weekend trips during the fall and spring. Students interested in these courses should contact the Shippensburg director of the Chincoteague Bay Field Station or visit www.cbfieldstation.org.

The following courses and others are offered regularly during the summer at the station:

- Field Methods of Oceanography
- Marine Biology
- Marine Invertebrates
- Marine Ecology
- Marine Ichthyology
- Marine Mammals
- Coastal Herpetology
- Coastal Ornithology
- Behavior of Marine Organisms
- Ecology of Marine Plankton
- Problems in Marine Sciences

Bachelor of Science

Biology, B.S.

Requirements

Students enrolled in a program of studies leading to the Bachelor of Science degree will fulfill the following requirements:

Biology Core Courses (13 crs.)

Students must earn a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

- BIO 260 - Genetics Credits: 4
- BIO 499 - Capstone Seminar in Biology Credits: 1

Upper Division Electives (13-14 crs.)

Ecology/Evolution Elective:

- BIO 242 - Ecology Credits: 3 or
- BIO 430 - Principles of Evolution Credits: 3

Physiology Elective:

- BIO 351 - Animal Physiology Credits: 4 or
- BIO 350 - Human Physiology Credits: 4

Organismal Elective:

- BIO 230 - Botany Credits: 3 or
- BIO 317 - Parasitology Credits: 3 or
- BIO 362 - Invertebrate Zoology Credits: 3 or
- BIO 363 - Vertebrate Zoology Credits: 3

Cellular Elective:

- BIO 220 - Microbiology Credits: 4 or
- BIO 385 - Cell Biology Credits: 3

Additional Biology Electives (14-15 crs.)

Electives should be selected with advisement. Biology credits should total at least 41.

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

Allied Fields (32 crs.)

Mathematics

MAT 211 Students unable to start at the level of Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
- OR
- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1

- CHM 227 - Introduction to Biochemistry Credits: 4
or
- CHM 222 - Modern Organic Chemistry II Credits: 3 and
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1
- Additional courses in biology, allied fields or other areas related to the major may be chosen with advisement

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology, Biotechnology Concentration, B.S.

Biotechnology is a collection of techniques that uses living organisms or substances from those organisms for specific applications. Individuals with training in biotechnology can work in a variety of jobs in industrial, government, and academic settings. These careers may be in research, product development, production, quality control, technical writing, sales, education, or administration. Students in the biology program at Shippensburg University may choose the concentration in biotechnology. Students enrolled in this program will obtain a broad background in biology, chemistry, and physics as well as gain substantial biotechnology laboratory experience that includes the cloning and manipulation of DNA, immunochemical analyses, and cell culture. Students interested in pre-forensics should take 7-8 credits of suggested Criminal Justice courses.

Students in the biotechnology concentration must maintain at least a 2.5 QPA in their major and overall program through graduation. Students who are withdrawn from this concentration because their QPA has fallen below the minimum 2.5 may reapply when they regain the minimum QPA.

Biology Core Courses (25 crs.)

Students must earn a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

- BIO 230 - Botany Credits: 3
- BIO 260 - Genetics Credits: 4
- BIO 385 - Cell Biology Credits: 3
- BIO 418 - Molecular Biology Credits: 3
- BIO 461 - Techniques in Biotechnology Credits: 3
- BIO 499 - Capstone Seminar in Biology Credits: 1

Upper Division Electives (7 crs.)

Physiology Elective:

- BIO 351 - Animal Physiology Credits: 4 or
- BIO 350 - Human Physiology Credits: 4

Experiential Elective

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

- BIO 397 - Introduction to Research Credits: 1-3
- BIO 398 - Research II Credits: 1-3
- or
- BIO 391 - Biology Internship I Credits: 1-3
- BIO 392 - Biology Internship II Credits: 1-3

Additional Biology Electives (9 crs.)

Electives should be selected with advisement. Biology credits should total at least 41.

Strongly Recommended Electives:

- BIO 220 - Microbiology Credits: 4
- BIO 324 - Pathogenic Microbiology Credits: 3
- BIO 371 - Human Anatomy Credits: 4
- BIO 408 - Principles of Virology Credits: 3
- BIO 409 - Immunology Credits: 3

Allied Fields (38-39 crs.)

Mathematics

MAT 221 Students unable to start at the level of Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
- OR

- MAT 217 - Statistics I Credits: 4
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1
- CHM 301 - Biochemistry I Credits: 3
- CHM 371 - Analytical Chemistry Credits: 4 or
- CHM 420 - Biochemistry II Credits: 3

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology, Clinical Sciences Concentration, B.S.

The Clinical Sciences concentration enables students who are interested in Medical Technology, Histotechnology, Cytotechnology or Respiratory Therapy to include their clinical training as part of their B.S. in Biology degree requirements. Students in this concentration may enter a clinical program in medical technology (aka: medical laboratory science), histotechnology, cytotechnology, or respiratory therapy after their junior year of college and then transfer credits back to Shippensburg University following successful completion of their clinical education. An overall GPA of at least 2.5 is required to be eligible for this concentration and application to clinical sites is required one year in advance of the professional program starting date. Credits from the clinical year will be used to meet remaining elective requirements for Biology in addition to meeting "free electives" to complete the B.S. in Biology degree.

The clinical year may be taken at any of the hospital schools affiliated with Shippensburg University or any other hospital program accredited by the National Accrediting Agency for Clinical Laboratory Science. Although hospitals give preference to their affiliates, admission is on a competitive basis and Shippensburg University cannot guarantee admission to a hospital program for the clinical year.

The following is a list of current hospital affiliations for Shippensburg University (or non-affiliated but approved sites):

Medical Technology

- Altoona Hospital, Augusta Health (Fishersville, VA)
- Conemaugh Memorial Medical Center (Johnstown, PA)
- Pennsylvania College of Health Sciences
- Reading Medical Center
- Rockingham Memorial Hospital (Harrisonburg, VA)
- Saint Vincent Health Center (Erie, PA)
- Williamsport Hospital Histotechnology
- York Hospital

Histotechnology

- Conemaugh Memorial Medical Center (Johnstown, PA)

Cytotechnology

- Thomas Jefferson University (Philadelphia, PA)
- Magee Women's Hospital (Pittsburgh, PA; non-affiliate)

Respiratory Therapy

- Lancaster Regional Medical Center (via Millersville University)

Biology Core Courses (24 crs.)

Students must earn at least a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 220 - Microbiology Credits: 4
- BIO 260 - Genetics Credits: 4
- BIO 350 - Human Physiology Credits: 4
- BIO 385 - Cell Biology Credits: 3
- BIO 300 - Careers in the Health Professions Credits: 1

Additional Biology Electives

(Must take at least 7 additional Biology elective credits; see below). Specific electives to meet Clinical Sciences concentration requirements.

Please note only 3 credits of research may count as biology electives. Credits in excess of that number count as free electives.

Medical Technology

Required:

- BIO 324 - Pathogenic Microbiology Credits: 3
- BIO 374 - Hematology Credits: 2
- BIO 409 - Immunology Credits: 3

Also recommended:

- BIO 317 - Parasitology Credits: 3
- BIO 418 - Molecular Biology Credits: 3

Histotechnology

Required:

- BIO 371 - Human Anatomy Credits: 4
- BIO 375 - Histology Credits: 3

Cytotechnology

Recommended:

- BIO 371 - Human Anatomy Credits: 4
- BIO 418 - Molecular Biology Credits: 3

Respiratory Therapy

Required:

- BIO 371 - Human Anatomy Credits: 4

Also recommended:

- BIO 409 - Immunology Credits: 3
- ENG 238 - Technical/Professional Writing I Credits: 3

Allied Fields (32 crs.)

Mathematics

Students unable to start at the level of MAT 211 Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
OR
- MAT 217 - Statistics I Credits: 4
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4
or
- CHM 222 - Modern Organic Chemistry II Credits: 3 and
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology, Ecology and Environmental Biology Concentration, B.S.

Students interested in ecological and environmental fields may choose the ecology and environmental biology concentration within the biology program. Students enrolled in this program will fulfill the following requirements:

Biology Core Courses (19 crs.)

Students must earn at least a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 230 - Botany Credits: 3
- BIO 242 - Ecology Credits: 3

- BIO 260 - Genetics Credits: 4
- BIO 499 - Capstone Seminar in Biology Credits: 1

Upper Division Electives (19-20 crs.)

Physiology Elective (4 crs.)

- BIO 351 - Animal Physiology Credits: 4 or
- BIO 350 - Human Physiology Credits: 4

Ecology and Conservation Electives (9 crs.)

Choose any 3:

- BIO 362 - Invertebrate Zoology Credits: 3
- BIO 363 - Vertebrate Zoology Credits: 3
- BIO 406 - Mammalogy Credits: 3
- BIO 412 - Ichthyology Credits: 3
- BIO 417 - Herpetology Credits: 3
- BIO 419 - Ornithology Credits: 3
- BIO 430 - Principles of Evolution Credits: 3
- BIO 442 - Aquatic Ecology Credits: 3
- BIO 444 - Conservation Biology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Cellular Elective (3-4 crs.)

- BIO 220 - Microbiology Credits: 4 or
- BIO 385 - Cell Biology Credits: 3

Experiential Elective (3 crs.)

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

- BIO 397 - Introduction to Research Credits: 1-3
- BIO 398 - Research II Credits: 1-3
- or
- BIO 391 - Biology Internship I Credits: 1-3
- BIO 392 - Biology Internship II Credits: 1-3

Additional Biology Electives (2-3 crs.)

Electives should be selected with advisement. Biology credits should total at least 41.

Allied Fields (35 crs.)

Geography-Earth Science

Choose one of the following courses:

- ESS 110 - Introduction to Geology Credits: 3
- ESS 210 - Physical Geology Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3

Mathematics

Students unable to start at the level of MAT 211 - Calculus I Credits: 4 will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
OR
- MAT 217 - Statistics I Credits: 4
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4
or
- CHM 222 - Modern Organic Chemistry II Credits: 3 and
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology, Health Professions Concentration, B.S.

Students in biology may pursue studies in a number of health sciences including pre-medicine, pre-dentistry, pre-optometry, pre-podiatry, pre-veterinary medicine, pre-pharmacy, pre-chiropractic, and pre-physical therapy. The Health Professions Committee, consisting of members of the Biology and Chemistry departments, provides students with advisement on such matters as course selection, professional school admission test information, and professional school interviews. Health professions-oriented students are encouraged to join the Health Sciences Club. This organization hosts professional program representatives and health care practitioners who discuss admissions procedures and criteria and career opportunities.

Shippensburg University Health Professions Committee Policy regarding support of pre-professional health science applicants is as follows:

The Health Professions Committee, comprised of faculty members from the biology and chemistry departments, provides students who are applying to medical, dental, optometry, podiatric, and veterinary medical programs practice interviews and committee letters of recommendation to support their applications. These particular disciplines are identified because admissions committees for these programs prefer committee letters of reference in lieu of individual reference letters. Students applying to other health professional programs will obtain individual letters of reference as required for their professional school applications.

The policy of the Shippensburg University Health Professions Committee requires a minimum 3.2 cumulative QPA (medical, dental, veterinary applicants) or 3.0 cumulative QPA (optometry, podiatric applicants) in order for a student to be granted a practice interview and committee letter. For transfer students, at least two semesters must be completed at Shippensburg University before a committee interview and letter will be provided. This minimum QPA requirement is based on the past history of success for former students and the recommendations set forth by professional programs. However, this requirement does not imply these minimum QPAs will be competitive for successful application.

Students should seek counsel from their pre-health advisor regarding the suitability of their qualifications for their desired program of study prior to requesting a committee interview and letter. Committee interviews are typically conducted in mid-April and requests for interviews should be made to the primary health science advisor prior to April 1 of the application year.

Affiliations

Shippensburg University has several agreements with health professional schools that enable qualified and motivated students to enter a professional program before they complete their requirements for the baccalaureate degree. If students complete at least 90 credits of specific course work (with advisement), Shippensburg University will accept credits transferred from the affiliated program after students complete their first professional year. Students are then awarded a B.S. in biology. Though admission is not guaranteed, the programs do give Shippensburg University students preferred consideration for admission. Accelerated articulation agreements exist with:

- Philadelphia College of Osteopathic Medicine
- Salus University - College of Optometry
- Temple University School of Podiatric Medicine
- Temple University School of Dentistry
- New York Chiropractic College
- Logan Chiropractic College
- Thomas Jefferson University - Jefferson College of Health Professions

An articulation program also exists with Arcadia University's Physician Assistant master's degree program.

The Thomas Jefferson University College of Health Professions affiliation enables students to pursue undergraduate degrees in radiologic sciences, biotechnology, cytotechnology and nursing, a master's degree in occupational therapy, and a doctoral degree in physical therapy. Students complete two or three years of specific course work at Shippensburg University prior to being admitted to Thomas Jefferson University for the professional portion of their program.

Students in the health professions concentration must maintain at least a 2.8 QPA in their major and overall program through graduation. Students who are withdrawn from the health professions track because their QPA has fallen below the 2.8 minimum may reapply when they regain the minimum QPA.

Biology Core Courses (17 crs.)

Students must earn a "C" or better in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 220 - Microbiology Credits: 4
- BIO 260 - Genetics Credits: 4
- BIO 499 - Capstone Seminar in Biology Credits: 1

Upper Division Electives (13-14 crs.)

Physiology Elective:

- BIO 351 - Animal Physiology Credits: 4 or
- BIO 350 - Human Physiology Credits: 4 (required for pre-physical therapy students.)

Anatomy Elective:

- BIO 370 - Comparative Vertebrate Anatomy Credits: 4 or
- BIO 371 - Human Anatomy Credits: 4 (required for pre-physical therapy students.) or
- BIO 375 - Histology Credits: 3

Molecular/Cellular Elective:

- BIO 385 - Cell Biology Credits: 3 or
- BIO 418 - Molecular Biology Credits: 3

Breadth Elective: Choose One

- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 230 - Botany Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 330 - Animal Behavior Credits: 3
- BIO 363 - Vertebrate Zoology Credits: 3
- BIO 412 - Ichthyology Credits: 3

- BIO 417 - Herpetology Credits: 3
- BIO 419 - Ornithology Credits: 3
- BIO 430 - Principles of Evolution Credits: 3

Additional Biology Electives (10-11 crs.)

Electives should be selected with advisement. Certain professional schools may have specific requirements.

BIO 300 - Careers in the Health Professions Credits: 1 (strongly recommended)

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

Allied Fields (31-34 crs.)

Mathematics

MAT 211 Students unable to start at the level of Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
OR
- MAT 217 - Statistics I Credits: 4
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4 or
- CHM 222 - Modern Organic Chemistry II Credits: 3 required for pre-med, pre-dental, pre-vet, and pre-pharmacy students. Check professional program chemistry prerequisites for other health disciplines.
and

- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1 required for pre-med, pre-dental, pre-vet, and pre-pharmacy students. Check professional program chemistry prerequisites for other health disciplines.
and
- CHM 301 - Biochemistry I Credits: 3 required for pre-med, pre-dental, pre-vet, and pre-pharmacy students. Check professional program chemistry prerequisites for other health disciplines.

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology with Secondary Certification, B.S.

Students enrolled in a program of studies leading to the Bachelor of Science degree with secondary certification will fulfill the following requirements:

Biology Core Courses (25 crs.)

Students must earn a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 208 - Field Biology Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 260 - Genetics Credits: 4
- BIO 385 - Cell Biology Credits: 3
- BIO 430 - Principles of Evolution Credits: 3
- BIO 499 - Capstone Seminar in Biology Credits: 1

Physiology Elective (4 crs.)

- BIO 350 - Human Physiology Credits: 4 or
- BIO 351 - Animal Physiology Credits: 4

Additional Biology Electives (9 crs.)

Electives should be selected with advisement. Biology credits should total at least 38.

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

Allied Fields (24 crs.)

Mathematics

MAT 211 Students unable to start at the level of Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

(Not required but strongly recommended)

- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4

Prescribed General Education Course (3 crs.)

Students must complete the following course as part of their general education requirements:

- PSY 101 - General Psychology Credits: 3

Professional Education Requirements (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 440 - Teaching of Science in Secondary Schools Credits: 3
- EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

Students seeking certification in secondary education are also required to complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185).

Minor

Biology Minor

19 crs.

Required (8 crs.)

Students must earn a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

Electives (11 crs.)

Electives are to be selected from courses intended for biology majors. At least two 3 credit-hour courses must be at the 300-level or above. BIO 237 , BIO 238 , seminar, internship, and research cannot be used to meet requirements for the minor.

Certification

Environmental Education Certification

Shippensburg University offers an approved program in environmental education. The program may be taken by elementary education majors as an academic sequence or by secondary education majors in biology or geography/earth science. Secondary students in other fields may enroll in the program with the permission of their department chair.

The environmental education program at Shippensburg is a somewhat structured program, but it also allows for much diversity in the selection of courses for the completion of the requirements for certification. Certification allows the teacher to instruct any subject matter that is labeled as environmental education in any grade from kindergarten through the 12th grade.

To receive the certification a student must complete a minimum of 24 credits from the courses described below. The only course which is required of all students is EDU 410 - Environmental Education Practicum Credits: 3.

The practicum is offered during fall semester of odd numbered years and summers during even numbered years.

The additional 21 credits may be selected in a variety of ways. Among the 21 credits, a minimum of 12 credits must be selected from core courses and 9 credits must be selected from courses outside of the student's major field of study. These 21 credits must be selected from a minimum of three departments of the university and include a statistics course.

24 crs.

Required Course

- EDU 410 - Environmental Education Practicum Credits: 3

Core Courses (12 crs. minimum)

The student must select a minimum of one course from each of the four categories (A-D) below. Additional courses may be counted toward Related Electives.

Category A

- BIO 142 - Introduction to Ecology Credits: 3
- BIO 242 - Ecology Credits: 3

Category B

- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Category C

- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3

Category D

- BIO 145 - Environmental Biology Credits: 3
- ESS 108 - Conservation of Natural Resources Credits: 3

Related Electives

Any remaining credits must be selected from the courses listed below. It is recommended students take as broad a base of courses as possible if they have a strength in one of the science areas. If an area of strength is not evident, it is recommended that the remaining electives be used to establish one.

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 121 - Physical Anthropology Credits: 3
- BIO 205 - Marine Biology Credits: 3
- BIO 220 - Microbiology Credits: 4
- BIO 245 - Marine Ecology Credits: 3
- BIO 444 - Conservation Biology Credits: 3
- BIO 362 - Invertebrate Zoology Credits: 3

- BIO 363 - Vertebrate Zoology Credits: 3
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- ECO 310 - Public Finance Credits: 3
- ECO 340 - Introduction to Regional Economics Credits: 3
- ECO 345 - The Economics of Growth and Development Credits: 3
- ESS 220 - Oceanography Credits: 3
- ESS 355 - Meteorology Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- GEO 103 - Geography of the United States and Canada Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- GEO 203 - Climatology Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 371 - Public Management Credits: 3
- MAT 117 - Applied Statistics Credits: 3

Note:

BIO 205, BIO 245, BIO 446 are offered at the Marine Science Consortium, Wallops Island, Virginia.

A student should normally indicate interest in receiving the certification early in his/her undergraduate studies. This interest should be communicated to his/her advisor or department chair so a suitable program can be planned which will allow the student to complete the requirements within a normal four-year program. Students and advisors are urged to consult the catalog for any prerequisites for courses above the 100 levels.

General Science Certification

Students completing the requirements leading to certification as a secondary school teacher may elect to satisfy the requirements for additional certification in General Science by completing the following requirements:

Biology (9 crs.)

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 145 - Environmental Biology Credits: 3
- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Chemistry (8 crs.)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Physics (9 crs.)

- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 122 - Introductory Physics II - Lecture Credits: 3

Mathematics (8 crs.)

- MAT 117 - Applied Statistics Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4

Computer Science (3 crs.)

- CSC 103 - Overview of Computer Science Credits: 3
- CSC 180 - Microcomputer Basic Credits: 3
- EDU 420 - Microcomputers in the Classroom Credits: 3

Earth-Space Science (3 crs.)

- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3
- ESS 212 - Historical Geology Credits: 3
- ESS 220 - Oceanography Credits: 3
- ESS 355 - Meteorology Credits: 3

Chemistry and Biochemistry Department

The Department of Chemistry offers undergraduate programs leading to the Bachelor of Science degree with programs in chemistry and the following concentrations: chemistry-biochemistry, chemistry-pre-pharmacy, chemistry-forensics, and certification as a secondary school teacher. The major in chemistry is designed to provide students with a thorough grounding in the fundamental areas of the discipline. Within the core curriculum, students will receive a solid foundation in the basic areas of inorganic, organic, biochemical, physical, and analytical/instrumental chemistry. In addition to this core curriculum, individuals can choose from a selection of elective courses intended to develop a deeper understanding of specific areas. The course of study weaves the theoretical and experimental aspects of chemistry through a series of laboratory courses designed to augment classroom work.

Chemistry Features

The chemistry program is certified by the American Chemical Society (ACS). The chemistry major allows for a B.S. as well as concentrations in biochemistry, pre-pharmacy, forensics. Students desiring admission to medical, dental, veterinary or other professional schools post graduation are encouraged to consider the biochemistry concentration. Opportunities exist for undergraduate research projects under the direction of individual professors. A research experience during the senior year is strongly encouraged and supported. Students desiring certification by the American Chemical Society must complete the required core curriculum and in addition take two credits in Introduction to Research and one credit in Chemistry Seminar. All chemistry majors take a comprehensive exam after completion of their junior year.

Chemistry Career Opportunities

The degree in chemistry affords a variety of career opportunities. It allows students to enter the fields of industry, government, teaching, or advanced study in professional or graduate schools. Industrial or business employment generally involves laboratory testing and research with energy, petrochemical, pharmaceutical, environmental analysis, or agricultural chemical companies. Government agencies such as the Environmental Protection Agency, Department of Agriculture, National Institutes of Health, or law enforcement agencies require chemists for entry level positions. Additionally, there is a strong demand for science teachers in the secondary schools. Chemistry graduates have access to postgraduate programs at major universities. Professional and graduate degrees lead to careers in medicine, dentistry, other health related professions, or to careers in clinical or academic research.

ACS Certification

Shippensburg University offers a program of study in chemistry approved by the American Chemical Society (ACS). This program is designed for students who plan technical careers in industry or government or graduate work in chemistry. All concentrations within the Chemistry B.S. are eligible for ACS certification if all requirements described in this section are met. Any student desiring departmental recommendation for graduate work and certification by the ACS should satisfactorily complete the following chemistry courses: CHM 121, CHM 122, CHM 123, CHM 124, CHM 221, CHM 222, CHM 223, CHM 224, CHM 301, CHM 324, CHM 363, CHM 364, CHM 371, CHM 381, and CHM 4XX (any 400-level course), 2 credits in CHM 496 Introduction to Research I/CHM 497 Introduction to Research II and 1 credit in CHM 312 Chemistry Seminar. Additional requirements are mathematics through MAT 212, a computer skills course meeting the requirements as specified by the department (CSC 103 does not satisfy this requirement), and eight hours of calculus-based physics. A foreign language is recommended but not required. All chemistry majors will take a comprehensive examination in the beginning of the fall semester of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Bachelor of Science

Chemistry, B.S.

Shippensburg University offers a program of study in chemistry approved by the American Chemical Society (ACS). This program is designed for students who seek technical careers in industry or government or graduate work in chemistry. Any student desiring departmental recommendation for graduate work and certification by the American Chemical Society should complete the department core curriculum and the following courses.

Chemistry Core Curriculum

The following courses are part of the department core curriculum. These courses are required for all chemistry majors and concentrations. All chemistry majors will take a comprehensive examination in the beginning of the fall semester

of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Allied Fields (20 crs.)

Arts and Sciences students majoring in chemistry must take the following courses in allied fields.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Chemistry Core Curriculum and additional 9 credits in chemistry coursework listed below:

Choose one of the following chemistry seminar courses:

- CHM 312 - Chemistry Seminar Credits: 1
- CHM 313 - Chemistry Seminar Credits: 1
- CHM 314 - Chemistry Seminar Credits: 1
- CHM 315 - Chemistry Seminar Credits: 1

- CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1

- CHM 490 - Selected Topics in Chemistry Credits: 1-3 or
- CHM 420 - Biochemistry II Credits: 3

- CHM 481 - Advanced Inorganic Chemistry Credits: 4

Allied Fields (4 crs.)

Arts and sciences students majoring in chemistry must take the following courses in allied fields.

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 106 - Computer Science I - Lab Credits: 1

Chemistry, Biochemistry Concentration, B.S.

Biochemistry is the study of chemistry focused on living organisms. The biochemistry concentration is designed to prepare students for careers or graduate study in biochemistry and meets the recommended guidelines of both the American Society for Biochemistry and Molecular Biology and the American Chemical Society. The biochemistry curriculum also prepares students for application to medical, dental, and veterinary school. Students interested in completing the chemistry-biochemistry concentration must complete all courses in the chemistry core curriculum and those listed below. Students desiring additional preparation and certification by the American Chemical Society should also complete the requirements listed under ACS Certification.

Chemistry Core Curriculum

The following courses are part of the department core curriculum. These courses are required for all chemistry majors and concentrations. All chemistry majors will take a comprehensive examination in the beginning of the fall semester of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Allied Fields (20 crs.)

Arts and Sciences students majoring in chemistry must take the following courses in allied fields.

- MAT 211 - Calculus I Credits: 4

- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Biochemistry Concentration

Chemistry Core Curriculum and additional 7 credits in chemistry coursework listed below:

CHM 496 or CHM 497 Introduction to Research 1 cr. [(biochemistry concentration students that desire ACS certification must complete a total of 3 credits in research)]

- CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1
- CHM 420 - Biochemistry II Credits: 3
- CHM 421 - Biochemistry Laboratory Credits: 1
- CHM 496 - Introduction to Research I Credits: 1-3
- CHM 312 - Chemistry Seminar Credits: 1

Allied Fields Required (13-14 crs.)

- BIO 260 - Genetics Credits: 4
- BIO 385 - Cell Biology Credits: 3
- BIO 461 - Techniques in Biotechnology Credits: 3

(Choose 1 of the following) 3-4 crs.

- CHM 481 - Advanced Inorganic Chemistry Credits: 4
- BIO 220 - Microbiology Credits: 4
- BIO 408 - Principles of Virology Credits: 3
- BIO 409 - Immunology Credits: 3

Chemistry, Forensics Concentration, B.S.

The forensics concentration has a curriculum that includes the Chemistry B.S. with additional courses in biology and criminal justice to prepare a student for application to a masters program in forensic science. Ultimately, these students will be candidates for employment in the forensic chemistry field. Students interested in completing the chemistry-forensics concentration must complete all courses in the chemistry core curriculum and those listed below. Students desiring additional preparation and certification by the American Chemical Society should also complete the requirements listed under ACS Certification.

Students enrolled in the forensic concentration may apply for an internship at the Cumberland County District Attorney's Office Forensic Laboratory in Carlisle, PA. To be eligible for the internship students must have completed Organic Chemistry II, have a minimum QPA of 3.0, complete a background check and polygraph test at an interview.

Students who would like to graduate with ACS certification must take an additional 2 credits in research and CHM 312
- Chemistry Seminar Credits: 1.

Chemistry Core Curriculum

The following courses are part of the department core curriculum. These courses are required for all chemistry majors and concentrations. All chemistry majors will take a comprehensive examination in the beginning of the fall semester of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Allied Fields (20 crs.)

Arts and Sciences students majoring in chemistry must take the following courses in allied fields.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Allied Fields Required (16 crs.)

- CRJ 100 - Introduction to Criminal Justice Credits: 3
- CRJ 211 - Criminal Law and Procedure Credits: 3
- CRJ 336 - Introduction to Forensic Science Credits: 3
- CRJ 456 - Forensic Science: Evidence Analysis Credits: 3
- BIO 260 - Genetics Credits: 4

Chemistry, Pre-Pharmacy Concentration, B.S.

The pre-pharmacy concentration includes a curriculum that prepares students for application to a doctorate in pharmacy (Pharm.D.) program while earning a B.S. in chemistry. The curriculum prepares students for transfer into the first of four professional years of pharmacy school after receiving their B.S. in chemistry from Shippensburg University. Students need not commit to the concentration until the end of their sophomore year. Course advisement will be used when considering the varied requirements of the Pennsylvania colleges of pharmacy; however, all students who opt for this concentration will easily satisfy the course requirements to apply to several pharmacy schools. In addition, students will be encouraged to shadow pharmacists in the area and to attend seminars within our department that will introduce the various jobs that pharmacists perform. The chemistry and biology curriculum requirements prepare students to successfully take the Pharmacy College Admissions Test (PCAT) exam.

Students interested in completing the chemistry-pre-pharmacy concentration must complete all courses in the chemistry core curriculum and those listed below. Students desiring additional preparation and certification by the American Chemical Society should also complete the requirements listed under ACS Certification.

The pre-pharmacy concentration is intended to prepare students who complete four years at Shippensburg University to apply for entrance to the third year of a six-year pharmacy program. Students intending to apply to a pharmacy school will be advised to take an additional 9-10 credits of free electives to specifically meet the pre-professional requirements of individual schools prior to matriculating. Before applying to any pharmacy school, students must take the Pharmacy College Admission Test (PCAT). A competitive score on the PCAT and QPA is required for acceptance into pharmacy school.

Chemistry Core Curriculum

The following courses are part of the department core curriculum. These courses are required for all chemistry majors and concentrations. All chemistry majors will take a comprehensive examination in the beginning of the fall semester of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Allied Fields (20 crs.)

Arts and Sciences students majoring in chemistry must take the following courses in allied fields.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Requirements

Chemistry Core Curriculum and additional 4-5 credits in chemistry coursework listed below:

- CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1

Choose 1 of the following

- CHM 420 - Biochemistry II Credits: 3
- CHM 481 - Advanced Inorganic Chemistry Credits: 4
- CHM 490 - Selected Topics in Chemistry Credits: 1-3

Allied Fields Required (11 crs.)

- MAT 117 - Applied Statistics Credits: 3
- BIO 220 - Microbiology Credits: 4
- BIO 350 - Human Physiology Credits: 4 or
- BIO 371 - Human Anatomy Credits: 4

Chemistry Secondary Certification, B.S.

Students interested in teaching chemistry in the state of Pennsylvania should enroll in the Chemistry Secondary Education Certification program. Students enrolled in a program of studies leading to the degree of Bachelor of Science with secondary certification will fulfill the chemistry core curriculum and the requirements listed below. Students are expected to graduate with a minimum QPA of 3.0 as required by the state of Pennsylvania for certification. Any student enrolled in chemistry-secondary education desiring the additional preparation for this program and certification by the American Chemical Society must complete the Chemistry- secondary education curriculum and the additional requirements specified under ACS certification.

Teacher Education students majoring in chemistry must take the chemistry core curriculum and the following courses in allied fields. Some of these may be taken as general education

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1

- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Professional Education Requirements (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 440 - Teaching of Science in Secondary Schools Credits: 3
- EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Allied Fields (20 crs.)

Teacher Education students majoring in chemistry must take the following courses in allied fields. Some of these may be taken as general education.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 206 - Intermediate Physics II Credits: 3
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115) and 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250).

Chemistry, Medical Sciences Concentration, B.S.

To enter into this concentration, students must have a GPA of 3.2. Students in this concentration must maintain a GPA of 3.2 or better.

Students that choose this concentration are not eligible for American Chemical Society Certification.

Chemistry Requirements (34 crs.; 37 with General Education)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3 *counts towards General Education Category C requirement*
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 312 - Chemistry Seminar Credits: 1
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3
- CHM 420 - Biochemistry II Credits: 3
- CHM 496 - Introduction to Research I Credits: 1-3
- CHM 497 - Introduction to Research II Credits: 1-3

Additional Biology Requirements (15 crs.)

- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 260 - Genetics Credits: 4
- BIO 350 - Human Physiology Credits: 4
OR
- BIO 351 - Animal Physiology Credits: 4
- BIO 385 - Cell Biology Credits: 3

Physics Requirements (5 crs.; 8 crs. with General Education)

- PHY 123 - Physics I Laboratory Credits: 1
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3 *counts towards General Education Category C requirement*
- PHY 206 - Intermediate Physics II Credits: 3

Restricted Electives (4 crs.)

Choose 1 or 2 courses, with advisement

- BIO 220 - Microbiology Credits: 4
- BIO 375 - Histology Credits: 3
- BIO 408 - Principles of Virology Credits: 3
- BIO 418 - Molecular Biology Credits: 3

- BIO 461 - Techniques in Biotechnology Credits: 3
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 421 - Biochemistry Laboratory Credits: 1

Free Electives (11 crs.)

Students must complete 11 credits of free electives. Recommended free electives include the following:

- BIO 409 - Immunology Credits: 3
- CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1
- CHM 481 - Advanced Inorganic Chemistry Credits: 4
- CHM 490 - Selected Topics in Chemistry Credits: 1-3
- CSC 110 - Computer Science I - Lecture Credits: 3
- SOC 369 - Medical Sociology Credits: 3

Minor

Biochemistry Minor

Required (24/28 crs.)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1 or
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3 or
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1 or
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3 or
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1
- CHM 301 - Biochemistry I Credits: 3
- CHM 420 - Biochemistry II Credits: 3
- CHM 421 - Biochemistry Laboratory Credits: 1
- CHM 496 - Introduction to Research I Credits: 1-3

Chemistry Minor

Required (23-27 crs.)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1 or
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3 or
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1 or
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3 or
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1
- 7 additional chemistry course credits at the 300 or 400 level

Media/Journalism/Public Relations Department

The Department of Communication/Journalism offers an undergraduate program leading to a Bachelor of Arts degree with a major in communication/journalism. The goal of the department is to help students investigate communications and the many related careers available to the individual who has both a liberal arts and science background and a solid grounding in communications studies. The program provides students with skill and theory courses in three professional emphasis areas-public relations, print media, and electronic media. Throughout an undergraduate's tenure, instruction in practical skills is meshed with concern for the student's continuing intellectual, conceptual, and professional development. Upon graduation, students are well qualified to obtain an entry-level position in mass communications or use their education as a base for advanced study in communications, law, or business.

Communication/Journalism Features

The department offers classes with an average size of about 22 students. Students receive ample opportunity to learn and practice with digital technology used in the communications industry to develop competency in desktop publishing, web design, audio, video, and photography.

Campus organizations give students practical experience in the communications media:

- The Slate, campus weekly newspaper
- WSYC-FM, 24-hour campus radio station
- SUTV, campus television news station

- Cumberland, student yearbook
- Impel Group, public relations firm
- National Broadcasting Society chapter
- Public Relations Student Society of America chapter
- Society of Professional Journalists chapter

Opportunities for professional internships with local, regional, national, and international media and businesses are always available to qualified juniors and seniors. Although not departmentally required, students are urged to use the two available internship experiences during the academic year and/or summer as a necessary springboard to professional employment. The department maintains a computerized internship database to accommodate student searches for available opportunities.

Communication/Journalism Career Opportunities

A career in communication/journalism offers the dynamic challenges of working in today's media: the excitement of breaking news and events, the opportunity to meet and work with distinguished leaders and performers, and the satisfaction of being creative in your day-to-day work. Key employers are mass media: newspapers, radio, television, magazines, publishers, and online communicators. There are also public relations opportunities in industry and the professions, in government at all levels, and among non-profit institutions. Practitioners often move from the creative side of the business to media or organizational administration and management.

Admission Requirements

SU students wishing to transfer into the Department of Communication/Journalism need a 2.3 cumulative QPA. Students will be admitted based on the above criteria and space availability in the professional emphasis the student selects.

Bachelor of Arts

Communication/Journalism, Electronic Media Concentration, B.A.

The electronic media professional emphasis prepares students for careers working in television, radio, cable, web streaming and video production. In addition to being able to take professional classes in areas like electronic news gathering, studio and remote field production, sports journalism, media advertising, and on-air producing and performance, students benefit from hands-on experience through WSYC-FM and SUTV, our student-run radio and television stations, and two professional internship opportunities.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

42 crs.

All majors must take 42 credits in the Communication/Journalism major to graduate.

The Communication/Journalism major consists of a required Communication/Journalism Core (5 courses; 15 credits), a student-selected Professional Emphasis (4 courses; 12 credits), and Communication/Journalism Electives (5 courses; 15 credits).

Theory and Writing Core (15 crs.)

Each student must complete COM 111 and COM 112 with a C or better grade before taking any other communication/journalism courses:

- COM 111 - Introduction to Mass Communication Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 245 - Diversity and the Media Credits: 3

Each student must have the appropriate class standing before taking the final two core courses (6 crs.):

Prior to taking COM 355 students must have Jr. standing and have taken the following: COM 201 & COM 241, or COM 285 & COM 293, or COM 224 & COM 284

- COM 345 - Communication Law and Ethics Credits: 3
- COM 355 - Communication/Journalism Professional Practicum Credits: 3

Note:

Once a student has selected a professional emphasis area, he or she can transfer to another area if there is an opening in that emphasis and with the permission of the student's academic advisor.

Professional Emphasis (12 crs.)

Electronic Media

- COM 224 - Electronic Media Writing Credits: 3
- COM 284 - Electronic Media Basic Production Credits: 3
- COM 424 - Electronic Media Producing and Performance Credits: 3
- COM 484 - Electronic Media Programming and Management Credits: 3

Communication/Journalism Electives (15 crs.)

Students must complete five courses to complete the major.

- COM 290 - Advertising Copywriting Credits: 3
- COM 305 - Sports Journalism Credits: 3
- COM 335 - Media Advertising and Sales Credits: 3
- COM 360 - Basic Digital Photographic Communication Credits: 3
- COM 362 - Photojournalism Credits: 3

The Following Elective Courses Require Junior or Senior Status:

- COM 395 - Internship I Credits: 1-6
- COM 396 - Internship II Credits: 1-6
- COM 410 - Women and the Media Credits: 3
- COM 425 - Feature Writing Credits: 3
- COM 451 - Electronic Field Production Credits: 3
- COM 452 - Multimedia Journalism Credits: 3
- COM 460 - Case Studies in Public Relations Credits: 3
- COM 470 - Advanced Digital Photographic Communication Credits: 3
- COM 476 - Magazine Design Credits: 3
- COM 481 - Digital Media Design Credits: 3
- COM 482 - Internet Communication Credits: 3
- COM 490 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 491 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 492 - Selected Topics in Communication/Journalism Credits: 1-3

Note:

COM 395 and COM 396 may be scheduled through the department secretary by qualified juniors/seniors who have a 2.5 QPA and who have written approval from the department's internship coordinator. Only 6 credits of internship count towards the major; additional internship credits available only by departmental permission.

Communication/Journalism, Print and Online Media Concentration, B.A.

The Print & Online Media Professional Emphasis focuses on reporting and writing across a variety of styles and platforms, including breaking news, enterprise journalism and features. These stories are reported and produced using words, video, audio, graphics and various digital applications. The program of study prepares students for jobs in online media outlets and print publications such as newspapers and magazines.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

42 crs.

All majors must take 42 credits in the Communication/Journalism major to graduate.

The Communication/Journalism major consists of a required Communication/Journalism Core (5 courses; 15 credits), a student-selected Professional Emphasis (4 courses; 12 credits), and Communication/Journalism Electives (5 courses; 15 credits).

Theory and Writing Core (15 crs.)

Each student must complete COM 111 and COM 112 with a C or better grade before taking any other communication/journalism courses:

- COM 111 - Introduction to Mass Communication Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 245 - Diversity and the Media Credits: 3

Each student must have the appropriate class standing before taking the final two core courses (6 crs.):

Prior to taking COM 355 students must have Jr. standing and have taken the following: COM 201 & COM 241, or COM 285 & COM 293, or COM 224 & COM 284

- COM 345 - Communication Law and Ethics Credits: 3
- COM 355 - Communication/Journalism Professional Practicum Credits: 3

Note:

Once a student has selected a professional emphasis area, he or she can transfer to another area if there is an opening in that emphasis and with the permission of the student's academic advisor.

Professional Emphasis (12 crs.)

Print Media

- COM 285 - News Writing and Reporting Credits: 3
- COM 293 - Editing Credits: 3
- COM 375 - Public Affairs Reporting Credits: 3
- COM 478 - Digital Journalism Credits: 3

Communication/Journalism Electives (15 crs.)

Students must complete five courses to complete the major.

- COM 290 - Advertising Copywriting Credits: 3
- COM 305 - Sports Journalism Credits: 3
- COM 335 - Media Advertising and Sales Credits: 3
- COM 360 - Basic Digital Photographic Communication Credits: 3
- COM 362 - Photojournalism Credits: 3

The Following Elective Courses Require Junior or Senior Status:

- COM 395 - Internship I Credits: 1-6
- COM 396 - Internship II Credits: 1-6
- COM 410 - Women and the Media Credits: 3
- COM 425 - Feature Writing Credits: 3
- COM 451 - Electronic Field Production Credits: 3

- COM 452 - Multimedia Journalism Credits: 3
- COM 460 - Case Studies in Public Relations Credits: 3
- COM 470 - Advanced Digital Photographic Communication Credits: 3
- COM 476 - Magazine Design Credits: 3
- COM 481 - Digital Media Design Credits: 3
- COM 482 - Internet Communication Credits: 3
- COM 490 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 491 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 492 - Selected Topics in Communication/Journalism Credits: 1-3

Note:

COM 396 and COM 396 may be scheduled through the department secretary by qualified juniors/seniors who have a 2.5 QPA and who have written approval from the department's internship coordinator. Only 6 credits of internship count towards the major; additional internship credits available only by departmental permission.

Communication/Journalism, Public Relations Concentration, B.A.

The public relations professional emphasis prepares students for careers working in media relations, public affairs and digital strategic communications. The department offers a wide range of PR classes that not only teach students how to research, create, design and implement strategic communication plans and campaigns, but also how to use social media effectively in commercial, non-profit and governmental environments. Students have the opportunity to get involved in the PR departments of our student media groups and to join and lead our chapter of the Public Relations Student Society of America (PRSSA), a network of more than 11,000 students across the nation who study and practice professional public relations for real-world clients.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

42 crs.

All majors must take 42 credits in the Communication/Journalism major to graduate.

The Communication/Journalism major consists of a required Communication/Journalism Core (5 courses; 15 credits), a student-selected Professional Emphasis (4 courses; 12 credits), and Communication/Journalism Electives (5 courses; 15 credits).

Theory and Writing Core (15 crs.)

Each student must complete COM 111 and COM 112 with a C or better grade before taking any other communication/journalism courses:

- COM 111 - Introduction to Mass Communication Credits: 3
- COM 112 - Media Writing Credits: 3

- COM 245 - Diversity and the Media Credits: 3

Each student must have the appropriate class standing before taking the final two core courses (6 crs.):

Prior to taking COM 355 students must have Jr. standing and have taken the following: COM 201 & COM 241, or COM 285 & COM 293, or COM 224 & COM 284

- COM 345 - Communication Law and Ethics Credits: 3
- COM 355 - Communication/Journalism Professional Practicum Credits: 3

Note:

Once a student has selected a professional emphasis area, he or she can transfer to another area if there is an opening in that emphasis and with the permission of the student's academic advisor.

Professional Emphasis (12 crs.)

Public Relations

- COM 201 - Principles of Public Relations Credits: 3
- COM 241 - Public Relations Writing Credits: 3
- COM 381 - Promotional Publication Design Credits: 3
- COM 432 - Public Relations Research and Campaigns Credits: 3

Communication/Journalism Electives (15 crs.)

Students must complete five courses to complete the major.

- COM 290 - Advertising Copywriting Credits: 3
- COM 305 - Sports Journalism Credits: 3
- COM 335 - Media Advertising and Sales Credits: 3
- COM 360 - Basic Digital Photographic Communication Credits: 3
- COM 362 - Photojournalism Credits: 3

The Following Elective Courses Require Junior or Senior Status:

- COM 395 - Internship I Credits: 1-6
- COM 396 - Internship II Credits: 1-6
- COM 410 - Women and the Media Credits: 3
- COM 425 - Feature Writing Credits: 3
- COM 451 - Electronic Field Production Credits: 3
- COM 452 - Multimedia Journalism Credits: 3
- COM 460 - Case Studies in Public Relations Credits: 3
- COM 470 - Advanced Digital Photographic Communication Credits: 3
- COM 476 - Magazine Design Credits: 3

- COM 481 - Digital Media Design Credits: 3
- COM 482 - Internet Communication Credits: 3
- COM 490 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 491 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 492 - Selected Topics in Communication/Journalism Credits: 1-3

Note:

COM 396 and COM 396 may be scheduled through the department secretary by qualified juniors/seniors who have a 2.5 QPA and who have written approval from the department's internship coordinator. Only 6 credits of internship count towards the major; additional internship credits available only by departmental permission.

Minor

Communication/Journalism Minor

18 crs.

Required Core Courses (12 crs.)

Students must have Jr standing to take COM 345.

- COM 111 - Introduction to Mass Communication Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 245 - Diversity and the Media Credits: 3
- COM 345 - Communication Law and Ethics Credits: 3

Elective Courses (6 crs.)

Students enrolled in the minor may take any two 200-400 level COM courses with approval of Communication/Journalism faculty advisor.

Note:

The Department of Communication/Journalism does not permit **any** transfer courses to be counted toward fulfillment of minor requirements.

Computer Science and Engineering Department

The Department of Computer Science and Engineering offers an undergraduate program leading to a Bachelor of Science degree in computer science, Bachelor of Science degree in computer engineering, and a Bachelor of Science degree in software engineering.

Languages

At Shippensburg University, the study of computer science, computer engineering, and software engineering as intellectual disciplines does not occur in a vacuum. Rather, study is oriented toward practical applications of computer science theory and methodology. As a result, the department feels part of its responsibility is to assist students in the concrete task of learning programming languages suitable for a variety of tasks.

Our introductory courses develop mastery in both Java and C so that our students are well-versed in both object-oriented and structured design. These languages are used in many courses throughout the remainder of the curriculum. In addition, all students will gain some knowledge of a variety of other languages (e.g., SQL in Database Management Systems).

Computer Science and Engineering Career Opportunities

Career opportunities in hardware and software development as a programmer, engineer or systems analyst have been and are predicted to be very favorable. The work environment and income potential are highly attractive. Opportunities exist among all employers, especially business and industry, government, science, and education.

Internships and co-ops are available for students to gain practical experience, and students are highly encouraged to participate in them.

Bachelor of Science

Computer Engineering, B.S.

Computer Engineering is a branch of engineering that combines software and electrical engineering to develop computer systems. Computer engineers are involved in the hardware development process, designing and building hardware systems; and they are involved in the software process, designing and building the operating systems and applications programs for those systems. These skills are vital for today's pervasive computing environment, where we are surrounded by systems built from discrete components, microcontrollers, embedded Systems-On-a-Chip, and reconfigurable logic devices.

The curriculum is designed to be a four-year, 120-credit-hour engineering program. The curriculum meets or exceeds national Computer Engineering academic standards. Generally, the curriculum requires 20 credits of computer engineering, 12 credits of computer science, 8 credits of elective/internship credit, 23 credits of mathematics, 20 credits of physics and engineering, and 39 credits of general education and basic science.

Students will learn how to program machines in a variety of languages, including C, Java, and Assembly languages; they will use CAD tools to design, build, and test printed circuit boards with microcontrollers, write software for their board, and integrate into existing systems; they will develop software for System-On-a-Chip systems using embedded operating systems and applications frameworks, they will build applications for mobile phones, and they will implement common algorithms on Digital Signals Processors; and they will use EDA tools to program reconfigurable FPGA devices for high-performance applications. Throughout this work, students will use sound engineering practices to guide their development processes.

Core Requirements

Engineering Core (12 crs.)

- ENGR 100 - Engineering Seminar I Credits: 1

- ENGR 110 - Modeling and Simulation Credits: 3
- ENGR 120 - Programming for Engineers Credits: 3
- ENGR 200 - Engineering Seminar II Credits: 1
- ENGR 300 - Engineering Seminar III Credits: 1
- ENGR 310 - Statistical Process Control Credits: 3

Physics (20 crs.)

- PHY 123 - Physics I Laboratory Credits: 1
and
- PHY 205 - Intermediate Physics I Credits: 3
OR
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 125 - Physics II Laboratory Credits: 1
and
- PHY 206 - Intermediate Physics II Credits: 3
OR
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 355 - Electronics Credits: 4

Mathematics (23 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 322 - Differential Equations Credits: 3

Computer Science and Engineering (32 crs.)

For the capstone experience, a student can take either CMPE 498 or CMPE 499.

- CMPE 220 - Computer Organization Credits: 4
- CMPE 320 - Operating Systems Credits: 4
- CMPE 322 - Microcontrollers & Interfaces Credits: 4
- CMPE 420 - Digital and Reconfigurable Computing Credits: 4
- CMPE 498 - Engineering Research Methods Credits: 2
- CMPE 499 - Engineering Design & Development Credits: 2
- CSC 431 - Computer Networks Credits: 4

Electives (8 crs.)

8 credits of CMPE or ELEC courses at 300 level or higher, internship, or CS course with departmental approval.

- CS or Engineering Elective/Internship

Computer Science, Computer Graphics Concentration, B.S.

The computer science program is designed to enable the student to gain knowledge of computer science and to apply this knowledge to an application area. Students will be proficient in developing computer software to solve problems in a number of contexts.

The computer science B.S. degree program and its concentrations are accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>, placing Shippensburg University among 30 Pennsylvania colleges and universities that have accredited ABET programs and one of 10 that include computer science programs.

Core Requirements (47 crs.)

Mathematics

- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3

Computer Science

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- CMPE 220 - Computer Organization Credits: 4
- CSC 310 - Design and Analysis of Algorithms Credits: 4
- CMPE 320 - Operating Systems Credits: 4
- CSC 371 - Database Management Systems Credits: 4
- CSC 498 - Senior Research Methods Credits: 2
- CSC 499 - Senior Research and Development Credits: 2
- SWE 200 - Design Patterns Credits: 4

Two Semester Science Sequence

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

OR

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

OR

- PHY 123 - Physics I Laboratory Credits: 1

- PHY 205 - Intermediate Physics I Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3

Computer Graphics Concentration (19-20 crs.)

- CSC 350 - Introduction to Computer Graphics Credits: 4
- CSC 361 - Video Game Programming Credits: 4
- CSC 451 - Computer Graphics Algorithms Credits: 4
- CSC/SWE/CMPE/ELEC Elective at 300 level or above

Interdisciplinary Course (Choose one):

- ART 217 - Computer Design I Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 339 - Remote Sensing Credits: 3

Course Sequencing

A typical first year sequence for all computer science majors is given below:

Semester I

- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- MAT 211 - Calculus I Credits: 4 *
- Three general education courses Credits: 9

Semester II

- CSC 111 - Computer Science II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Two general education courses Credits: 6

Note:

*Students unable to begin with MAT 211 - Calculus I may be required to take MAT 175 - Precalculus Credits: 3.

Students who wish to design a personalized concentration may do so with the help of their advisor. The advisor will then submit the request to the department for approval. The student's course of study must be approved by the department in writing.

The department maintains a suggested sequence for scheduling the courses required in the core and by the various pre-approved concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list will be available to students during scheduling.

Computer Science, Related Discipline Concentration, B.S.

The computer science program is designed to enable the student to gain knowledge of computer science and to apply this knowledge to an application area. Students will be proficient in developing computer software to solve problems in a number of contexts.

The computer science B.S. degree program and its concentrations are accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>, placing Shippensburg University among 30 Pennsylvania colleges and universities that have accredited ABET programs and one of 10 that include computer science programs.

Core Requirements (47 crs.)

Mathematics

- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3

Computer Science

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- CMPE 220 - Computer Organization Credits: 4
- CSC 310 - Design and Analysis of Algorithms Credits: 4
- CMPE 320 - Operating Systems Credits: 4
- CSC 371 - Database Management Systems Credits: 4
- CSC 498 - Senior Research Methods Credits: 2
- CSC 499 - Senior Research and Development Credits: 2
- SWE 200 - Design Patterns Credits: 4

Two Semester Science Sequence

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

OR

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

OR

- PHY 123 - Physics I Laboratory Credits: 1

- PHY 205 - Intermediate Physics I Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3

Related Discipline Concentration

- 2 CSC/SWE/CMPE/ELEC Electives at the 300 level or above
- Major/Minor in other discipline

*No electives can overlap with your other major/minor

Course Sequencing

A typical first year sequence for all computer science majors is given below:

Semester I

- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- MAT 211 - Calculus I Credits: 4 *
- Three general education courses Credits: 9

Semester II

- CSC 111 - Computer Science II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Two general education courses Credits: 6

Note:

*Students unable to begin with MAT 211 - Calculus I may be required to take MAT 175 - Precalculus Credits: 3.

Students who wish to design a personalized concentration may do so with the help of their advisor. The advisor will then submit the request to the department for approval. The student's course of study must be approved by the department in writing.

The department maintains a suggested sequence for scheduling the courses required in the core and by the various pre-approved concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list will be available to students during scheduling.

Electrical Engineering, B.S.

The Bachelor of Science in Electrical Engineering (EE) program provides a balance between theory and practice, and is designed to meet national accreditation requirements. Ship's EE program prepares students for careers in a broad array of electrical engineering fields including:

- Semiconductor and circuit design
- Mixed-signal embedded systems

- Industrial controls
- Communications system engineering

Students will learn about the impact of engineering solutions in a global, economic, environmental, and social context. Graduates will have an ability to use techniques, skills, and modern engineering tools necessary for engineering practice, and will engage in life-long learning to continue developing their skills and knowledge of the practice.

Degree Requirements

Math Cognate Courses (22 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 322 - Differential Equations Credits: 3
- MAT 375 - Probability and Statistics for Engineers Credits: 4

Physics Courses (20 crs.)

- PHY 123 - Physics I Laboratory Credits: 1
and
- PHY 205 - Intermediate Physics I Credits: 3
OR
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 125 - Physics II Laboratory Credits: 1
and
- PHY 206 - Intermediate Physics II Credits: 3
OR
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 355 - Electronics Credits: 4

Engineering Core (12 crs.)

- ENGR 100 - Engineering Seminar I Credits: 1
- ENGR 110 - Modeling and Simulation Credits: 3
- ENGR 120 - Programming for Engineers Credits: 3
- ENGR 200 - Engineering Seminar II Credits: 1
- ENGR 300 - Engineering Seminar III Credits: 1
- ENGR 310 - Statistical Process Control Credits: 3

Computer Engineering Courses (14 crs.)

Student can choose either CMPE 498 or CMPE 499

- CMPE 220 - Computer Organization Credits: 4
- CMPE 322 - Microcontrollers & Interfaces Credits: 4
- CMPE 420 - Digital and Reconfigurable Computing Credits: 4
- CMPE 498 - Engineering Research Methods Credits: 2 or
- CMPE 499 - Engineering Design & Development Credits: 2

Electrical Engineering Courses (12 crs.)

- ELEC 210 - Signals and Systems Credits: 4
- ELEC 300 - Foundations of Electronic Systems Credits: 4
- ELEC 360 - Communications Systems Credits: 4

Electives (4 crs.)

CMPE or ELEC courses, 300 level or above, or Internship

Software Engineering, B.S.

Software engineers develop really big software applications. When an application is too big for a few people to build, two things become critical. First, code that works is no longer good enough. Since a lot of people are going to have to work on the software, the quality of the internal design of the software matters. We need good ways to divide the system into pieces so different people can work on it and so that functionality can continue to be added to it. Second, there are specialized tools and team management processes that we use to ensure that the pieces we are building will fit together without losing any functionality. In addition, we need to be able to predict when we will be able to make a quality deliverable to our customer. Students studying software engineering complete a core of computer science courses and specialized courses in project management, software design patterns, large scale architectures, and team product development

Software engineering graduates are sought by organizations that have rigorous demands on their software. This includes military applications, fault tolerant applications like airplane control systems, and applications that are too large to fit on one machine. Also, large software development organizations employ software engineers to coordinate the activities of many software developers. This means that software engineers can work on anything from PC-based applications to real-time embedded control systems to enterprise-wide systems. Since they are well-versed in computer science techniques, software engineers can work in any software development activity.

Engineering (9 crs.)

- ENGR 100 - Engineering Seminar I Credits: 1
- ENGR 120 - Programming for Engineers Credits: 3
- ENGR 200 - Engineering Seminar II Credits: 1
- ENGR 300 - Engineering Seminar III Credits: 1
- ENGR 310 - Statistical Process Control Credits: 3

Software Engineering (20 crs.)

- SWE 200 - Design Patterns Credits: 4

- SWE 300 - Crafting Quality Code Credits: 4
- SWE 400 - Large Scale Architectures Credits: 4
- SWE 415 - Interdisciplinary Development Credits: 4
- SWE 420 - Extreme Programming Credits: 4

Computer Science (16 crs.)

- CSC 106 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 310 - Design and Analysis of Algorithms Credits: 4
- CSC 371 - Database Management Systems Credits: 4
- CSC 431 - Computer Networks Credits: 4

Computer Engineering (8 crs.)

- CMPE 220 - Computer Organization Credits: 4
- CMPE 320 - Operating Systems Credits: 4

Mathematics (16 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 375 - Probability and Statistics for Engineers Credits: 4

Two Semester Science Sequence

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

OR

- CHM 121 - Chemical Bonding Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

OR

- PHY 123 - Physics I Laboratory Credits: 1
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 206 - Intermediate Physics II Credits: 3

Electives

- 300/400 Level CSC/CMPE or SWE Elective

Mechanical Engineering, B.S.

The Bachelor of Science in mechanical engineering program prepares students for a wide variety of careers including the design and manufacturing of mechanical and, increasingly, electromechanical components and systems. Advances in technology continue to transform mechanical engineering, and we are using this new program as an opportunity to offer a program that prepares students for the modern workforce. The curriculum includes a focus on professional engineering practice, access to the latest Computer Assisted Design (CAD) and Computer Assisted Manufacturing (CAM) tools, with an emphasis on design for manufacturability, materials, modeling, simulation, process control, and rapid prototyping. One important aspect of this program will be a balance between theory and hands-on practice that will prepare students to be effective and practical engineers when they graduate.

Math Requirements (22 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 317 - Statistics II Credits: 3
- MAT 322 - Differential Equations Credits: 3

Science Requirements (20 crs.)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 206 - Intermediate Physics II Credits: 3
- PHY 331 - Mechanics I Credits: 4

Engineering Core (12 crs.)

- ENGR 100 - Engineering Seminar I Credits: 1
- ENGR 110 - Modeling and Simulation Credits: 3
- ENGR 120 - Programming for Engineers Credits: 3
- ENGR 200 - Engineering Seminar II Credits: 1
- ENGR 300 - Engineering Seminar III Credits: 1
- ENGR 310 - Statistical Process Control Credits: 3

Mechanical Engineering Requirements (35 crs.)

- CMPE 499 - Engineering Design & Development Credits: 2

- ELEC 230 - Instrumentation Credits: 3
- ELEC 330 - Control Systems Credits: 3
- MECH 200 - Statics Credits: 3
- MECH 210 - Dynamics Credits: 4
- MECH 220 - Fluids Credits: 4
- MECH 300 - Engineering Materials Credits: 4
- MECH 310 - Manufacturing Processes Credits: 4
- MECH 400 - Design Methods Credits: 4
- MECH 410 - Mechanics of Thermodynamics Credits: 4

Computer Science, Computer Science Applications Concentration, B.S.

The computer science program is designed to enable the student to gain knowledge of computer science and to apply this knowledge to an application area. Students will be proficient in developing computer software to solve problems in a number of contexts.

The computer science B.S. degree program and its concentrations are accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>, placing Shippensburg University among 30 Pennsylvania colleges and universities that have accredited ABET programs and one of 10 that include computer science programs.

Core Requirements (47 crs.)

Mathematics

- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3

Computer Science

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- CMPE 220 - Computer Organization Credits: 4
- CSC 310 - Design and Analysis of Algorithms Credits: 4
- CMPE 320 - Operating Systems Credits: 4
- CSC 371 - Database Management Systems Credits: 4
- CSC 498 - Senior Research Methods Credits: 2
- CSC 499 - Senior Research and Development Credits: 2
- SWE 200 - Design Patterns Credits: 4

Two Semester Science Sequence

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

OR

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

OR

- PHY 123 - Physics I Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3

Computer Science Applications Concentration Requirements (20 crs.)

- CSC 350 - Introduction to Computer Graphics Credits: 4
- CSC 403 - Machine Learning Credits: 4
- CSC 410 - Theoretical Foundations of Computer Science Credits: 4
- CSC 431 - Computer Networks Credits: 4
- CSC 462 - Artificial Intelligence Credits: 4

Course Sequencing

A typical first year sequence for all computer science majors is given below:

Semester I

- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- MAT 211 - Calculus I Credits: 4 *
- Three general education courses Credits: 9

Semester II

- CSC 111 - Computer Science II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Two general education courses Credits: 6

Note:

*Students unable to begin with MAT 211 - Calculus I may be required to take MAT 175 - Precalculus Credits: 3.

Students who wish to design a personalized concentration may do so with the help of their advisor. The advisor will then submit the request to the department for approval. The student's course of study must be approved by the department in writing.

The department maintains a suggested sequence for scheduling the courses required in the core and by the various pre-approved concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list will be available to students during scheduling.

Minor

Computer Science Minor

Core Courses (20 crs.)

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 107 - Computer Science I - Lab Credits: 1 or
- CSC 106 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- SWE 200 - Design Patterns Credits: 4 or
- CMPE 220 - Computer Organization Credits: 4
- 2 electives from CSC, CMPE or SWE at 300 level or higher.

Disability Studies Program

The Disability Studies Minor provides students with a cutting-edge, interdisciplinary body of knowledge and skills geared toward the exploration of the meaning and impact of disability across time, place, and group. As a field akin to Women's and Gender Studies and Ethnic Studies, Disability Studies sees individuals with disabilities as a valuable and integral part of the human community, and it examines the ways in which understandings of disability shape the fundamental aspects of our lives, relationships, and societies. In addition, the program raises awareness of disability issues, knowledge of disability rights and laws, and best practices towards creative toward inclusive and accessible environments and communities. The knowledge and skills gained will prepare students for disability-related careers and advanced study in disability studies, and will enhance and deepen their understanding of the multicultural fabric of contemporary society.

Minor

Disability Studies Minor

The Disability Studies Minor provides students with a cutting-edge, interdisciplinary body of knowledge and skills geared toward the exploration of the meaning and impact of disability across time, place, and group. As a field akin to Women's and Gender Studies and Ethnic Studies, Disability Studies sees individuals with disabilities as a valuable and integral part of the human community, and it examines the ways in which understandings of disability shape the fundamental aspects of our lives, relationships, and societies. In addition, the program raises awareness of disability issues, knowledge of disability rights and laws, and best practices towards creative toward inclusive and accessible

environments and communities. The knowledge and skills gained will prepare students for disability-related careers and advanced study in disability studies, and will enhance and deepen their understanding of the multicultural fabric of contemporary society.

18 crs.

Core Requirements (6 crs.)

To complete the Disability Studies minor, students will take the two core courses (DS 100 and DS 400) and four of the approved electives. Elective coursework must represent at least two academic disciplines (defined by course prefix). At least six credits of the minor coursework must be at the 300 or 400 level. At least 50% of the courses for the minor must be taken at Shippensburg University.

- DS 100 - Introduction to Disability Studies Credits: 3
- DS 400 - Capstone in Disability Studies Credits: 3

Approved Electives (12 crs.)

- ANT 350 - Medical Anthropology Credits: 3
- CRJ 326 - Victimology: The Victim and the Law Credits: 3
- CRJ 363 - Intimate Partner Violence Credits: 3
- CRJ 397 - Selected Topics in Criminal Justice Credits: 3
- DS 391 - Internship in Disability Studies Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 445 - Proactive Approaches for Classroom and Behavior Management Credits: 3
- EEC 447 - Special Education Processes in a Standards Aligned System Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EEC 490 - Selected Topics in Special Education Credits: 1-3
- ENG 250 - Introduction to Literature Credits: 3
- ENG 362 - Disability in Literature Credits: 3
- GRN 100 - Introduction to Gerontology Credits: 3
- HON 411 - Honors: Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- HCS 333 - Communicating Identity Credits: 3
- HCS 335 - Popular Culture and Gender Construction Credits: 3
- HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3
- MGT 340 - Human Resource Management Credits: 3
- MGT 346 - Human Resource Management Law Credits: 3
- PSY 355 - Psychology of the Exceptional Child Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- SWK 265 - Understanding Diversity for Social Work Practice Credits: 3
- SWK 347 - Special Fields of Social Work: Behavioral Health Credits: 3
- SWK 351 - Social Work Elective: Aging Credits: 3
- SWK 356 - Social Work Elective: Intellectual and Developmental Disabilities Credits: 3
- SWK 420 - Gender Issues for Helping Professionals Credits: 3
- SWK 450 - Social Welfare Policies and Services Credits: 3
- SOC 320 - Sociology of Disability Credits: 3
- SOC 369 - Medical Sociology Credits: 3

- SOC 371 - Social Dynamics of Aging Credits: 3
- SOC 445 - Sexuality and Sexual Orientation: A Social Approach Credits: 3
- SPN 150 - Spanish Civilization and Culture Credits: 3
- SPN 490 - Selected Topics in Spanish Credits: 3

Economics Department

The Department of Economics offers undergraduate programs leading to the Bachelor of Science (B.S.) degree. The economics major is designed to enable students to analyze problems relating to choice, equity, and efficiency from an individual as well as from a social standpoint. Students are prepared to be active, thinking members of society capable of productive and constructive participation. Many issues and policies are examined, ranging from globalization, technological change, and environmental concerns to questions of fiscal and monetary policy, poverty, inflation, and unemployment.

Economics Features

Shippensburg University's economics department faculty members' academic specialties cover nearly all important topics in the field. In addition to both micro and macro theory and policy areas, the faculty have expertise in such diverse topics as healthcare and environmental issues, international trade, and econometrics. The department sponsors an Economics Club for interested students and has a local chapter of the national economic honor society, Omicron Delta Epsilon (ODE). The department has successfully competed in the Fed Challenge, a student-team panel competition sponsored annually by the Richmond Federal Reserve Bank.

Internship Policy

Students can explore employment options and perhaps gain an edge in the labor market by having an internship. Internship hours will count as free electives.

Bachelor of Science

Economics, Business Concentration, B.S.

This concentration combines a solid background in economics with a significant exposure to important business-related analytical and conceptual skills. By completing the business minor students will gain an appreciation for managerial decision making and develop an awareness of how business skills are applied.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Business Concentration

Required Mathematics/Statistics (9-12 crs.)

- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3 or
- MAT 211 - Calculus I Credits: 4
- MAT 117 - Applied Statistics Credits: 3 or
- MAT 217 - Statistics I Credits: 4
- SCM 200 - Statistical Applications in Business Credits: 3

Note:

MAT 140A or MAT 140B not required if math placement test level is 5 or 6.

Required Business Courses (18 crs.)

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- Three credits from either a finance or accounting course
- Three additional John L. Grove College of Business credits

Note:

SCM 200 requires MIS 142 as a prerequisite.

Students will have completed the required 18 credits for the business minor

Economics, Mathematics Concentration, B.S.

This concentration would be especially well-suited for students preparing for graduate study in economics, which has become increasingly focused upon mathematics and statistical analysis.

Students are strongly encouraged to take ECO 484 Mathematical Economics and ECO 485 Econometrics as economics electives.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Mathematics Concentration

Required Math/Statistics Courses (21-23 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 217 - Statistics I Credits: 4

Plus three additional mathematics courses from among the following.

Other mathematics courses at the 200-level or above may be substituted, with advisement. At least two of these additional courses must be at the 300-level or above. Students will have completed the required 21 credits for the mathematics minor.

- MAT 213 - Calculus III Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 317 - Statistics II Credits: 3
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 322 - Differential Equations Credits: 3
- MAT 425 - Advanced Algebraic Structures Credits: 3

Economics, Political Science Concentration, B.S.

This combination will be appropriate for students planning to pursue careers in government, business, law, or international relations. While combining some aspects of a traditional political economy approach, this concentration will also heighten students' knowledge of the institutional and legal dimensions of major public policy debates.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Political Science Concentration

Required Math/Statistics Courses (10-12 crs.)

- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3

- MAT 181 - Applied Calculus Credits: 3 or
- MAT 211 - Calculus I Credits: 4

- MAT 117 - Applied Statistics Credits: 3 or
- MAT 217 - Statistics I Credits: 4

Note:

MAT 140A or MAT 140B not required if math placement test level is 5 or 6.

Required Political Science Courses (18 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 201 - Foundations of Political Science: Concepts and Critical Analysis Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 302 - Public Policy Analysis Credits: 3
- PLS - Plus six additional political science credits three of which must be at the 300 level or higher

Note:

To fulfill the requirements for the minor in Political Science, students will have to complete PLS 141 and one additional course.

Economics, Public Administration Concentration, B.S.

This sequence of courses would prepare students for careers in the public sector at either the local, state, or federal level, as well as for graduate studies. Economics strongly complements the policy and institutional focus of public administration.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Public Administration Concentration

Required Math/Statistics Sequence (10-12 crs.)

- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3 or
- MAT 211 - Calculus I Credits: 4
- MAT 117 - Applied Statistics Credits: 3 or
- MAT 217 - Statistics I Credits: 4

Note:

MAT 140A or MAT 140B not required if math placement test level is 5 or 6.

Required Public Administration Courses (18 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 371 - Public Management Credits: 3 or
- PLS 373 - Public Financial Administration Credits: 3

Plus three additional Public Administrative credits from among the following:

- PLS 231 - State and Local Government Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 374 - Public Service Ethics Credits: 3
- Plus three additional political science or public administrative credits to fulfill the requirements for the minor

Economics, Social Science Concentration, B.S.

Intended for students pursuing a broad based approach to understanding contemporary social issues, the social science concentration would be similar to traditional liberal arts or B.A. degree in economics. Students are encouraged to consider studying a foreign language as a purposeful use of some of their free elective credits.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Social Science Concentration

Required Mathematics Sequence (10-12 crs.)

- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3 or
- MAT 175 - Precalculus Credits: 3

- MAT 181 - Applied Calculus Credits: 3 or
- MAT 211 - Calculus I Credits: 4

- MAT 117 - Applied Statistics Credits: 3 or
- MAT 217 - Statistics I Credits: 4

Note:

MAT 140A or MAT 140B not required if math placement test level is 5 or 6.

Allied Fields (18 crs.)

Students concentrating in the social sciences must take the following courses and credits in the appropriate allied fields.

Political Science

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS - Political Science elective at the 300 level or higher with advisement

Sociology or Anthropology

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3 or
- ANT 111 - Cultural Anthropology Credits: 3
- Plus a 300 level elective in either disciplines selected with advisement

Geography, History, or Philosophy

- Two courses from one of these disciplines inclusive of a 300 level elective selected with advisement. Note: HIS 105 and HIS 106 do not fulfill this requirement.

Economics, Data Science Concentration, B.S.

The B.S. in Economics and Data Science concentration provides students the foundation to employ the appropriate statistical techniques to help answer a wide variety of questions confronted by decision makers. According to CNBC.com, "With more and more companies using big data, the demand for [those]...who know how to manage the tsunami of information, spot patterns within it and draw conclusions and insights-is nearing a frenzy."

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Required Math (4-7 crs.)

- MAT 140A - College Algebra Credits: 4 *or*
- MAT 140B - College Algebra Credits: 3 AND
- MAT 181 - Applied Calculus Credits: 3
- OR
- MAT 211 - Calculus I Credits: 4

Data Science Courses (19-20 crs.)

- CSC 104 - Programming in Python Credits: 3

OR

- CSC 110 - Computer Science I - Lecture Credits: 3 *and*
- CSC 106 - Computer Science I - Lab Credits: 1

OR

- MIS 240 - Introduction to Programming Concepts Credits: 3
- ECO 333 - Research and Analysis in Economics Credits: 3
- MAT 217 - Statistics I Credits: 4
- MAT 219 - Data Science I Credits: 3
- MAT 317 - Statistics II Credits: 3
- MAT 319 - Data Science II Credits: 3

Minor

Economics Minor

The minor in economics has advantages for both business majors and non-business majors. Minor in economics may be a smart move academically and for your career.

Business Majors -19 crs.

The advantage for business majors is the minor in economics provides a liberal arts component to complement the business degree. Many employers are seeking students who can think about business problems in a broader context. They are also seeking students with problem solving and analytical abilities. A minor in economics demonstrates breadth, analytical ability, willingness to take challenging courses, and an understanding of the method of a social science. Business majors already take seven credit hours of economics. The economic minor requires only four additional elective courses (two of which must be at the 300/400 level), which can be selected to complement your major.

Core Courses (7 crs.)

Students may substitute ECO 101 and ECO 102 for ECO 113.

- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3

Electives (12 crs.)

Course selected by advisement.

A minimum of 6 credits must be earned at the 300/400 level

Non-business Majors - 18 crs.

A minor in economics is an excellent complement to many majors. Economics is a relevant major for students preparing for a career in business, law, and many other fields who prefer a liberal arts education. The minor in economics provides some of the same background, but with less depth. With proper advisement, a minor in economics can provide the economics prerequisites for an MBA program or for graduate work in economics. The minor in

economics requires students to take ECO 101, ECO 102 and four additional electives courses (two of which must be at the 300/400 level). One of these can be used for general education category D. May students already have a sequence in economics required by their major and can complete a minor by taking only a few additional courses. The minor in economics can be combined with a sequence of courses in business for students who are seeking employment in the business world, but do not want a business major. For example, ACC 200, ACC 201, BSL 261, MIS 142, and SCM 200 are some appropriate courses available to non-business majors at the lower division level for students who have taken the prerequisites. Some upper division business courses may also be available to non-business majors.

Core Courses (6 crs.)

Students may substitute ECO 113 for ECO 101 and ECO 102, but then will need to take an additional elective.

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3

Electives (12 crs.)

Course selected by advisement.

A minimum of 6 credits must be earned at the 300/400 level.

English Department

The Department of English offers undergraduate programs leading to the Bachelor of Arts degree. Students who graduate with a B.A.- Literary Studies, a B.A. with Writing Emphasis, or a B.A. with Secondary Certification have learned to read critically and write intelligently about literature and related fields. They will be familiar with works in drama, prose, and poetry from both the Western and non-Western traditions and have a knowledge of the structures of language, the genres in which literature is classified, the historical contexts of literature and the various methodologies that facilitate the analysis and understanding of literature. Most important, graduates in English have some insight into the world of ideas, their own and those of others.

English Features

Students in English begin their studies by enrolling in a core of introductory courses that gives them a basic, general understanding of literature. They continue their studies by enrolling in elective courses that allow in-depth examination of certain historical periods, literary movements, and individual authors. Students will take a seminar and, upon approval, may work closely with an individual faculty member in the writing of a senior thesis. The English department also offers a variety of internships.

English Career Opportunities

More career opportunities are opening for college and university graduates who can read and write well. Because success in most professions demands effective thinking, the study of English is excellent preparation for careers in law, medicine, education, technical writing, journalism, theology, personnel, marketing, management, administration, publishing, and writing. Few majors prepare students so well for a variety of careers as English does.

Bachelor of Arts

English, Literary Studies, B.A.

Students pursuing a B.A. in English-Literary Studies focus intensively on English, American, and Global literatures, becoming proficient in research methods and textual analysis. This degree prepares them to enter into a variety of fields post-graduation, including advanced graduate studies, journalism, publishing, public relations, and law, just to name a few. With an English major, future career possibilities are endless. English majors are currently in high demand due to their communication skills, writing skills, and ability to think critically in regards to problem solving.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

English Major Requirements (42 crs.)

Required Courses (9 crs.)

- ENG 130 - Literary Studies for the English Major and Minor Credits: 3
- ENG 213 - Writing and Research About Literature Credits: 3
- ENG 460 - Senior Seminar Credits: 3

Required Survey Courses (9 crs.)

- ENG 233 - American Literature I Credits: 3
OR
- ENG 236 - British Literature I Credits: 3
- ENG 234 - American Literature II Credits: 3
OR
- ENG 237 - British Literature II Credits: 3
- ENG 239 - Postcolonial Literature Credits: 3
OR
- ENG 240 - Global Literature Credits: 3

Advanced Studies in Literature

Students must take at least 1 course in each category. (Note: students must take 4 additional courses in this section to reach the 24 credit hours required.)

Writing

Complete at least 1 of the following:

- ENG 224 - Introduction to Creative Writing Credits: 3
- ENG 229 - Advanced Composition Credits: 3
- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 307 - Poetry Writing Credits: 3

- ENG 308 - Fiction Writing Credits: 3
- ENG 323 - Reviewing the Arts for Publication Credits: 3
- ENG 335 - Creative Nonfiction Writing Credits: 3
- ENG 341 - Teaching Writing in the Secondary Schools Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 427 - Advanced Poetry Workshop Credits: 3
- ENG 428 - Advanced Fiction Workshop Credits: 3
- ENG 435 - Advanced Creative Nonfiction Credits: 3
- ENG 438 - Technical Professional Writing II Credits: 3

Genres

Complete at least 1 of the following:

- ENG 304 - Literary Criticism Credits: 3
- ENG 333 - Cultural Studies Credits: 3
- ENG 336 - Theories and Approaches: Language, Learning, and Literacy Credits: 3
- ENG 342 - Mythology Credits: 3
- ENG 360 - Popular Genres Credits: 3
- ENG 367 - Studies in Drama Credits: 3
- ENG 368 - Studies in Fiction Credits: 3
- ENG 369 - Studies in Poetry Credits: 3
- ENG 373 - Studies in Creative Nonfiction Credits: 3
- ENG 440 - Special Topics in Genre Credits: 3

History and Movements

Complete at least 1 of the following:

- ENG 318 - Studies in English Renaissance Literature Credits: 3
- ENG 330 - Shakespeare Credits: 3
- ENG 337 - Romanticism Credits: 3
- ENG 344 - Studies in Single Author Credits: 3
- ENG 349 - Victorian Literature Credits: 3
- ENG 363 - Modernism Credits: 3
- ENG 364 - Postmodernism Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 376 - Studies in Medieval Literature Credits: 3
- ENG 377 - The Long 18th Century Credits: 3
- ENG 380 - 19th Century Literature Credits: 3
- ENG 383 - Literature After 1900 Credits: 3
- ENG 430 - Special Topics in Literary History and Movements Credits: 3

Identities

Complete at least 1 of the following:

- ENG 445 - Special Topics in Identities Credits: 3

- ENG 385 - Studies in Postcolonial Literature Credits: 3
- ENG 370 - Queer Studies Credits: 3
- ENG 375 - African-American Literature Credits: 3
- ENG 345 - Women's Literature Credits: 3
- ENG 358 - Ethnic Literature Credits: 3
- ENG 359 - Native American Literature Credits: 3
- ENG 362 - Disability in Literature Credits: 3

English with Secondary Certification, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

English Major Requirements (39 crs.)

Students receiving certification must take one course in world literature (ENG 240 or ENG 385).

Required Courses (15 crs.)

- ENG 130 - Literary Studies for the English Major and Minor Credits: 3
- ENG 213 - Writing and Research About Literature Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 426 - Teaching Adolescent Literature Credits: 3
- ENG 460 - Senior Seminar Credits: 3

Required Survey Courses (9 crs.)

- ENG 233 - American Literature I Credits: 3
OR
- ENG 236 - British Literature I Credits: 3
- ENG 234 - American Literature II Credits: 3
OR
- ENG 237 - British Literature II Credits: 3
- ENG 239 - Postcolonial Literature Credits: 3
OR
- ENG 240 - Global Literature Credits: 3

Advanced Studies in Literature (15 crs.)

Complete at least 1 course in each category. (Note: students must take 1 additional course in this section to reach the 15 credit hours required.)

Writing

Complete at least 1 of the following:

- ENG 224 - Introduction to Creative Writing Credits: 3
- ENG 229 - Advanced Composition Credits: 3
- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 307 - Poetry Writing Credits: 3
- ENG 308 - Fiction Writing Credits: 3
- ENG 323 - Reviewing the Arts for Publication Credits: 3
- ENG 335 - Creative Nonfiction Writing Credits: 3
- ENG 341 - Teaching Writing in the Secondary Schools Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 427 - Advanced Poetry Workshop Credits: 3
- ENG 428 - Advanced Fiction Workshop Credits: 3
- ENG 435 - Advanced Creative Nonfiction Credits: 3
- ENG 438 - Technical Professional Writing II Credits: 3

Genres

Complete at least 1 of the following:

- ENG 304 - Literary Criticism Credits: 3
- ENG 333 - Cultural Studies Credits: 3
- ENG 336 - Theories and Approaches: Language, Learning, and Literacy Credits: 3
- ENG 342 - Mythology Credits: 3
- ENG 360 - Popular Genres Credits: 3
- ENG 367 - Studies in Drama Credits: 3
- ENG 368 - Studies in Fiction Credits: 3
- ENG 369 - Studies in Poetry Credits: 3
- ENG 373 - Studies in Creative Nonfiction Credits: 3
- ENG 440 - Special Topics in Genre Credits: 3

History and Movements

Complete at least 1 of the following:

- ENG 318 - Studies in English Renaissance Literature Credits: 3
- ENG 330 - Shakespeare Credits: 3
- ENG 337 - Romanticism Credits: 3
- ENG 344 - Studies in Single Author Credits: 3
- ENG 349 - Victorian Literature Credits: 3
- ENG 363 - Modernism Credits: 3
- ENG 364 - Postmodernism Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 376 - Studies in Medieval Literature Credits: 3
- ENG 377 - The Long 18th Century Credits: 3
- ENG 380 - 19th Century Literature Credits: 3
- ENG 383 - Literature After 1900 Credits: 3
- ENG 430 - Special Topics in Literary History and Movements Credits: 3

Identities

- ENG 345 - Women's Literature Credits: 3
- ENG 358 - Ethnic Literature Credits: 3
- ENG 359 - Native American Literature Credits: 3
- ENG 362 - Disability in Literature Credits: 3
- ENG 370 - Queer Studies Credits: 3
- ENG 375 - African-American Literature Credits: 3
- ENG 385 - Studies in Postcolonial Literature Credits: 3
- ENG 445 - Special Topics in Identities Credits: 3

Required General Education Course

- PSY 101 - General Psychology Credits: 3

Professional Education Requirements (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 290 - Introduction to English/Language Arts Education Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EDU 422 - Methods of Teaching English in Secondary Schools Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

Students seeking certification in secondary education must also complete 2 math courses (except MAT 185).

English, Writing Concentration, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

English Major Requirements (42 crs.)

Required Courses (9 crs.)

- ENG 130 - Literary Studies for the English Major and Minor Credits: 3
- ENG 213 - Writing and Research About Literature Credits: 3
- ENG 460 - Senior Seminar Credits: 3

Required Survey Courses (9 crs.)

- ENG 233 - American Literature I Credits: 3
OR
- ENG 236 - British Literature I Credits: 3
- ENG 234 - American Literature II Credits: 3
OR
- ENG 237 - British Literature II Credits: 3
- ENG 239 - Postcolonial Literature Credits: 3
OR
- ENG 240 - Global Literature Credits: 3

Writing (12 crs.)

Complete 4 of the following:

- ENG 224 - Introduction to Creative Writing Credits: 3
- ENG 229 - Advanced Composition Credits: 3
- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 307 - Poetry Writing Credits: 3
- ENG 308 - Fiction Writing Credits: 3
- ENG 323 - Reviewing the Arts for Publication Credits: 3
- ENG 335 - Creative Nonfiction Writing Credits: 3
- ENG 341 - Teaching Writing in the Secondary Schools Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 427 - Advanced Poetry Workshop Credits: 3
- ENG 428 - Advanced Fiction Workshop Credits: 3
- ENG 435 - Advanced Creative Nonfiction Credits: 3
- ENG 438 - Technical Professional Writing II Credits: 3

Advanced Studies in Literature (12 crs.)

Complete at least 1 course in each category. (Note: students must take 1 additional course in this section to reach the 12 credit hours required.)

Genres

Complete at least 1 of the following:

- ENG 304 - Literary Criticism Credits: 3
- ENG 333 - Cultural Studies Credits: 3
- ENG 336 - Theories and Approaches: Language, Learning, and Literacy Credits: 3
- ENG 342 - Mythology Credits: 3
- ENG 360 - Popular Genres Credits: 3
- ENG 367 - Studies in Drama Credits: 3
- ENG 368 - Studies in Fiction Credits: 3

- ENG 369 - Studies in Poetry Credits: 3
- ENG 373 - Studies in Creative Nonfiction Credits: 3
- ENG 440 - Special Topics in Genre Credits: 3

History and Movements

Complete at least 1 of the following:

- ENG 318 - Studies in English Renaissance Literature Credits: 3
- ENG 330 - Shakespeare Credits: 3
- ENG 337 - Romanticism Credits: 3
- ENG 344 - Studies in Single Author Credits: 3
- ENG 349 - Victorian Literature Credits: 3
- ENG 363 - Modernism Credits: 3
- ENG 364 - Postmodernism Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 376 - Studies in Medieval Literature Credits: 3
- ENG 377 - The Long 18th Century Credits: 3
- ENG 380 - 19th Century Literature Credits: 3
- ENG 383 - Literature After 1900 Credits: 3
- ENG 435 - Advanced Creative Nonfiction Credits: 3

Identities

Complete at least 1 of the following:

- ENG 345 - Women's Literature Credits: 3
- ENG 358 - Ethnic Literature Credits: 3
- ENG 359 - Native American Literature Credits: 3
- ENG 362 - Disability in Literature Credits: 3
- ENG 370 - Queer Studies Credits: 3
- ENG 375 - African-American Literature Credits: 3
- ENG 385 - Studies in Postcolonial Literature Credits: 3
- ENG 445 - Special Topics in Identities Credits: 3

Minor

English Minor

18 crs.

Required (3 crs.)

- ENG 130 - Literary Studies for the English Major and Minor Credits: 3

Note:

ENG 130 is a required prerequisite for all English Minors enrolling in 300- or 400- level English courses.

Electives (15 crs.)

Five additional English courses, two of which (6 credits) must be 300- or 400-level. General education courses in English may not be used to fulfill free electives. May include an internship, up to three credits.

Ethnic Studies Program

Ethnic Studies is a multi-ethnic and interdisciplinary program that offers a broad and intense course of study of the various ethnic groups in the United States. Students are encouraged to develop concepts and theories that help clarify attitudes about people of other ethnicities. Through understanding and appreciating others' cultures, students can gain an understanding of the multiple realities of our complex and culturally diverse society.

Certificate

Ethnic Studies Certificate

To complete the certificate in Ethnic Studies, students must take Introduction to Ethnic Studies (ETH 100) and three of the approved electives. These three electives must be from at least two separate disciplines. Two courses can be double counted toward the student's major at the 300 or 400 level. All four courses must be taken at Shippensburg University.

12 crs.

Required

- ETH 100 - Introduction to Ethnic Studies Credits: 3

Minor

Ethnic Studies Minor

Ethnic Studies is a multi-ethnic and interdisciplinary program that offers a broad and intense course of study of the various ethnic groups in the United States. Students are encouraged to develop concepts and theories that help clarify attitudes about people of other ethnicities. Through understanding and appreciating others' cultures, students can gain an understanding of the multiple realities of our complex and culturally diverse society.

18 crs.

To complete a minor in Ethnic Studies, students must take all three core classes and three approved electives. All students are required to take at least six credits of upper level (300/400 level) courses. Two courses must be taken from at least two different disciplines. All courses must be taken at Shippensburg University.

Core Requirements (9 crs.)

- ETH 100 - Introduction to Ethnic Studies Credits: 3
- ETH 101 - Introduction to African-American Studies Credits: 3
- ETH 102 - Introduction to Latino Studies Credits: 3

Approved Electives (9 crs.)

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 341 - North American Indians Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- COM 245 - Diversity and the Media Credits: 3
- CRJ 411 - Terrorism Credits: 3
- CRJ 452 - Race, Ethnicity, and Crime Credits: 3
- CRJ 464 - Popular Culture, Crime and Justice Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 358 - Ethnic Literature Credits: 3
- ENG 375 - African-American Literature Credits: 3
- ETH 390 - Ethnic Studies Internship Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 305 - The Civil War Era Credits: 3
- HIS 341 - African-American History Credits: 3
- HIS 342 - U.S. Immigration and Ethnicity Credits: 3
- HIS 430 - U.S. Cultural History Credits: 3
- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HCS 310 - African-American Communication Credits: 3
- HCS 315 - Asian-American Communication Credits: 3
- MUS 129 - American Popular Music Credits: 3
- PLS 325 - African American Politics Credits: 3
- PSY 315 - Psychology of Prejudice and the Minority Experience Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- SOC 243 - Minority Groups Credits: 3
- SOC 351 - Race Relations Credits: 3
- SOC 421 - Impact of International Migration Credits: 3
- SWK 250 - Assessing Individuals in the Social Environment Credits: 3
- SWK 265 - Understanding Diversity for Social Work Practice Credits: 3

Geography/Earth Science Department

The Department of Geography-Earth Science offers undergraduate programs leading to the Bachelor of Science and the Bachelor of Science in Education degrees. The undergraduate programs in the geography-earth science department are designed to give students an appreciation of the physical and cultural environment of the earth as well as the concept of sustainability. Students will develop skills in collecting, recording, and interpreting geoenvironmental data. They will become involved in laboratory work, field investigations, and environmental management that will sharpen student skills to arrive at solutions based on an inductive application of all available sources and materials. Students will be able to identify, distinguish trends, and analyze and interpret physical, socioeconomic, and geo-political patterns in an

urban/rural or regional setting. The fundamental geographic themes of location, place, sustainability, interrelationships between the physical and cultural environment, movement, and regions are emphasized.

Geography-Earth Science Features

The geography-earth science department has a strong interdisciplinary nature. With diverse backgrounds, departmental faculty integrate findings from a variety of areas enabling members to develop insights on real problems in various areas such as studying environmental hazards in the Cumberland Valley or urban growth issues in China. In departmental courses and programs, faculty explain why location is important, and why areas and places are different physically and culturally. The unique quality of the geography-earth science department is its object of analysis is the earth's surface and its purpose is to understand how that surface is structured and differentiated and how people have affected the landscape.

Geography-Earth Science Career Opportunities

In a very real sense, geography is both a natural science (because it deals with the land, sea and air of our planet) and a social science (because it is concerned with the distribution of cultural phenomena including people and industries). As the earth's population grows, it becomes increasingly imperative for people to understand sustainability and the global patterns that shape our lives. The world we live in requires an understanding of international issues and geographic relationships. For that reason, the field of geography-earth science will continue to expand and grow.

Most geographers/earth scientists work in one of five basic career fields: business, government, teaching, planning, and consulting. Within these five fields geographers/earth scientists are called upon for their expertise in such areas as selecting favorable locations for capital investments, developing effective strategies for corporate or governmental planning, environmental planning and land use analysis, geology and atmospheric studies, cartography, computer applications and geographic information systems, and educating all age groups regarding proper use of the environment. Career opportunities are growing rapidly in fields such as the environmental sciences, environmental planning, regional analysis, local and state government, remote sensing, geographic information systems, environmental impact analysis, water resources and hydrology. Many past graduates have been very successful in obtaining jobs in their major field of study. The department has a strong internship program where students can obtain practical experience. An alumni network has been developed to assist majors in the job selection process.

Bachelor of Science

Geoenvironmental Studies, B.S.

Geography-Earth Science (42 crs.)

Required Core Courses (15 crs.)

- ESS 210 - Physical Geology Credits: 3
OR
- ESS 110 - Introduction to Geology Credits: 3
AND
- ESS 212 - Historical Geology Credits: 3 *or*
- ESS 214 - Geology of National Parks Credits: 3 *or*
- GEO 306 - Geomorphology Credits: 3

- ESS 355 - Meteorology Credits: 3
OR
- ESS 111 - Introduction to the Atmosphere Credits: 3
AND
- ESS 404 - Applied Meteorology and Climatology Credits: 3 *or*
- GEO 203 - Climatology Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 391 - Geography Seminar Credits: 3

Geography Electives (6 crs. min.)

- GEO 230 - Economic Geography Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 305 - Geography of Europe Credits: 3
- GEO 308 - Geography of Latin America Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- GEO 320 - Historical Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Note:

* Regional geography courses may also be counted as electives by advisement.

Geoenvironmental Complex System Electives (9 crs. min.)

- ESS 404 - Applied Meteorology and Climatology Credits: 3
- GEO 405 - Environmental Conservation and Management in PA Credits: 3
- ESS 410 - Sedimentary Geology and Paleoenvironments Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- ESS 451 - Coastal Environmental Oceanography Credits: 3
- ESS 490 - Selected Topics in Earth Science Credits: 1-3
- GEO 301 - Introduction to Biogeography Credits: 3
- GEO 306 - Geomorphology Credits: 3
- GEO 402 - Medical Geography Credits: 3
- GEO 404 - Groundwater and Hydrogeology Credits: 3
- GEO 421 - Environmental Law Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- GEO 446 - Water Resources Management Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3
- GEO 490 - Selected Topics in Geography Credits: 1-3
- GEO 491 - Selected Topics in Geography Credits: 3

Technique Course Electives (6 crs. min.)

- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3
- GEO 463 - Applied Geophysical Imaging Credits: 3

Geoenvironmental Electives (3 crs. min.)

Any 200-400 level course listed in the above categories not previously taken may be used as a Geoenvironmental elective.

- GEO 203 - Climatology Credits: 3
- GEO 306 - Geomorphology Credits: 3
- GEO 397 - Introduction to Research Credits: 1-3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3
- GEO 490 - Selected Topics in Geography Credits: 1-3
- ESS 212 - Historical Geology Credits: 3
- ESS 214 - Geology of National Parks Credits: 3
- ESS 220 - Oceanography Credits: 3
- Marine Science Consortium Course

Internship Requirement:

Internship - 2.0 overall and major average required, junior status (60 cr.), must be taken before applying for an internship.

- GEO 360 - Internship in Geography I Credits: 3

Allied Fields (22+ crs.)

Biology (9-11 Credits by Advisement)

At least one course must be taken at or above 200 level

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 145 - Environmental Biology Credits: 3
- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 242 - Ecology Credits: 3

- BIO 442 - Aquatic Ecology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Note:

BIO 162, BIO 145, BIO 242, and BIO 448 are strongly recommended. If student has a special interest in zoology or botany, they should follow sequential courses in that area, i.e., field zoology, field botany and plant taxonomy.

Chemistry/Physics (7-8 Credits by Advisement)

- CHM 105 - An Observational Approach Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1

Computer Science (3-4 Credits by Advisement)

- CSC 103 - Overview of Computer Science Credits: 3
- CSC 104 - Programming in Python Credits: 3
- CSC 106 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 180 - Microcomputer Basic Credits: 3
- CSC 191 - General Education Special Topics Credits: 3
- MIS 142 - Business Computer Systems Credits: 3

Mathematics (3-4 credits by advisement)

- MAT 117 - Applied Statistics Credits: 3
- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4

Geography, Geographic Information Systems Concentration, B.S.

Geography, B.S.

Land Use and Geographic Information Systems (GIS) concentrations. A 12-credit Geographic Information Systems (GIS) Certificate Program is also offered.

Geography (15 crs.)

Core courses required for all concentrations-Land Use and GIS.

Core courses (required):

- GEO 105 - Physical Geography Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 230 - Economic Geography Credits: 3

- GEO 322 - Urban Geography Credits: 3 or
- GEO 244 - Land Use Credits: 3

- GEO 391 - Geography Seminar Credits: 3

Geographic Information Systems Concentration (24 crs.)

Required

- GEO 339 - Remote Sensing Credits: 3
 - GEO 352 - Cartography Credits: 3
 - GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
 - GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
 - GEO 360 - Internship in Geography I Credits: 3
- At least 3 credits of internship required*

Select one:

- GEO 244 - Land Use Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3

Note:

GEO 244 or GEO 322 if not taken in in Geography core.

Select two:

- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3
- GEO 463 - Applied Geophysical Imaging Credits: 3
- GEO 400-level Geography elective

Allied Courses (25 + crs.)

Select two:

- PHL 332 - Ethical Issues and Computer Technology Credits: 3
- PLS 231 - State and Local Government Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 431 - Pennsylvania Local Government Credits: 3
- SOC 220 - Social Stratification Credits: 3
- SOC 346 - City and Community Credits: 3
- SOC 363 - Population Problems Credits: 3

12+ crs.

- ART 217 - Computer Design I Credits: 3
- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 106 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- MIS 142 - Business Computer Systems Credits: 3
- MIS 240 - Introduction to Programming Concepts Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3
- MIS 355 - Database Applications Credits: 3
- CSCxxx by advisement

7+ crs.

- MAT 117 - Applied Statistics Credits: 3
- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4

Required:

- ENG 238 - Technical/Professional Writing I Credits: 3

Geography, Land Use Concentration, B.S.

Geography, B.S.

Land Use and Geographic Information Systems (GIS) concentrations. A 12-credit Geographic Information Systems (GIS) Certificate Program is also offered.

Geography (15 crs.)

Core courses required for all concentrations-Land Use and GIS.

Core courses (required):

- GEO 105 - Physical Geography Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 230 - Economic Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3 or
- GEO 244 - Land Use Credits: 3
- GEO 391 - Geography Seminar Credits: 3

Land Use Concentration (21 crs.)

Required

- GEO 444 - Environmental Land-Use Planning Credits: 3
- GEO 360 - Internship in Geography I Credits: 3
At least 3 credits of internship required

Select five of the following:

- ESS 214 - Geology of National Parks Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 320 - Historical Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3
- GEO 339 - Remote Sensing Credits: 3

Note: GEO 244 or GEO 322 if not taken in in Geography core.

Allied Courses (15 crs.)

Political Science (6 crs.)

- PLS 231 - State and Local Government Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 431 - Pennsylvania Local Government Credits: 3
- PLS XXX - Political Science course by advisement

Math-Computer Science (6 crs.)

Required:

- MAT 117 - Applied Statistics Credits: 3

Select one:

- CSC 103 - Overview of Computer Science Credits: 3
- CSC 180 - Microcomputer Basic Credits: 3
- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1

Psychology (3 crs.)

- PSY 105 - Research Design and Statistics for the Behavioral Sciences I Credits: 3 or
- GEO 441 - Quantitative Methods Credits: 3

Sustainability, Environmental Conservation Concentration, B.S.

Sustainability Core (6 crs.)

- ESS 108 - Conservation of Natural Resources Credits: 3
OR
- BIO 145 - Environmental Biology Credits: 3
- GEO 427 - Sustainability Credits: 3

Concentration Core (12+ crs.)

- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 230 - Economic Geography Credits: 3
- GEO 360 - Internship in Geography I Credits: 3
- GEO 391 - Geography Seminar Credits: 3

Sustainable Systems (9 crs.)

Choose 9 credits from the following:

- ESS 214 - Geology of National Parks Credits: 3
- ESS 404 - Applied Meteorology and Climatology Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- ESS 451 - Coastal Environmental Oceanography Credits: 3
- GEO 405 - Environmental Conservation and Management in PA Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- GEO 446 - Water Resources Management Credits: 3

- GEO 450 - Geography-Geology Field Studies Credits: 1-3 *Strongly recommended; can only count in one category*

Human Sustainability Electives (6 crs.)

Choose 6 credits from the following:

- GEO 140 - Cultural Geography Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3

Technique Course Electives (9 crs.)

Choose 9 credits from the following:

- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3 *Strongly recommended*
- GEO 450 - Geography-Geology Field Studies Credits: 1-3 *Strongly recommended; can only count in one category*
- GEO 463 - Applied Geophysical Imaging Credits: 3

Biology (3 crs.)

Choose 3 credits from the following:

- BIO 205 - Marine Biology Credits: 3
- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 230 - Botany Credits: 3
- BIO 242 - Ecology Credits: 3 *Strongly recommended*
- BIO 245 - Marine Ecology Credits: 3
- BIO 442 - Aquatic Ecology Credits: 3
- BIO 444 - Conservation Biology Credits: 3

Psychology and Sociology (6 crs.)

Choose 6 credits from the following:

- PSY 350 - Psychology of Sustainability Credits: 3 *Strongly recommended*
- SOC 265 - Global Society Credits: 3
- SOC 346 - City and Community Credits: 3
- SOC 354 - Social Movements and Social Change Credits: 3

- SOC 363 - Population Problems Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Economics and Business (3 crs.)

Choose 3 credits from the following:

- ECO 345 - The Economics of Growth and Development Credits: 3
- ECO 355 - Environmental Economics Credits: 3 *Strongly recommended*
- MGT 447 - Business and Society Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MIS 242 - Design and Development of User Information Systems Credits: 3
SCM 3XX Sustainable Operations Management
- SCM 420 - Global Logistics Systems Credits: 3

English, History, and Communication (6 crs.)

Choose 6 credits from the following:

- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 359 - Native American Literature Credits: 3
- HCS 345 - Environmental Communication Credits: 3 *Strongly recommended*
- HIS 358 - American Environmental History Credits: 3 *Strongly recommended*

Bachelor of Science in Education

Earth and Space Science, B.S.Ed.

Major (24 crs.)

Required (12 crs.)

- ESS 210 - Physical Geology Credits: 3
- ESS 212 - Historical Geology Credits: 3
- ESS 355 - Meteorology Credits: 3
- ESS 220 - Oceanography Credits: 3

Electives in Earth Science (12 crs.)

Selected with advisement

- ESS 108 - Conservation of Natural Resources Credits: 3
- ESS 214 - Geology of National Parks Credits: 3
- ESS 404 - Applied Meteorology and Climatology Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3

- GEO 203 - Climatology Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 397 - Introduction to Research Credits: 1-3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3

Allied Fields (36 crs.)

Certification in earth science, general science and environmental education requires the following courses:

Biology (9 Hours by Advisement)

- BIO 145 - Environmental Biology Credits: 3
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 208 - Field Biology Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 419 - Ornithology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Chemistry (8 Hours for General Science)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Physics (11 Hours for General Science)

- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Math (8+ Hours by Advisement)

- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4

Professional Education Requirements (33 crs.)

Required Courses

- EDU 440 - Teaching of Science in Secondary Schools Credits: 3
- EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115) and 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250).

Geography, Comprehensive Social Studies, B.S.Ed.

Required Courses in Geography (12 crs.)

- GEO 101 - World Geography Credits: 3
- ESS 110 - Introduction to Geology Credits: 3 or
- ESS 111 - Introduction to the Atmosphere Credits: 3
- GEO 230 - Economic Geography Credits: 3
- GEO 140 - Cultural Geography Credits: 3

Elective Courses in Geography (12 crs.)

Students majoring or concentrating in geography will select with advisement a minimum of four elective courses in geography. Electives should be chosen in the areas of specialization which either may serve a future teaching purpose or may establish a basis for future graduate study.

Required Courses in Allied Social Studies (33 crs.)

Economics (6 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3

History (9 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 202 - Recent History of the United States Credits: 3

Mathematics (3 crs.)

- MAT 117 - Applied Statistics Credits: 3

Political Science (Government) (9 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 141 - World Politics Credits: 3
- PLS XXX - Political Science course by advisement

Psychology (3 crs.)

- PSY 101 - General Psychology Credits: 3

Cognate Field: (3 crs.)

One 200 level or above courses from one of the following areas: history, political science, or economics

Required Professional Courses (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 412 - Teaching Social Studies in Secondary Schools I Credits: 3
- EDU 413 - Teaching of Social Studies II Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 1 additional math courses (except MAT 185)

Required Field Experience

See advisor

Certificate

Geographic Information Systems (GIS) Certificate

12 crs.

Required

- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3

Select Two:

- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3
- GEO 463 - Applied Geophysical Imaging Credits: 3

Minor

Geographic Information Science Minor

18 crs.

Required Core (9 crs.)

- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3

Allied Geo-techniques (6 crs.)

Choose two:

- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3

Geography-Earth Science courses (3 crs.)

Choose one:

- ESS 210 - Physical Geology Credits: 3
- ESS 220 - Oceanography Credits: 3

- GEO 226 - Hydrology Credits: 3
- GEO 230 - Economic Geography Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 301 - Introduction to Biogeography Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3

Geography-Earth Science Minor

21 crs.

Required (9 crs.)

- 100 level Geography and/or Earth Science course
- 200-300 level Geography-Earth Science course
- 400 level Geography-Earth Science course

Electives (12 crs.)

- ESS or GEO courses selected by advisement.

Sustainability Minor

Sustainability Core (6 crs.)

- ESS 108 - Conservation of Natural Resources Credits: 3
OR
- BIO 145 - Environmental Biology Credits: 3
- GEO 427 - Sustainability Credits: 3

Sustainable Systems (3 crs.)

Choose 3 credits from the following:

- ESS 214 - Geology of National Parks Credits: 3
- ESS 404 - Applied Meteorology and Climatology Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- ESS 451 - Coastal Environmental Oceanography Credits: 3
- GEO 405 - Environmental Conservation and Management in PA Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- GEO 446 - Water Resources Management Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Biology (3 crs.)

Choose 3 credits from the following:

- BIO 205 - Marine Biology Credits: 3
- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 230 - Botany Credits: 3
- BIO 242 - Ecology Credits: 3 *strongly recommended*
- BIO 245 - Marine Ecology Credits: 3
- BIO 442 - Aquatic Ecology Credits: 3
- BIO 444 - Conservation Biology Credits: 3

Psychology & Sociology (3 crs.)

Choose 3 credits from the following:

- PSY 350 - Psychology of Sustainability Credits: 3 *strongly recommended*
- SOC 265 - Global Society Credits: 3
- SOC 346 - City and Community Credits: 3
- SOC 354 - Social Movements and Social Change Credits: 3
- SOC 363 - Population Problems Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Economics & Business (3 crs.)

Choose 3 credits from the following:

- ECO 345 - The Economics of Growth and Development Credits: 3
- ECO 355 - Environmental Economics Credits: 3 *strongly recommended*
- GEO 230 - Economic Geography Credits: 3
- MGT 447 - Business and Society Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MIS 242 - Design and Development of User Information Systems Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3
- SCM 420 - Global Logistics Systems Credits: 3

English, History, & Communication (3 crs.)

Choose 3 credits from the following:

- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 359 - Native American Literature Credits: 3
- HCS 345 - Environmental Communication Credits: 3 *strongly recommended*
- HIS 358 - American Environmental History Credits: 3 *strongly recommended*

Healthcare Administration Program

The Bachelor of Science in Healthcare Administration is a degree completion program (DCP) designed for working adults who have earned 60 or more college credits. Classes are taught by Shippensburg University faculty and are conveniently offered in the evenings at Dixon University Center in Harrisburg and HACC-Gettysburg. Graduates will be prepared for entry-level managerial positions, with strong backgrounds in health care economics and finance, law, human resources, and strategic management.

The program's core courses give students the opportunity to explore how a liberal arts education can enhance their career opportunities. These courses will help students understand the structure of organizations, the behavior of individuals within organizations, and how to resolve conflict in order for organizations to function efficiently. The professional courses explore the legal, financial, resource, and strategic issues of health care management and administration. The electives enhance the educational experience, and the internship or research project at the end of the program promotes the integration of theory practice.

Regularly admitted students with an interest in this major must meet the degree completion admission requirements. Please be advised that the degree completion program leading to a Bachelor of Science in Healthcare Administration is only offered in Harrisburg and Gettysburg.

Degree Requirements

- Completion of the 45-credit Healthcare Administration program with a minimum of a 2.0 cumulative QPA;
- Fulfillment of 48 credits of general education requirements;
- Attainment of a minimum of 120 college/university credits.

History/Philosophy Department

The Department of History/Philosophy offers undergraduate programs leading to two degrees: the Bachelor of Arts and the Bachelor of Science in Education. The department also offers a Bachelor of Arts with a Public History Concentration for students interested in careers at historical institutions such as museums, archives, or historic sites. The history major is designed to generate and sustain an interest in the world, past and present. This is done so students can become better citizens, more effective participants in society, and acquire the reading, writing, and thinking skills essential for success in any career or occupation. Students can also minor in either history or philosophy.

History Features

Shippensburg University's history department offers a wide range of opportunities to take courses and to pursue research in almost any area of student interest. These specialties fall into the three broad areas of American, European, and African/Asian/Latin American history. Also, there are studies in archival and museum work along with the opportunity for internships in these areas. The university is within driving distance of major collections of sources which enhance and enrich historical studies. Also, there are studies in archival and museum work, historic preservation, local history, and oral history. Hands-on experience can also be gained through internships at many local sites, including Gettysburg National Military Park, the United States Military History Institute, and the Pennsylvania Historical and Museum Commission.

History/Philosophy Career Opportunities

History, considered either as a humanity or as a social science, is a broad discipline that serves as general preparation for a variety of careers: law, education, theology, writing, museum and archives work, many federal jobs (particularly in foreign service, intelligence and related fields), business, and others.

Philosophy trains students in the critical thinking skills needed in these same fields.

Bachelor of Arts

History, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

History-Field of Specialization (36 crs.)

Required (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

Free Electives in History (6 crs.)

Only one course at the 200 level, and the rest at 300 level or above.

Portfolio Requirement:

For assessment and career development purposes, all B.A. and B.S.Ed. majors are required to assemble and submit a portfolio documenting their academic growth and their major accomplishments.

History, Public History Concentration, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

42 crs.

Required (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

Public History Methods (6 crs.)

Required

- HIS 319 - Introduction to Public History Credits: 3

Select one: 3 crs.

- HIS 390 - Selected Topics in History Credits: 3
- HIS 413 - Pennsylvania History Credits: 3
- HIS 430 - U.S. Cultural History Credits: 3
- HIS 433 - Oral History Credits: 3
- HIS 460 - Archives and Public History Credits: 3
- HIS 490 - Selected Topics in History Credits: 1-3

Required Internship (6 crs.)

- HIS 387 - History Internship Credits: 3
- HIS 389 - History Internship Credits: 3
- HIS 391 - History Internship Credits: 3-6

Portfolio Requirement:

For assessment and career development purposes, all B.A. and B.S.Ed. majors are required to assemble and submit a portfolio documenting their academic growth and their major accomplishments.

History, European History Concentration, B.A.

Required History Courses (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted History Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

European History Concentration (12 crs.)

Select 12 credits from the following courses:

- HIS 320 - Europe in the Early and High Middle Ages: 300 to 1270 Credits: 3
- HIS 321 - Late Medieval Europe: 1270 to 1517 Credits: 3
- HIS 325 - History of the Tsarist Russia Credits: 3
- HIS 326 - History of the U.S.S.R. Credits: 3
- HIS 330 - History of Modern Germany: 1919 to Present Credits: 3
- HIS 331 - History of Modern France: 1750 to Present Credits: 3
- HIS 332 - English History: 1066 to Present Credits: 3
- HIS 334 - Europe 1715-1815: The Era of the Industrial and French Revolutions Credits: 3
- HIS 337 - History of the Byzantine Empire Credits: 3
- HIS 348 - The History of Ancient Rome Credits: 3
- HIS 356 - History of 19th Century Europe Credits: 3
- HIS 357 - History of Holocaust Credits: 3
- HIS 359 - History of Western Political Thought, 1500-1800 Credits: 3
- HIS 361 - History of 20th Century Europe Credits: 3
- HIS 362 - Europe 1450-1715: The Era of the Renaissance and Reformation Credits: 3
- HIS 386 - History Research Seminar Credits: 3 (with advisement)
- HIS 387 - History Internship Credits: 3 (with advisement)
- HIS 389 - History Internship Credits: 3 (with advisement)
- HIS 390 - Selected Topics in History Credits: 3 (with advisement)
- HIS 391 - History Internship Credits: 3-6 (with advisement)
- HIS 394 - Selected Topics in History Credits: 3 (with advisement)

- HIS 423 - Issues in 20th-Century Europe Credits: 3
- HIS 492 - Selected Topics in History Credits: 3 (with advisement)
- HIS 496 - Selected Topics in History Credits: 3 (with advisement)

History, American History Concentration, B.A.

Required History Courses (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted History Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

American History Concentration (12 crs.)

Select 12 credits from the following courses:

- HIS 301 - The West in American History Credits: 3
- HIS 302 - American Business History Credits: 3
- HIS 304 - American Diplomatic History Credits: 3
- HIS 305 - The Civil War Era Credits: 3
- HIS 307 - Contemporary U. S. History since 1945 Credits: 3
- HIS 309 - History of the American Worker Credits: 3
- HIS 314 - History of Jacksonian America Credits: 3
- HIS 318 - History of U.S. Women Credits: 3
- HIS 319 - Introduction to Public History Credits: 3
- HIS 338 - Colonial America Credits: 3
- HIS 341 - African-American History Credits: 3
- HIS 342 - U.S. Immigration and Ethnicity Credits: 3
- HIS 345 - Military History of the United States Credits: 3
- HIS 352 - The US and Vietnam Credits: 3
- HIS 358 - American Environmental History Credits: 3
- HIS 385 - Selected Topics in History Credits: 3 (with advisement)
- HIS 386 - History Research Seminar Credits: 3 (with advisement)
- HIS 387 - History Internship Credits: 3 (with advisement)
- HIS 388 - Selected Topics in History Credits: 3 (with advisement)
- HIS 389 - History Internship Credits: 3 (with advisement)

- HIS 391 - History Internship Credits: 3-6 (with advisement)
- HIS 394 - Selected Topics in History Credits: 3 (with advisement)
- HIS 402 - Revolutionary America Credits: 3
- HIS 413 - Pennsylvania History Credits: 3
- HIS 428 - Issues in the Gilded Age and Progressive Era Credits: 3
- HIS 430 - U.S. Cultural History Credits: 3
- HIS 433 - Oral History Credits: 3
- HIS 490 - Selected Topics in History Credits: 1-3 (with advisement)
- HIS 496 - Selected Topics in History Credits: 3 (with advisement)

History, Asian & Middle Eastern History Concentration, B.A.

Required History Courses (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted History Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

Asian & Middle Eastern History Concentration

- HIS 339 - The Central Islamic Lands, 500-1700 Credits: 3
- HIS 344 - History of the Modern Middle East Credits: 3
- HIS 350 - History of Modern Japan Credits: 3
- HIS 353 - Modern Southeast Asia Credits: 3
- HIS 354 - Traditional China Credits: 3
- HIS 355 - History of Modern China Credits: 3
- HIS 382 - Selected Topics in History Credits: 1-3
(with advisement)
- HIS 383 - Selected Topics in History Credits: 1-3 (with advisement)
- HIS 386 - History Research Seminar Credits: 3 (with advisement)
- HIS 387 - History Internship Credits: 3 (with advisement)
- HIS 389 - History Internship Credits: 3 (with advisement)
- HIS 391 - History Internship Credits: 3-6 (with advisement)
- HIS 394 - Selected Topics in History Credits: 3 (with advisement)
- HIS 454 - China and the Outside World Credits: 3
- HIS 482 - Selected Topics in History Credits: 3 (with advisement)

- HIS 483 - Selected Topics in History Credits: 3 (with advisement)
- HIS 496 - Selected Topics in History Credits: 3 (with advisement)
- PHL 336 - Concepts in Buddhism Credits: 3

Bachelor of Science in Education

History, Comprehensive Social Studies, B.S.Ed.

A 3.0 QPA will be required for entrance into the B.S.Ed. program and for matriculation to professional standing. The requirements for the B.S.Ed. include the completion of specific social studies, general education, and professional education courses. Where appropriate, these courses may also be used to fulfill general education categories.

Required (57 crs.)

History (30 crs.)

Required (12 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3

Restricted Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

Free Electives (6 crs.)

- Only one course at the 200 level, and the rest at 300 level or above.

Required Allied Social Studies (27 crs.)

Political, Economic and Geographic Science (6 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- GEO 101 - World Geography Credits: 3

Social and Behavior Science (6 crs.)

- PSY 101 - General Psychology Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Social Studies Certification Requirements (15 crs.)

- GEO 103 - Geography of the United States and Canada Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Political Science Elective (3 cr.)

- PLS 141 - World Politics Credits: 3 or
- PLS 200 or 300 level

Note:

PLS 200 or 300 level: suggested courses are PLS 231, PLS 251, PLS 300

Social Science Electives (6 cr. - Choose Two)

- ANT 111 - Cultural Anthropology Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- INT 200 - Introduction to International Studies Credits: 3
- GEO 200 or 300 level
- Any PHL course

Specific General Education Courses for Certification (12+ crs.)

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185). The courses may also simultaneously count toward the fulfillment of general education requirements.

Required Professional Education Courses (33 crs.)

Required Course

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EDU 412 - Teaching Social Studies in Secondary Schools I Credits: 3
- EDU 413 - Teaching of Social Studies II Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

TCH 207 must be completed before EDU 412 and EDU 413

EDU 412 and EDU 413 must be taken simultaneously. A cumulative GPA of 3.0 is required to enroll in EDU 412 and EDU 413.

Required Field Experience

Required: 50 Level I hours and PRAXIS I exam by the time one attains 75-90 credits. See B.S.Ed. advisor.

PRAXIS I & II are required for teacher certification.

Minor

History Minor

18 crs.

Required (9 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3 or
- HIS 202 - Recent History of the United States Credits: 3

Electives (9 crs.)

- One course at the 300 level or above in Africa/Asia/Latin America
- One course at the 300 level or above in European History
- One course at the 300 level or above in American History

Philosophy Minor

18 crs.

Required Courses

- PHL 248 - History of Ancient and Medieval Philosophy Credits: 3 or
- PHL 249 - History of Modern Philosophy Credits: 3
- PHL 340 - Contemporary Ethics Credits: 3
- PHL 200 level course: except PHL 248 or PHL 249
- PHL 300 level course
- PHL course at any level
- PHL course at any level

Human Communication Studies Department

The Department of Human Communication Studies offers an undergraduate program leading to a Bachelor of Arts degree.

Both the major and minor in Human Communication Studies attempt to maximize a bank of communication skills and their theoretical bases, which are applicable to career goals and private lives. These skills include, but are not limited to, effective listening, interpersonal dynamics, group dynamics, critical analysis, persuasion, conflict management and resolution, and message construction and delivery, both orally and in writing. An emphasis on the ethical use of communication and the cultural dimensions, both of which are fundamental to effective human communicative strategies, are key to each course offered. Careful consideration is given to both the implication of human communication theories and the application of practical skill sets.

Majors: Must complete a total of 36 credits in the discipline. A core of 21 credits is required then the students select 15 credits of electives within the department.

Minors: Must complete a total of 18 credits in the discipline. A core of 6 credits is required and then students select 12 credits of electives within the department.

Human Communication Studies Features

A personalized advisement procedure encourages students to make private appointments with advisors as necessary. These advising contacts help facilitate student choices, which ensure a timely approach to course selection and graduation goals. The advisement, while important to academic progression, is also fundamental to student preparation for careers.

Internships are an optional part of the Human Communication Studies program. They are tailored to the career plans of each student and provide access to those already working in those fields. In order to qualify for an internship, students must meet specified criteria and apply, formally, through their advisor.

Human Communication Studies Career Opportunities

Human Communication Studies majors are prepared to enter virtually any field which requires communicative contact, in either spoken or written form. Recent graduates work in all aspects of sales, marketing, advertising, radio/television broadcast, public relations, human resources, and higher education. Many go on to continue their graduate studies.

Advisors encourage students to select and study in a minor area of concentration. Some good fits include business management, communications/journalism, elementary education, social work, and political science. The options are essentially limitless. The selection of minors advance career preparation in specific areas and reinforce student credentials for application to graduate study.

Bachelor of Arts

Human Communication Studies, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Required Courses (15 crs.)

- HCS 200 - Human Communication Theory Credits: 3
- HCS 210 - Public Speaking Credits: 3
- HCS 360 - Research Methods in Communication Credits: 3
- HCS 370 - Rhetorical Criticism Credits: 3
- HCS 400 - Senior Seminar Credits: 3

Major Electives (21 crs.)

Students must take at least one course from each category (Rhetoric & Symbolism; Organizational Communication; Cultural Perspectives; and Interpersonal Communication) as well as an additional three classes from the course offerings and internship options below.

Rhetoric and Symbolism

- HCS 325 - The Rhetoric of African-American Struggle and Progress Credits: 3
- HCS 345 - Environmental Communication Credits: 3
- HCS 352 - Argumentation & Debate Credits: 3
- HCS 356 - Persuasion Credits: 3
- HCS 363 - Political Rhetoric Credits: 3
- HCS 365 - Language and Meaning Credits: 3
- HCS 375 - Special Topics in Rhetoric and Symbolism Credits: 3

Organizational Communication

- HCS 230 - Small Group Communication Credits: 3
- HCS 260 - Computer-Mediated Communication Credits: 3
- HCS 350 - Theories of Organizational Communication Credits: 3
- HCS 351 - Special Topics Organizational Communication Credits: 3
- HCS 372 - Communication for Training and Instruction Credits: 3
- HCS 381 - Professional Communication and Multi-media Presentation Credits: 3

Cultural Perspectives

- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HCS 310 - African-American Communication Credits: 3
- HCS 315 - Asian-American Communication Credits: 3
- HCS 330 - Special Topics in Cultural Perspectives Credits: 3
- HCS 335 - Popular Culture and Gender Construction Credits: 3
- HCS 340 - Gender and Communication Credits: 3
- HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3

Interpersonal Communication

- HCS 220 - Nonverbal Communication Credits: 3
- HCS 225 - Communication and Sport Credits: 3
- HCS 250 - Interpersonal Communication Credits: 3
- HCS 265 - Interviewing Credits: 3
- HCS 333 - Communicating Identity Credits: 3
- HCS 349 - Special Topics in Interpersonal Communication Credits: 3
- HCS 385 - Resolving Conflict through Communication Credits: 3
- HCS 430 - Advanced Interpersonal Communication Credits: 3

Internships

(Department Permission Required. Six credits of Internship may apply to major; three credits to Free Electives)

- HCS 390 - Internship I Credits: 3
- HCS 391 - Internship II Credits: 3
- HCS 392 - Internship III Credits: 3

Minor

Human Communication Studies Minor

Required Courses (6 crs.)

- HCS 210 - Public Speaking Credits: 3

Communication Research Core

- HCS 360 - Research Methods in Communication Credits: 3
- HCS 370 - Rhetorical Criticism Credits: 3

Rhetoric and Symbolism

- HCS 345 - Environmental Communication Credits: 3
- HCS 352 - Argumentation & Debate Credits: 3
- HCS 356 - Persuasion Credits: 3
- HCS 363 - Political Rhetoric Credits: 3
- HCS 365 - Language and Meaning Credits: 3
- HCS 375 - Special Topics in Rhetoric and Symbolism Credits: 3

Organizational Communication

- HCS 230 - Small Group Communication Credits: 3
- HCS 260 - Computer-Mediated Communication Credits: 3

- HCS 350 - Theories of Organizational Communication Credits: 3
- HCS 351 - Special Topics Organizational Communication Credits: 3
- HCS 372 - Communication for Training and Instruction Credits: 3
- HCS 381 - Professional Communication and Multi-media Presentation Credits: 3

Cultural Perspectives

- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HCS 310 - African-American Communication Credits: 3
- HCS 315 - Asian-American Communication Credits: 3
- HCS 330 - Special Topics in Cultural Perspectives Credits: 3
- HCS 335 - Popular Culture and Gender Construction Credits: 3
- HCS 340 - Gender and Communication Credits: 3
- HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3

Interpersonal Communication

- HCS 220 - Nonverbal Communication Credits: 3
- HCS 225 - Communication and Sport Credits: 3
- HCS 250 - Interpersonal Communication Credits: 3
- HCS 265 - Interviewing Credits: 3
- HCS 333 - Communicating Identity Credits: 3
- HCS 349 - Special Topics in Interpersonal Communication Credits: 3
- HCS 385 - Resolving Conflict through Communication Credits: 3
- HCS 430 - Advanced Interpersonal Communication Credits: 3

Interdisciplinary Arts Program

The Interdisciplinary Arts Program at Shippensburg University is the only one of its kind among the fourteen universities in the Pennsylvania State System of Higher Education. An ideal major for undergraduates who wish to acquire a comprehensive understanding of the arts and their interrelationships, the B.A. degree program in interdisciplinary arts offers course work in both arts performance and criticism across a broad range of media including computer design, sculpture, dance, music, theater, film, photography, and creative writing.

Interdisciplinary Arts Features

Majors in Interdisciplinary Arts begin their studies by enrolling in a core of foundation courses that provide them with a general understanding of the arts, and they continue by enrolling in elective courses that offer in-depth study and practice in the arts, as well as other electives that suit their career goals, such as courses in education, business, and the social sciences. As a result, IA majors gain both a comprehensive knowledge of the arts and the critical and communicative skills necessary to succeed in their chosen professions.

Career Opportunities

The rapid growth in multimedia technology has created a large market for people with a comprehensive foundation in the arts, as well as an ability to appreciate, interpret, and work with relationships among the arts. By combining courses

in art history and practice with courses featuring hands-on learning and marketable business skills, IA graduates enter the job market with a broad-based perspective and a unique combination of professional assets. Majors are provided with a foundation for careers not only in the performing arts, but also in professions such as arts education, journalistic criticism, media production services, museum programming and exhibition, arts management and fundraising, and government and community arts administration.

Senior Capstone

The culmination of the Interdisciplinary Arts major is a Senior Capstone experience (6 credit hours). In the first semester of senior year, the IA major participates in a seminar (IAP 449 Interdisciplinary Arts Senior Thesis) designed to guide and encourage an individual research project resulting in a thesis paper with an interdisciplinary approach to the arts—a critical study of the influence of painting and music in a work of literature, for example, or an original screenplay, or an illustrated essay on the interaction of the arts in a certain film, opera, dance performance, or work of musical theater. The IAP senior thesis is an exciting opportunity for students to engage in research and creative thinking and to share their ideas with other IA majors.

The second semester of senior year offers Interdisciplinary Arts majors a choice. They may use the senior thesis as a foundation for designing a public performance (IAP 451 Interdisciplinary Arts Showcase), or undertake an internship in an arts-related organization (IAP 452 Interdisciplinary Arts Internship). The senior showcase can take many forms. It might be an illustrated lecture, an exhibition of work, a multimedia presentation, a reading of poetry or fiction accompanied by slides, a performance piece, or a short film, video, or work of computer animation. The internship can involve work in galleries or museums, with performance companies, on arts exhibitions, in the mass media, public relations, arts foundations, or other arts-related professions. Students opting for the senior showcase have the opportunity to display their work in a public forum, while those taking an internship can use the experience as a springboard for professional employment in the arts industry.

Bachelor of Arts

Interdisciplinary Arts, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Foundation Courses

(which will also satisfy a General Education Category B (Humanities) requirement)

- IAP 111 - Introduction to Interdisciplinary Arts Credits: 3 (which will also satisfy a General Education Category B (Humanities) requirement)

One of the Following Courses:

(which will also satisfy a General Education Category B: Literature requirement)

- ENG 243 - The Art of the Film Credits: 3

- ENG 250 - Introduction to Literature Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3

Three of the Following Courses:

(One of these (except COM 111) will satisfy the General Education Category B: Humanities requirement, and the remaining two can be counted either as electives or in the primary or secondary concentrations of the curriculum track.)

- ART 101 - Art Appreciation Credits: 3
- COM 111 - Introduction to Mass Communication Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- THE 121 - Introduction to the Theatre Credits: 3

Curriculum Track (42 crs.)

Interdisciplinary Arts majors choose a primary concentration consisting of 6 courses (18 crs.) and two secondary concentrations of 4 courses (each 12 crs.). The primary concentration and at least one of the secondary concentrations must be in the arts, although one of the secondary concentrations can be in a discipline outside of the arts.

An IA major wishing to concentrate in musical theatre, for example, might choose theatre as a primary concentration and music and dance as secondary concentrations; a student interested in art therapy might choose art as a primary concentration and psychology as one of the secondary concentrations; a student whose interest is in graphic fiction might combine courses in art, computer design, and creative writing; while a student interested in arts management could combine course work in two of the arts with courses in marketing and business. One of the most attractive features of the IA major is its flexibility, and the opportunity it offers students to design a curriculum suited to their personal interests and career goals. It also enables students to earn minors in their fields of concentration.

In the curriculum track, majors are also required to take one course in each of the following areas: A. History and Culture, B. Theory and Criticism, C. Arts Praxis, and D. Professional Skills. A list of the many courses offered by arts departments that satisfy this requirement is provided to majors, and with permission of the program director, courses in other colleges or departments, special topics courses, internships, or individualized instruction may also satisfy these category requirements.

Senior Capstone (6 crs.)

- IAP 449 - Interdisciplinary Arts Senior Thesis Credits: 3
- IAP 451 - Interdisciplinary Arts Showcase Credits: 3 or
- IAP 452 - Interdisciplinary Arts Internship Credits: 3 or
- IAP 453 - Interdisciplinary Arts Internship Credits: 3

International Studies Program

International Studies Program

International Studies prepares students for the challenges of an ever-changing, interdependent world. It is an interdisciplinary program that enhances knowledge of the countries and cultures of the world as well as the forces of globalization knitting them together. The program offers an International Studies major (39 crs.), International Studies

minor (21 crs.), and four different Areas Studies certificates (12 crs. each) in African & Middle Eastern Studies, Asian Studies, European Studies, and Latin American & Caribbean Studies. Students create programs of study tailored to their academic interests and career aspirations from an interdisciplinary array of courses on international topics. Graduates are prepared to cross into other cultures and navigate the global networks connecting the world's economies, governments, and societies.

International Studies Career Opportunities

International Studies graduates typically find employment in business, the federal government, international agencies, and social service, educational and media organizations. Businesses need employees who can operate in a multinational environment because exports, imports and tourism contribute substantially to the U.S. and Pennsylvania economies. Federal agencies, such as the FBI and State Department, and non-profit organizations, such as the Red Cross and UNICEF, require employees with the intercultural and linguistic competency needed to interact with foreign governments and peoples.

Bachelor of Arts

International Studies, B.A.

Required courses INT 200 - Introduction to International Studies Credits: 3 and INT 300 - International Studies Seminar Credits: 3 introduce and reinforce knowledge of globalization and intercultural relations. Majors also are required to study abroad or engage in an off-campus internship that develops intercultural competency and international understanding.

Students must elect one Global Perspectives concentration (12 crs.) in:

1. Comparative & Global Cultures
2. Global Political Relations *or*
3. Global Business & Economics.

Global Perspectives courses explore globalization's impacts on the cultures, economies, and political systems of the world that cause international interdependency and tensions.

Students also must elect one Area Studies concentration (12 crs.) and related foreign language (9 crs.) in:

1. African & Middle Eastern Studies,
2. Asian Studies,
3. European Studies *or*
4. Latin American & Caribbean Studies.

Area Studies and Foreign Language courses promote intercultural and linguistic competency essential to successful cross-cultural personal and professional relationships.

Majors must take a minimum of 21 credit hours of major courses, including INT 200 and INT 300, at Shippensburg. Students declaring dual majors may double-count a maximum of 12 credit hours of courses between the first major and courses fulfilling International Studies Global Perspectives, Area Studies and Foreign Language requirements. Courses fulfilling general education requirements of both majors may be double-counted without restriction.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

39 crs.

Required Courses (6 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- INT 300 - International Studies Seminar Credits: 3

Note:

*HON 399 - Honors: Independent Study Credits: 3 may serve as a substitute for INT 300 with an appropriate international topic, interdisciplinary research project, and permission of the director.

Foreign Language Requirement (9 crs.)

Majors taking languages offered through Shippensburg University must complete 9 credit hours at the 200-level and higher. Students who study a language not offered through Shippensburg University--such as Korean, Russian or Swahili--are required to earn a total of 9 credit hours at the 100-level or higher. Language credits must be earned through Shippensburg University or with permission of the director another accredited institution of higher learning in the U.S. or abroad. Students are strongly encouraged to strengthen their qualifications for international employment by completing a modern language certificate (12 crs.) or minor (18 crs.).

Study Abroad or Internship Requirement

Majors are required to study abroad or engage in an off-campus internship. The study abroad or internship experience must satisfy a minimum of 3 credit hours of the major's general education or course requirements. Students studying abroad at an approved program may take a maximum of 18 credit hours of major courses. Majors studying abroad to fulfill special academic needs may obtain exemptions from the minimum or maximum credit hour requirement with prior approval of the Director of International Studies.

General Education Requirements (12 crs.)

All majors must complete the following general education courses:

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- ANT 111 - Cultural Anthropology Credits: 3 or
- GEO 140 - Cultural Geography Credits: 3

Comparative and Global Culture and Global Political Relations

Majors with concentrations in Comparative and Global Culture and Global Political Relations must take these two Category D courses:

- GEO 101 - World Geography Credits: 3
- PLS 141 - World Politics Credits: 3

Business and Economics Concentration

Majors with the Business and Economics Concentration must choose Category D courses from each of the following two choices:

- ECO 101 - Principles of Macroeconomics Credits: 3 or
- ECO 102 - Principles of Microeconomics Credits: 3 or
- ECO 113 - Principles of Economics Credits: 4

- GEO 101 - World Geography Credits: 3 or
- PLS 141 - World Politics Credits: 3

Global Perspectives Concentration (12 crs.)

Students must choose one Global Perspectives Concentration. 6 credit hours should be at the 300-level or higher. Courses must be in at least 2 disciplines.

Comparative and Global Cultures Concentration

- ANT 105 - Great Discoveries in Archaeology Credits: 3
- ANT 211 - Comparative Cultures Credits: 3
- ANT 220 - Anthropology for International Studies Credits: 3
- ANT 305 - Food, Drink and Culture Credits: 3
- ANT 310 - Magic, Science and Religion Credits: 3
- ANT 312 - Comparative Marriage and Family Credits: 3
- ANT 320 - Comparative Gender Roles Credits: 3
- ANT 350 - Medical Anthropology Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 233 - Art History III Credits: 3
- ENG 239 - Postcolonial Literature Credits: 3
- ENG 240 - Global Literature Credits: 3
- ENG 385 - Studies in Postcolonial Literature Credits: 3
- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HIS 407 - Women in Comparative Perspective Credits: 3
- INT 190 - General Education Special Topics Credits: 3
- INT 280 - Selected Topics in International Studies: Comparative & Global Cultures Credits: 3-6
- INT 380 - Selected Topics in International Studies Comparative & Global Cultures Credits: 3-6
- INT 390 - International Studies Internship - Comparative & Global Cultures Credits: 3-6
- MUS 261 - World Music Credits: 3
- PHL 295 - Comparative Religions Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3
- SOC 265 - Global Society Credits: 3
- SOC 421 - Impact of International Migration Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Global Political Relations Concentration

- CRJ 411 - Terrorism Credits: 3
- CRJ 463 - Comparative Criminal Justice Credits: 3
- HIS 304 - American Diplomatic History Credits: 3
- HIS 345 - Military History of the United States Credits: 3
- HIS 351 - World History since 1945 Credits: 3
- HIS 359 - History of Western Political Thought, 1500-1800 Credits: 3
- INT 281 - Selected Topics in International Studies: Global Political Relations Credits: 3-6
- INT 381 - Selected Topics in International Studies Global Political Relations Credits: 3-6
- INT 391 - International Studies Internship - Global Political Relations Credits: 3-6
- PHL 230 - The Ethics of War and Terrorism Credits: 3
- PLS 251 - Introduction to Comparative Politics Credits: 3
- PLS 341 - International Law and Organization Credits: 3
- PLS 343 - Global Economic and Political Conflict Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 349 - Applied Diplomacy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 394 - Selected Topics in International Politics Credits: 3
- SOC 365 - Elites in Society Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Global Business and Economics Concentration

- ECO 321 - International Economics Credits: 3
- ECO 345 - The Economics of Growth and Development Credits: 3
- FIN 425 - Global Financial Management Credits: 3
- GEO 230 - Economic Geography Credits: 3
- INT 282 - Selected Topics in International Studies Global Business & Economics Credits: 3-6
- INT 382 - Selected Topics in International Studies Global Business & Economics Credits: 3-6
- INT 392 - International Studies Internship - Global Business & Economics Credits: 3-6
- MGT 349 - International Human Resource Management Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 470 - International Management Credits: 3
- MKT 360 - International Marketing Credits: 3
- SCM 420 - Global Logistics Systems Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Note:

**Students taking FIN 425, MGT 349, and MKT 360 are required to elect a Business Minor-18 crs. in order to meet required prerequisites.

Area Studies Concentration (12 crs)

Students must choose one Area Studies concentration. 6 credit hours should be at the 300-level or higher. Courses must be in at least two disciplines.

** Requires an appropriate topic and an Exception Form signed by Director of International Studies for approval.*

African and Middle Eastern Studies Concentration

Arabic, French or another African or Middle Eastern language is required to fulfill the language requirement. Study abroad in Africa or the Middle East is highly recommended.

- * ENG 385 - Studies in Postcolonial Literature Credits: 3
- FRN 150 - French Civilization Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 331 - Masterpieces of Francophone Literature Credits: 3
- * GEO 415 - Regional Geographic Studies Credits: 3
- * GEO 450 - Geography-Geology Field Studies Credits: 1-3
- HIS 339 - The Central Islamic Lands, 500-1700 Credits: 3
- HIS 344 - History of the Modern Middle East Credits: 3
- HIS 376 - History of Africa South of the Sahara Credits: 3
- INT 283 - Selected Topics in International Studies Africa & Middle East Studies Credits: 3-6
- INT 383 - Selected Topics in International Studies Africa & Middle East Studies Credits: 3-6
- INT 393 - International Studies Internship - African & Middle Eastern Studies Credits: 3-6

Note:

ENG 385, GEO 415 and GEO 450 required approval of the Director

FRN 204 and FRN 331-Only Modern Language courses that are not used to satisfy the B.A. language requirement or International Studies foreign language requirement may be counted toward the Area Studies Concentration requirement. See the course listings for language prerequisites

Asian Studies Concentration

An Asian language is required to fulfill the language requirement. Study abroad in Asia is highly recommended.

- * ENG 385 - Studies in Postcolonial Literature Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- * GEO 415 - Regional Geographic Studies Credits: 3
- * GEO 450 - Geography-Geology Field Studies Credits: 1-3
- HCS 315 - Asian-American Communication Credits: 3
- HIS 350 - History of Modern Japan Credits: 3
- HIS 353 - Modern Southeast Asia Credits: 3
- HIS 354 - Traditional China Credits: 3
- HIS 355 - History of Modern China Credits: 3
- HIS 454 - China and the Outside World Credits: 3
- INT 284 - Selected Topics International Studies Asian Studies Credits: 3-6
- INT 384 - Selected Topics in International Studies Asian Studies Credits: 3-6
- INT 394 - International Studies Internship - Asian Studies Credits: 3-6

- PHL 336 - Concepts in Buddhism Credits: 3

Note:

ENG 385, GEO 415 and GEO 450 require approval of the Director

European Studies Concentration

French, German, Spanish or another continental European language is required to fulfill the requirement. Study abroad in Europe is highly recommended.

- ANT 351 - Peoples and Cultures of Europe Credits: 3
- ENG 236 - British Literature I Credits: 3
- ENG 237 - British Literature II Credits: 3
- ENG 318 - Studies in English Renaissance Literature Credits: 3
- * ENG 337 - Romanticism Credits: 3
- ENG 349 - Victorian Literature Credits: 3
- ENG 376 - Studies in Medieval Literature Credits: 3
- * ENG 377 - The Long 18th Century Credits: 3
- * ENG 380 - 19th Century Literature Credits: 3
- FRN 150 - French Civilization Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 320 - French for the Professions Credits: 3
- FRN 330 - Masterpieces of French Literature Credits: 3
- FRN 340 - Genres Littéraires Credits: 3
- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3
- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- GEO 305 - Geography of Europe Credits: 3
- * GEO 415 - Regional Geographic Studies Credits: 3
- * GEO 450 - Geography-Geology Field Studies Credits: 1-3
- GER 150 - German Civilization and Culture Credits: 3
- GER 151 - German Cinema Credits: 3
- GER 204 - Contemporary German Culture Credits: 3
- GER 215 - German for the Professions Credits: 3
- GER 320 - Berlin Credits: 3
- GER 322 - Readings in German Literature Credits: 3
- GER 400 - German Seminar Credits: 3
- HIS 320 - Europe in the Early and High Middle Ages: 300 to 1270 Credits: 3
- HIS 321 - Late Medieval Europe: 1270 to 1517 Credits: 3
- HIS 325 - History of the Tsarist Russia Credits: 3
- HIS 326 - History of the U.S.S.R. Credits: 3
- HIS 330 - History of Modern Germany: 1919 to Present Credits: 3
- HIS 331 - History of Modern France: 1750 to Present Credits: 3
- HIS 332 - English History: 1066 to Present Credits: 3
- HIS 334 - Europe 1715-1815: The Era of the Industrial and French Revolutions Credits: 3
- HIS 337 - History of the Byzantine Empire Credits: 3
- HIS 348 - The History of Ancient Rome Credits: 3

- HIS 356 - History of 19th Century Europe Credits: 3
- HIS 357 - History of Holocaust Credits: 3
- HIS 359 - History of Western Political Thought, 1500-1800 Credits: 3
- HIS 361 - History of 20th Century Europe Credits: 3
- HIS 362 - Europe 1450-1715: The Era of the Renaissance and Reformation Credits: 3
- HIS 423 - Issues in 20th-Century Europe Credits: 3
- INT 285 - Selected Topics in International Studies European Studies Credits: 3-6
- INT 385 - Selected Topics in International Studies European Studies Credits: 3-6
- INT 395 - International Studies Internship - European Studies Credits: 3-6
- MUS 320 - Masterpieces of Music Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 359 - European Political Integration and Identity Credits: 3
- SPN 150 - Spanish Civilization and Culture Credits: 3
- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 330 - Spanish for the Professions Credits: 3
- SPN 343 - Introduction to Literary Studies Credits: 3
- SPN 360 - Masterpieces of Spanish Literature Credits: 3
- SPN 385 - Aspectos De La Civilización Hispana Credits: 3
- SPN 400 - Seminar: Advanced Studies in Spanish Language and Literature Credits: 3

Note:

GEO 415 and GEO 450 require approval of the Director

FRN 204, FRN 320, FRN 330, FRN 340, FRN 380, FRN 392, FRN 400, GER 151, GER 215, GER 320, GER 322, GER 400, SPN 204, SPN 330, SPN 343, SPN 360, SPN 385, SPN 400-Only Modern Language courses that are not used to satisfy the B.A. language requirement or International Studies foreign language requirement may be counted toward the Area Studies Concentration requirement. See the Course Descriptions for language prerequisites

Latin American and Caribbean Studies Concentration

Spanish, French, or another Latin American or Caribbean language is required to fulfill the language requirement. Study abroad in Latin America or the Caribbean is highly recommended.

- ANT 360 - Aztec and Maya Archaeology Credits: 1-3
- GEO 308 - Geography of Latin America Credits: 3
- * GEO 415 - Regional Geographic Studies Credits: 3
- * GEO 450 - Geography-Geology Field Studies Credits: 1-3
- HIS 349 - History of Latin America Credits: 3
- HIS 360 - History of Mexico Credits: 3
- HIS 366 - History of Brazil Credits: 3
- INT 286 - Selected Topics in International Studies Latin American & Caribbean Studies Credits: 3-6
- INT 386 - Selected Topics in International Studies Latin American & Caribbean Studies Credits: 3-6
- INT 396 - International Studies Internship - Latin American & Caribbean Studies Credits: 3-6
- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3

- PLS 349 - Applied Diplomacy Credits: 3
- SPN 150 - Spanish Civilization and Culture Credits: 3
- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 330 - Spanish for the Professions Credits: 3
- SPN 361 - Masterpieces of Spanish-American Literature Credits: 3
- SPN 385 - Aspectos De La Civilización Hispana Credits: 3
- SPN 400 - Seminar: Advanced Studies in Spanish Language and Literature Credits: 3

Note:

GEO 415 and GEO 450 require approval of the Director

SPN 204, SPN 330, SPN 361, SPN 385, SPN 400 -Only Modern Language courses that are not used to satisfy the B.A. language requirement or International Studies foreign language requirement may be counted toward the Area Studies Concentration requirement. See the Course Descriptions for language prerequisites.

Certificate

African & Middle Eastern Studies Certificate

Required (3 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- Or an approved substitute

Electives (9 crs.)

The remaining three courses must concentrate on one world area (Africa & Middle East, Asia, Europe, or Latin America). Two of the elective courses must be at the 300-level or higher. No courses may be double-counted between a Certificate and the International Studies major or minor, or a second Certificate in another world area. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

INT 200 - Introduction to International Studies Credits: 3 majors and minors, and students adding a Certificate in a second world area must consult with the Director of International Studies to choose an appropriate substitute course and complete an Exception Form.

Asian Studies Certificate

Required (3 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- Or an approved substitute

Electives (9 crs.)

The remaining three courses must concentrate on one world area (Africa & Middle East, Asia, Europe, or Latin America). Two of the elective courses must be at the 300-level or higher. No courses may be double-counted between a Certificate and the International Studies major or minor, or a second Certificate in another world area. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

INT 200 - Introduction to International Studies Credits: 3 majors and minors, and students adding a Certificate in a second world area must consult with the Director of International Studies to choose an appropriate substitute course and complete an Exception Form.

European Studies Certificate

Required (3 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- Or an approved substitute

Electives (9 crs.)

The remaining three courses must concentrate on one world area (Africa & Middle East, Asia, Europe, or Latin America). Two of the elective courses must be at the 300-level or higher. No courses may be double-counted between a Certificate and the International Studies major or minor, or a second Certificate in another world area. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

INT 200 - Introduction to International Studies Credits: 3 majors and minors, and students adding a Certificate in a second world area must consult with the Director of International Studies to choose an appropriate substitute course and complete an Exception Form.

Latin American Studies Certificate

Required (3 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- Or an approved substitute

Electives (9 crs.)

The remaining three courses must concentrate on one world area (Africa & Middle East, Asia, Europe, or Latin America). Two of the elective courses must be at the 300-level or higher. No courses may be double-counted between a Certificate and the International Studies major or minor, or a second Certificate in another world area. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

INT 200 - Introduction to International Studies Credits: 3 majors and minors, and students adding a Certificate in a second world area must consult with the Director of International Studies to choose an appropriate substitute course and complete an Exception Form.

Minor

International Studies Minor

The International Studies minor can be paired with many different majors including those in business, education and science. The minor has required courses (6 crs.) that provide an overview of international studies. Core courses (6 crs.) and elective courses (9 crs.) give students flexibility to pursue their own international interests. Study abroad and foreign language learning are highly encouraged, but not required. Study abroad courses may be applied to a maximum of 15 credit hours of minor requirements. Students must take INT 200 and INT 300 at Shippensburg University.

21 crs.

Required (6 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- INT 300 - International Studies Seminar Credits: 3

Core courses (6 crs.)

- ANT 220 - Anthropology for International Studies Credits: 3
- MGT 370 - International Business Credits: 3
- GEO 101 - World Geography Credits: 3
- PLS 141 - World Politics Credits: 3

Electives (9 crs.)

The remaining three courses may be selected from a wide range of offerings in many departments. Electives need to be in at least two disciplines. Two of the elective courses must be at the 300-level or higher. Courses used to meet the core course requirement cannot double count as minor electives. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

Mathematics Department

The Department of Mathematics offers a Bachelor of Science (B.S.) degree with either a general program of study or one of three different concentrations: applied mathematics, secondary education certification, and statistics. The Secondary Education Certification Concentration includes the requirements necessary for official certification for teaching mathematics at the secondary level.

The latest technology is increasingly brought into the classroom to teach mathematics in a modern fashion. Faculty advisors work closely with students to help them prepare for careers in the mathematical sciences. We invite interested students to examine the department's website at www.ship.edu/math.

Mathematics Career Opportunities

Careers in the mathematical sciences, such as actuary, mathematician, statistician, or operations researcher are consistently rated among the best in terms of income, job security, and work environment. A wide variety of career opportunities exist in private industry, business, government, science, and education.

Bachelor of Science

Mathematics, B.S.

The B.S. degree is designed to give the student a broad knowledge of mathematics as well as a firm grasp on the application of mathematics to other disciplines. The most typical applications include computer science, statistics, actuarial science, physical and biological sciences, and teacher certification at the secondary level. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

To complete the degree a student must take all of the core courses and complete either a concentration or a general program of study which includes at least five courses at the 300 level or above of which at least two are at the 400 level along with either a minor, a major, or three allied electives.

Concentrations

Currently there are three pre-approved concentrations: applied math, secondary education certification, and statistics. The concentrations allow for a student to complete either a minor or second major in a related discipline or a series of allied electives to explore how mathematics can be applied to other disciplines.

Allied Electives

In general, allied electives are courses numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE. Other courses will be considered by the department chair on a case-by-case basis. Students not in the Secondary Certification concentration must complete three allied electives, at least one of which must be from disciplines other than MAT. This requirement is waived for students completing a minor or second major.

Required Mathematics (30 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3

- MAT 430 - Complex Analysis Credits: 3 or
- MAT 441 - Real Analysis I Credits: 3

Required Computer Science (3-4 crs.)

- CSC 104 - Programming in Python Credits: 3 or
- CSC 180 - Microcomputer Basic Credits: 3 or
- CSC 110 - Computer Science I - Lecture Credits: 3
and
- CSC 106 - Computer Science I - Lab Credits: 1 or
- CSC 107 - Computer Science I - Lab Credits: 1
(CSC 106 can be taken in place of CSC 107)

B.S. without concentration (24 - 27 crs.)

- MAT3xx or 4xx elective
- MAT3xx or 4xx elective
- MAT3xx or 4xx elective
- MAT4xx elective
- MAT4xx elective
- Three-Allied-Electives

Three Allied Electives may be replaced by a minor/second major in any discipline.

Course Sequencing

The department maintains a suggested sequence for scheduling the required core math courses and the courses required by the various concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list is available in the department office.

A typical first year sequence for all mathematics majors is given below:

Semester I

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4

Semester II

- MAT 212 - Calculus II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Three General Education courses

Mathematics, Applied Math Concentration, B.S.

The B.S. degree is designed to give the student a broad knowledge of mathematics as well as a firm grasp on the application of mathematics to other disciplines. The most typical applications include computer science, statistics, actuarial science, physical and biological sciences, and teacher certification at the secondary level. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

To complete the degree a student must take all of the core courses and complete either a concentration or a general program of study which includes at least five courses at the 300 level or above of which at least two are at the 400 level along with either a minor, a major, or three allied electives.

Concentrations

Currently there are three pre-approved concentrations: applied math, secondary education certification, and statistics. The concentrations allow for a student to complete either a minor or second major in a related discipline or a series of allied electives to explore how mathematics can be applied to other disciplines.

Allied Electives

In general, allied electives are courses numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE. Other courses will be considered by the department chair on a case-by-case basis. Students not in the Secondary Certification concentration must complete three allied electives, at least one of which must be from disciplines other than MAT. This requirement is waived for students completing a minor or second major.

Required Mathematics (30 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3

- MAT 430 - Complex Analysis Credits: 3 or
- MAT 441 - Real Analysis I Credits: 3

Required Computer Science (3-4 crs.)

- CSC 104 - Programming in Python Credits: 3 or
- CSC 180 - Microcomputer Basic Credits: 3 or
- CSC 110 - Computer Science I - Lecture Credits: 3
and
- CSC 106 - Computer Science I - Lab Credits: 1 or
- CSC 107 - Computer Science I - Lab Credits: 1
(CSC 106 can be taken in place of CSC 107)

Applied Math Concentration (24-27 crs.)

- MAT 322 - Differential Equations Credits: 3
- MAT 326 - Mathematical Modeling Credits: 3

One of

- MAT 410 - Numerical Analysis Credits: 3
- MAT 422 - Partial Differential Equations Credits: 3
- MAT 476 - Probability Credits: 3
- MAT 491 - Topics in Applied Mathematics Credits: 3

Applied Math Elective:

- MAT 3xx/4xx elective
- MAT 4xx elective
- Three Allied Electives **

Note:

**Allied Electives may be replaced by a minor/second major in any discipline

Course Sequencing

The department maintains a suggested sequence for scheduling the required core math courses and the courses required by the various concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list is available in the department office.

A typical first year sequence for all mathematics majors is given below:

Semester I

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4

Semester II

- MAT 212 - Calculus II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Three General Education courses

Mathematics, Secondary Education Certification, B.S.

The B.S. degree is designed to give the student a broad knowledge of mathematics as well as a firm grasp on the application of mathematics to other disciplines. The most typical applications include computer science, statistics, actuarial science, physical and biological sciences, and teacher certification at the secondary level. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

To complete the degree a student must take all of the core courses and complete either a concentration or a general program of study which includes at least five courses at the 300 level or above of which at least two are at the 400 level along with either a minor, a major, or three allied electives.

Concentrations

Currently there are three pre-approved concentrations: applied math, secondary education certification, and statistics. The concentrations allow for a student to complete either a minor or second major in a related discipline or a series of allied electives to explore how mathematics can be applied to other disciplines.

Allied Electives

In general, allied electives are courses numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE. Other courses will be considered by the department chair on a case-by-case basis. Students not in the Secondary Certification concentration must complete three allied electives, at least one of which must be from disciplines other than MAT. This requirement is waived for students completing a minor or second major.

Required Mathematics (30 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3

- MAT 430 - Complex Analysis Credits: 3 or
- MAT 441 - Real Analysis I Credits: 3

Required Computer Science (3-4 crs.)

- CSC 104 - Programming in Python Credits: 3 or
- CSC 180 - Microcomputer Basic Credits: 3 or
- CSC 110 - Computer Science I - Lecture Credits: 3
and
- CSC 106 - Computer Science I - Lab Credits: 1 CSC 106 can be taken in place of CSC 107 or
- CSC 107 - Computer Science I - Lab Credits: 1

Secondary Education Certification (45 crs.)

- MAT 326 - Mathematical Modeling Credits: 3
- MAT 333 - Geometry Credits: 3
- MAT 400 - History of Mathematics Credits: 3
- MAT 4xx - elective

Professional Sequence

- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 371 - Technology in the Mathematics Classroom Credits: 3
- EDU 434 - Teaching of Mathematics in the Secondary Schools I Credits: 3
- EDU 435 - Teaching of Mathematics in the Secondary Schools II Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115) and 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250).

Course Sequencing

The department maintains a suggested sequence for scheduling the required core math courses and the courses required by the various concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list is available in the department office.

A typical first year sequence for all mathematics majors is given below:

Semester I

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4

Semester II

- MAT 212 - Calculus II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Three General Education courses

Mathematics, Statistics Concentration, B.S.

The B.S. degree is designed to give the student a broad knowledge of mathematics as well as a firm grasp on the application of mathematics to other disciplines. The most typical applications include computer science, statistics, actuarial science, physical and biological sciences, and teacher certification at the secondary level. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

To complete the degree a student must take all of the core courses and complete either a concentration or a general program of study which includes at least five courses at the 300 level or above of which at least two are at the 400 level along with either a minor, a major, or three allied electives.

Concentrations

Currently there are three pre-approved concentrations: applied math, secondary education certification, and statistics. The concentrations allow for a student to complete either a minor or second major in a related discipline or a series of allied electives to explore how mathematics can be applied to other disciplines.

Allied Electives

In general, allied electives are courses numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE. Other courses will be considered by the department chair on a case-by-case basis. Students not in the Secondary Certification concentration must complete three allied electives, at least one of which must be from disciplines other than MAT. This requirement is waived for students completing a minor or second major.

Required Mathematics (30 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3

- MAT 430 - Complex Analysis Credits: 3 or
- MAT 441 - Real Analysis I Credits: 3

Required Computer Science (3-4 crs.)

- CSC 104 - Programming in Python Credits: 3 or
- CSC 180 - Microcomputer Basic Credits: 3 or
- CSC 110 - Computer Science I - Lecture Credits: 3
and
- CSC 106 - Computer Science I - Lab Credits: 1 or can be taken in place of CSC 107 or
- CSC 107 - Computer Science I - Lab Credits: 1

Statistics Concentration (24-27 crs.)

- MAT 317 - Statistics II Credits: 3
- MAT 476 - Probability Credits: 3
- MAT 486 - Mathematical Statistics Credits: 3
- MAT 3xx/4xx Elective
- MAT 3xx/4xx Elective
- Three Allied Electives

Note:

Allied Electives may be replaced by a minor/second major in any discipline

Course Sequencing

The department maintains a suggested sequence for scheduling the required core math courses and the courses required by the various concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list is available in the department office.

A typical first year sequence for all mathematics majors is given below:

Semester I

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4

Semester II

- MAT 212 - Calculus II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Three General Education courses

Mathematics and Special Education Certification, B.S.

Students completing this dual certification program are eligible to teach in both a mathematics classroom and a special education classroom thereby broadening their job prospects and distinguishing them from the general student population. In addition, as a traditional classroom math teacher, graduates would have the training necessary for effectively dealing with classes in which high numbers of students have Individual Education Plans (IEPs).

A serious national shortage of mathematics (grades 7-12) and special education (Pre-K-12) teachers exists; by 2020 this shortage is expected to reach a critical level, especially in mathematics and science. (U.S. Department of Education, March 2015, *Teacher Shortage Areas Nationwide Listing*). Dual certification will cultivate a new creative student audience filling the state-wide deficit of students situated to excel in special education mathematics classrooms further fulfilling the growing workforce needs.

Core Courses (33-34 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
 - MAT 211 - Calculus I Credits: 4
 - MAT 212 - Calculus II Credits: 4
 - MAT 213 - Calculus III Credits: 4
 - MAT 217 - Statistics I Credits: 4
 - MAT 225 - Discrete Mathematics Credits: 4
 - MAT 318 - Elementary Linear Algebra Credits: 3
 - MAT 320 - Introduction to Abstract Algebra Credits: 3

 - MAT 430 - Complex Analysis Credits: 3
- OR

- MAT 441 - Real Analysis I Credits: 3
- CSC 104 - Programming in Python Credits: 3
OR
- CSC 180 - Microcomputer Basic Credits: 3
OR
- CSC 110 - Computer Science I - Lecture Credits: 3 AND
- CSC 106 - Computer Science I - Lab Credits: 1 or
- CSC 107 - Computer Science I - Lab Credits: 1

Secondary Education Certification (45 crs.)

- MAT 326 - Mathematical Modeling Credits: 3
- MAT 333 - Geometry Credits: 3
- MAT 400 - History of Mathematics Credits: 3
MAT 4XX Elective
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EDU 371 - Technology in the Mathematics Classroom Credits: 3
- EDU 434 - Teaching of Mathematics in the Secondary Schools I Credits: 3
- EDU 435 - Teaching of Mathematics in the Secondary Schools II Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
Two separate placements - one Math, one Special Education

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115) and 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250).

Special Education Courses (21 crs.)

- EEC 280 - Best Practices in Collaboration: Educators, Families, & Related Service Providers Credits: 3
- EEC 320 - Interventions for Students with Communication Impairments Credits: 3
- EEC 325 - Interventions for Students with Social/Emotional and Behavioral Impairments Credits: 3
- EEC 330 - Teaching Students with Exceptionalities in a Standards-Aligned System Credits: 3
- EEC 335 - Interventions for Students with Cognitive and/or Physical Impairments Credits: 3
- EEC 447 - Special Education Processes in a Standards Aligned System Credits: 3
EEC 546 Transition to Adult Life for Students with Disabilities

Minor

Mathematics Minor

18-21 crs.

The mathematics minor consists of six courses. With two possible exceptions, all six courses must be at or above the 200 level, and at least two of the courses must be at or above the 300 level. The two exceptions are as follows:

1. MAT 181 may be taken in place of (but not in addition to) MAT 211 for credit toward the minor; however, doing so may restrict your access to some upper-level math courses; and
2. MAT 117 may be taken in place of (but not in addition to) MAT 217 for credit toward the minor.

Data Science Minor

Required Courses (16-17 crs.)

- CSC 104 - Programming in Python Credits: 3
OR
- CSC 110 - Computer Science I - Lecture Credits: 3
OR
- MIS 240 - Introduction to Programming Concepts Credits: 3
- MAT 217 - Statistics I Credits: 4
- MAT 219 - Data Science I Credits: 3
- MAT 317 - Statistics II Credits: 3
- MAT 319 - Data Science II Credits: 3

Discipline-Specific Research Course (2-4 crs.)

Complete 1 of the following:

- BIO 397 - Introduction to Research Credits: 1-3
- BIO 398 - Research II Credits: 1-3
- COM 432 - Public Relations Research and Campaigns Credits: 3
- CSC 499 - Senior Research and Development Credits: 2
- ECO 333 - Research and Analysis in Economics Credits: 3
- ESC 353 - Research Design and Statistics for Exercise Science Credits: 4
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3
- HCS 360 - Research Methods in Communication Credits: 3
- HIS 386 - History Research Seminar Credits: 3
- MKT 430 - Marketing Research Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PSY 301 - Experimental Psychology Credits: 3
- SCM 481 - Decision Models for Supply Chain Management Credits: 3
- SOC 385 - Introduction to Social Research Credits: 3
- SWK 360 - Research Techniques for Social Workers Credits: 3
- SWK 462 - Seminar in Social Work Methods Credits: 3

Modern Languages Department

The study of modern languages at Ship prepares students in interpersonal communication, interpretive listening, interpretive reading, oral and written presentations in French, German or Spanish. Students also study the culture and literature of foreign countries including their products, practices and perspectives. Our world languages curriculum strengthens critical thinking skills and global and intercultural awareness.

Modern languages majors or minors complete courses in conversation, writing, grammar, phonetics, culture, and literature in the chosen language. All courses are designed following the American Council on the Teaching of Foreign Languages (ACTFL) National Standards and they are conducted in the target language.

The Department of Modern Languages has a 35-position computerized multimedia audio-video language learning center for both classroom sessions and individual work. Some of the computers are equipped with Webcams and Skype to facilitate live interactions with native speakers. Practicing in a multimedia center accelerates students' learning process and transforms the most tedious aspects of language learning into an enjoyable experience. Both the department and Ezra Lehman Library maintain an excellent collection of books, magazines, maps, and DVDs on the language, literature, and culture of foreign countries.

Students have had internships in social service agencies, museums, businesses, community organizations, and government. Graduates have entered a variety of careers such as teaching, business, government, social service, public health, international relations, translation and interpretation for private and public entities, travel agencies, advertising, and others.

Students who wish to study abroad will find that there are many opportunities available. French and Spanish majors are especially encouraged to study at least one semester in a country of their language. Our majors and minors have studied in a number of foreign countries, chosen according to their own particular interests. Study abroad is highly encouraged but not required for the minor.

Outside the classroom, students can become involved with the French/francophone, German, and Spanish Clubs, which plan activities such as foreign language films and field trips. All three clubs offer academic support as well as cultural events. The French and Spanish Honorary Societies are organizations that recognize and honor students who have attained outstanding academic achievement. The department also provides a multilingual web page that features student production.

Department Goals and Learning Outcomes

In an effort to assist the University in achieving its educational mission, the Department of Modern Languages has set out the following general goals:

- Cultivate the students' learning of foreign languages (French, German, and Spanish) and their culture by implementing integrative strategies that enable the students to use the foreign language as a communicative tool to gain knowledge of the world.
- Promote intellectual development by encouraging the students to interpret, analyze and synthesize master pieces and contemporary works of literature in foreign languages.
- Strengthen the students' professional opportunities upon completion of their studies by fostering the notion of the bilingual intellectual as a mechanism of success in the global market of the 21st century.

The Modern Languages Department adheres to the philosophy of the American Council on the Teaching of Foreign Languages (ACTFL). The Foreign Language Education programs in K-12 French and Spanish are accredited and Nationally Recognized by ACTFL/NCATE.

Student Learning Outcomes (SLOs)

1. Communicate thoughts, ideas, and opinions orally in the target language at the Novice-High level minimum (students in foreign language as a graduation requirement), Intermediate-Low level minimum (students in the minor), and Advanced-Low level minimum (students in the major or in the teacher certification program) as described by the American Council on the Teaching of Foreign Languages (ACTFL) Proficiency Guidelines.
2. Communicate thoughts, ideas, and opinions in writing in the target language at the Novice-Low level minimum (students taking a foreign language as a requirement), Intermediate-Low level minimum (students in the minor), and Advanced-Low level minimum (students in the major or in the teacher certification program) as described by the American Council on the Teaching of Foreign Languages (ACTFL).
3. Recognize distinctive products and practices of the target culture and establish relationships between these and the perspectives (attitudes, values and beliefs) of the target culture.
4. Identify, synthesize, analyze and present bibliographical information in the form of an original research paper in the target language.

Student Learning Outcomes Pertaining to Foreign Language Education

1. Discuss the teaching/learning process in world language education (PA-SUCOE-CF 5; ACTFL/NCATE 1.a; 3.a).
2. Recognize the main components and teaching principles of seminal language teaching approaches (PA-SUCOE-CF 2.5; ACTFL/NCATE 3.a).
3. Use the National Standards for world language learning, the ACTFL K-12 Standards and the state standards as a framework for foreign language teaching planning and the assessment of learning (PA-SUCOE-CF 2.3; ACTFL/NCATE 4).
4. Design and implement standards-based and communicative-oriented lessons that include the three communicative modes: Interpretive, Interpersonal, and Presentational (PA-SUCOE-CF 2.3; ACTFL/NCATE 4).
5. Develop and implement effective assessment instruments/protocols (including Dynamic Assessment) to evaluate the three communicative modes (PA-SUCOE-CF 4; ACTFL 5).
6. Create and/or modify instructional materials to suit the needs of specific learning populations (PA-SUCOE-CF 1; ACTFL/NCATE 3.b)
7. Report assessment results to the class (PA-SUCOE-CF 2.7; ACTFL/NCATE 5.c).
8. Create and/or modify instructional material to connect other areas of the school curriculum with second language learning (PA-SUCOE-CF 1; ACTFL/NCATE 2.c).
9. Use technology as a tool to enhance the students' learning experience (PA-SUCOE-CF 3; ACTFL/NCATE 1 and 3).

Placement System

The department has a placement plan designed for students who already have some knowledge of Spanish, French or German and want to take upper-level courses or to receive credit by examination for certain courses. Please contact the department chair for placement in these courses.

Students with three or more years of high school language study are advised NOT to take a 101, 102, or 103 courses in that same language. These students should take a 200-level course. Contact the department chair to discuss the appropriate placement.

Bachelor of Arts

French, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

(36 crs.)

All courses required for the French major are taught in French. Courses numbered below French 200 do not count for the major.

Required French (30 crs.)

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 211 - Intermediate French Grammar Credits: 3
- FRN 300 - Advanced French Conversation Credits: 3
- FRN 308 - Diction et Comprehension Credits: 3
- FRN 309 - French Grammar Credits: 3
- FRN 316 - Composition and Stylistics Credits: 3
- FRN 330 - Masterpieces of French Literature Credits: 3
- FRN 331 - Masterpieces of Francophone Literature Credits: 3
- FRN 340 - Genres Littéraires Credits: 3

French Electives (6 crs.)

One of the two electives must be a 400 level course.

- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3
- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- FRN 411 - Theory and Practice of Translation Credits: 3
- FRN 490 - Selected Topics in French Credits: 3

Note:

French majors and minors are strongly urged to take history, political science, and geography courses that deal with French-speaking countries.

French with Secondary Certification, B.A.

All courses required for the French major are taught in French. Courses numbered below French 200 do not count for the major. Professional Education courses offered by other departments are taught in English. This program is nationally recognized by ACTFL/NCATE.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Required (30 crs.)

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 211 - Intermediate French Grammar Credits: 3
- FRN 300 - Advanced French Conversation Credits: 3
- FRN 308 - Diction et Comprehension Credits: 3
- FRN 309 - French Grammar Credits: 3
- FRN 316 - Composition and Stylistics Credits: 3
- FRN 330 - Masterpieces of French Literature Credits: 3
- FRN 331 - Masterpieces of Francophone Literature Credits: 3
- FRN 340 - Genres Littéraires Credits: 3

French Electives (6 crs.)

One of the two electives must be a 400 level course.

- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3
- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- FRN 411 - Theory and Practice of Translation Credits: 3
- FRN 490 - Selected Topics in French Credits: 3

Note:

French majors and minors are strongly urged to take history, political science, and geography courses that deal with French-speaking countries.

Required Professional Education Courses (30 crs.)

If planning to teach French

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- TCH 251 - Elements of Middle Level Instruction Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EDU 426 - Methods of Teaching Foreign Languages Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185). If any exceptions are made, they must be approved by the Teacher Education Office. Other requirements for teacher certification are available from the Department of Modern Languages.

Dual Certification French and Another Field

Students planning to teach will find it to their advantage to work for dual certification in two modern languages, a modern language and English, or a modern language and another field. To achieve dual certification a student must have the approval of both departments involved, complete the normal requirements for a major in the primary area of interest and a 30-hour sequence in the secondary area of specialization, plus appropriate courses in the methodology and student teaching in both areas.

Spanish, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

(36 crs.)

All courses required for the Spanish major are taught in Spanish. Courses numbered below Spanish 200 do not count for the major.

Required Spanish (30 crs.)

- SPN 202 - Intermediate Conversation Credits: 3
- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 211 - Intermediate Contextualized Grammar Credits: 3
- SPN 302 - Advanced Spanish Conversation Credits: 3
- SPN 309 - Spanish Phonetics Credits: 3
- SPN 312 - Advanced Contextualized Grammar Credits: 3
- SPN 313 - Advanced Composition and Stylistics Credits: 3
- SPN 343 - Introduction to Literary Studies Credits: 3
- SPN 360 - Masterpieces of Spanish Literature Credits: 3
- SPN 361 - Masterpieces of Spanish-American Literature Credits: 3

Spanish Electives (6 crs.)

Two additional Spanish courses—at least one at the 300 level or above; at least one at the 400 level.

Spanish majors and minors are strongly urged to take history, political science, and geography courses that deal with Spanish-speaking countries.

Spanish with Secondary Certification, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

(36 crs.)

All courses required for the Spanish major are taught in Spanish. Courses numbered below Spanish 200 do not count for the major. Professional Education courses offered by other departments are taught in English. This program is nationally recognized by ACTFL/NCATE.

Required Spanish (30 crs.)

- SPN 202 - Intermediate Conversation Credits: 3
OR
- SPN 215 - Intermediate Spanish For Heritage and Native Speakers Credits: 3

- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 211 - Intermediate Contextualized Grammar Credits: 3
- SPN 302 - Advanced Spanish Conversation Credits: 3
- SPN 309 - Spanish Phonetics Credits: 3
- SPN 312 - Advanced Contextualized Grammar Credits: 3
- SPN 313 - Advanced Composition and Stylistics Credits: 3
- SPN 343 - Introduction to Literary Studies Credits: 3
- SPN 360 - Masterpieces of Spanish Literature Credits: 3
- SPN 361 - Masterpieces of Spanish-American Literature Credits: 3

Spanish Electives (6 crs.)

Two additional Spanish courses-at least one at the 300 level or above;at least one at the 400 level

Spanish majors and minors are strongly urged to take history, political science, and geography courses that deal with Spanish-speaking countries.

Required Professional Education Courses (30 crs.)

If planning to teach Spanish

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- TCH 251 - Elements of Middle Level Instruction Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EDU 426 - Methods of Teaching Foreign Languages Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

* Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185). If any exceptions are made, they must be approved by the Teacher Education Office. Other requirements for teacher certification are available from the Department of Modern Languages.

Dual Certification Spanish and Another Field

Students planning to teach will find it to their advantage to work for dual certification in two modern languages, a modern language and English, or a modern language and another field. To achieve dual certification a student must have the approval of both departments involved, complete the normal requirements for a major in the primary area of interest and a 30-hour sequence in the secondary area of specialization, plus appropriate courses in the methodology and student teaching in both areas.

Certificate

French Certificate

12 crs.

Select four courses from the major. Courses selected by advisement.

Translation In French Certificate

In order to be admitted directly to the Translation in French certificate program at Shippensburg University, students need to have reached the Advanced Low proficiency level in French according to ACTFL guidelines. Students who have not scored at that level will need appropriate training in the areas of language, literature and culture and to this effect complete the core courses in French (24 credits). Once admitted in the Translation in French certificate program, students complete 12 credits in French. In parallel, students also need to complete a minimum of 18 credits in a subject area specialty outside of French to demonstrate deeper knowledge of one or more disciplines outside the linguistics area.

Language/Culture Core (24 crs)

These courses provide students with the linguistic and cultural tools to enable them to successfully function as a mediator between two cultures

Required French (24 crs.)

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 211 - Intermediate French Grammar Credits: 3
- FRN 300 - Advanced French Conversation Credits: 3
- FRN 308 - Diction et Comprehension Credits: 3
- FRN 309 - French Grammar Credits: 3

- FRN 316 - Composition and Stylistics Credits: 3
- FRN 330 - Masterpieces of French Literature Credits: 3
OR
- FRN 331 - Masterpieces of Francophone Literature Credits: 3
OR
- FRN 340 - Genres Littéraires Credits: 3

Translation Specialization Courses: (12 crs.)

- FRN 320 - French for the Professions Credits: 3
- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 411 - Theory and Practice of Translation Credits: 3
- Special Topics/Internship Focused on Translation (300 or 400 level)

German Certificate

12 crs.

Select four courses from the minor. Courses selected by advisement.

Spanish Certificate

12 crs.

Select four courses from the major. Courses selected by advisement.

Translation in Spanish Certificate

Students must be a Spanish major to pursue this certificate.

Translation Specialization Courses: (9 crs.)

- SPN 330 - Spanish for the Professions Credits: 3
- SPN 420 - Theory and Practice of Translation Credits: 3
- SPN 425 - Advanced Oral Interpreting Credits: 3

Note:

Subject Area Specialty Courses: Because translation today requires that translators specialize in one or more areas, we ask that students in the Translation Specialization Program bring together their linguistic skills in Spanish and the knowledge and skills they developed in the other disciplines taught at Shippensburg University. Students can either select a single subject area (that of their major/minor is acceptable, provided that they are not completing a Spanish major/minor) or a combination of relevant courses approved by the Translation Specialization Coordinator.

Possible specialties include, but are not limited to the following: Accounting, Communication/Journalism, Biology, Business, Chemistry, Computer Science, Criminal Justice, Earth Science, Economics, Finance, Geography, Geology, International Studies, Management Information Systems, Marketing, Mathematics, Physics, Political Science, Public Relations.

Minor

French Cultural Studies Minor

This minor is interdisciplinary and has less of a focus on language than the standard French minor and more on the culture, taught in English. The minor is to be capped with a summer course in Quebec for culture and language immersion or with the double seminar with service learning in Haiti during the Winter Break.

18 crs.

Required (12 crs.)

12 credits of core courses in French.

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3

Option A (Quebec):

Includes two courses below, one of which is a summer course taught in Quebec, in English.

- FRN 300 - Advanced French Conversation Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3

Option B (Haiti):

Includes two courses below with service learning in Haiti taught over the winter break, taught in English or French.

- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- FRN 490 - Selected Topics in French Credits: 3

Interdisciplinary courses in English (6 crs.)

Two courses are chosen from the list to suit the interests of the students:

- ANT 220 - Anthropology for International Studies Credits: 3
- ART 233 - Art History III Credits: 3
- COM 245 - Diversity and the Media Credits: 3
- ENG 240 - Global Literature Credits: 3
- GEO 103 - Geography of the United States and Canada Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- GEO 305 - Geography of Europe Credits: 3

- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HIS 320 - Europe in the Early and High Middle Ages: 300 to 1270 Credits: 3
- HIS 321 - Late Medieval Europe: 1270 to 1517 Credits: 3
- HIS 331 - History of Modern France: 1750 to Present Credits: 3
- MUS 261 - World Music Credits: 3

French Minor

All courses required for the French minor are taught in French. Courses numbered below French 200 do not count for the minor.

18 crs.

Required (12 crs.)

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 211 - Intermediate French Grammar Credits: 3
- FRN 309 - French Grammar Credits: 3

Electives (6 crs.)

One of the two electives must be a 400 level course.

- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3
- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- FRN 411 - Theory and Practice of Translation Credits: 3
- FRN 490 - Selected Topics in French Credits: 3

German Studies Minor

Not all courses required for the German Studies Minor are taught in German.

18 crs.

Required (12 crs.)

One of the following 100-level German Courses

- GER 150 - German Civilization and Culture Credits: 3
- GER 151 - German Cinema Credits: 3

One of the following 200-level German Courses

- GER 203 - Intermediate German Communication Credits: 3
- GER 204 - Contemporary German Culture Credits: 3

One of the following 300-level German Courses

- GER 309 - German Phonetics Credits: 3
- GER 320 - Berlin Credits: 3

One of the following 300-Level German Grammar or Composition Course

- GER 312 - German Grammar Credits: 3
- GER 313 - Composition and Stylistics Credits: 3

Electives (6 crs.)

Two additional 200- to 400-level German courses not already taken as required courses. OR courses from the list below in agreement with the director of the German Studies Minor and the instructor of the course.

- ANT 351 - Peoples and Cultures of Europe Credits: 3
- EDU 426 - Methods of Teaching Foreign Languages Credits: 3
- GEO 305 - Geography of Europe Credits: 3
- HIS 330 - History of Modern Germany: 1919 to Present Credits: 3
- HIS 357 - History of Holocaust Credits: 3
- PHL 105 - Ethical Theories and Problems Credits: 3

Spanish Minor

All courses required for the Spanish minor are taught in Spanish. Courses numbered below Spanish 200 do not count for the minor.

18 crs.

Required (12 crs.)

- SPN 202 - Intermediate Conversation Credits: 3
- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 211 - Intermediate Contextualized Grammar Credits: 3
- SPN 312 - Advanced Contextualized Grammar Credits: 3

Electives (6 crs.)

Two additional Spanish courses at the 300 or 400 level.

At least one at the 400 level.

Music/Theatre Arts Department

Since music pervades society, the Music and Theatre Arts Department seeks to increase students' awareness of the musical and theatrical world and influence their cultural lives through critical listening and active participation. The department offers a full range of courses for music and theatre students alike, as well as performing ensembles for every interest.

Ensembles include Concert Choir, Madrigal Singers, Concert Band, Jazz Ensemble, Red Raider Marching Band, Brass and Woodwind Chamber ensembles, University-Community Orchestra, and Women's Chorale. Each year, more than 400 students perform for local audiences, throughout the United States and abroad. Students representing virtually all degree programs take time out of their busy schedules to participate in Shippensburg's music ensembles for the sheer enjoyment of making music. SU students may earn academic credit for participation in our performing ensembles.

Minor

Music Minor

The Music Minor Program is an 18-credit program that enables students to develop and cultivate their musical knowledge. The courses offered encourage each student to study within their interest yet allow them the opportunity to expand their musical knowledge.

18 crs.

Prerequisite

Introduction to Music (MUS 121) must be taken as a pre-requisite prior to or within the first two semesters of declaring a Music Minor and does not count toward the required 18 credits. MUS 121 also fulfills the university General Education, Category B requirement. Students then proceed through the nine required and nine elective credits to complete the minor.

- MUS 121 - Introduction to Music Credits: 3

Required Courses (9 crs.)

Required courses should be taken in the order as listed.

- MUS 140 - Class Piano, Level I Credits: 3
- MUS 212 - Music Theory I Credits: 3
- MUS 320 - Masterpieces of Music Credits: 3

Elective Courses (9 crs.)

Courses may be chosen from the remaining curricular choices or in consultation with the Department Chair.

Students must take one 300/400 level course as an elective.

Please choose from the following list:

Theory

- MUS 312 - Music Theory II Credits: 3

- MUS 110 - Fundamental Music Skills Credits: 3

History

- MUS 129 - American Popular Music Credits: 3
- MUS 227 - Opera and Music Theatre Credits: 3
- MUS 261 - World Music Credits: 3
- MUS 315 - Music in the United States Credits: 3

Performance Courses

- MUS 150 - Basic Guitar Credits: 3
- MUS 260 - Voice Class, Level I Credits: 3
- MUS 270 - Brass Instrument Class Credits: 3
- MUS 272 - Strings Class Credits: 3
- MUS 340 - Class Piano, Level II Credits: 3
- MUS 380 - Basic Conducting Credits: 3
- MUS 393 - Selected Topics in Music Credits: 1-3
- MUS 490 - Selected Topics in Music Credits: 1-3

Performance

PERFORMING ENSEMBLES: each ensemble is 1 credit, per semester taken. Students may take/retake ensembles as many times as they choose. However, only a maximum of 3 credits will count as an elective towards the Music Minor and graduation.

- MUS 101 - Brass Ensemble Credits: 1
- MUS 103 - Marching Band Credits: 1
- MUS 104 - Concert Band Credits: 1
- MUS 105 - Concert Choir Credits: 1
- MUS 107 - Women's Chorale Credits: 1
- MUS 109 - String Ensemble Credits: 1
- MUS 113 - Jazz Ensemble Credits: 1
- MUS 117 - Madrigal Singers Credits: 1
- MUS 132 - University-Community Orchestra Credits: 1
- MUS 158 - Woodwind Ensemble Credits: 1

Note:

Please contact the Music Department Office for audition/membership information: 717-477-1638

Theatre Minor

The Minor in Theatre enables students to gain a general knowledge of performance and production. Courses provide a grounding in various types and periods of drama, performance skills (acting, scene study), and technical skills (basic drawing, directing, color, and 2D design). The Minor in Theatre is an 18 credit minor. Students proceed through the 15 required and 3 elective credits to complete the minor.

The training available within a theatre curriculum enriches careers in Early Childhood/Elementary Education, Elementary/Middle Level Education, Communication, and English. Students interested in Business, Marketing, or Management may consider the Theatre Minor as an entree to the field of Arts Management

18 crs.

Prerequisite

THE 121 - Introduction to the Theatre Credits: 3 Introduction to Theatre must be taken as a pre-requisite prior to or within the first two semesters of declaring a Theatre Minor and does not count toward the required 18 credits. THE 121 also fulfills the university General Education, Category B requirement.

- THE 121 - Introduction to the Theatre Credits: 3

Required Courses (15 crs.)

One Theatre course must be taken from each of the four category areas. One additional course in the History, Theory and Literature category is also part of the requirement.

Elective Courses (3 crs.)

Elective courses in the Theatre Minor enable you to customize the curriculum according to your individual interest. The remaining 3 credits should be chosen from the curricular choices in Theatre and other departments. Any department outside of Music and Theatre, should be contacted regarding prerequisites and seats available.

Theatre Praxis

- THE 323 - Children's Theatre Credits: 3
- THE 324 - Theatre Practicum Credits: 3
- THE 395 - Theatre Internship Credits: 3
- THE 396 - Theater Internship II Credits: 3

History, Theory, And Literature

- THE 329 - Theatre History Credits: 3
- ENG 330 - Shakespeare Credits: 3
- MUS 227 - Opera and Music Theatre Credits: 3

Design Management And Technical Theatre

- THE 229 - Introduction to Technical Production Credits: 3
- THE 327 - Costumes and Make-Up Credits: 3
- THE 395 - Theatre Internship Credits: 3
- THE 396 - Theater Internship II Credits: 3
- THE 490 - Selected Topics in Theatre Credits: 3
- ART 110 - Basic Drawing Credits: 3

- ART 215 - Color and Two-Dimensional Design Credits: 3
- ART 218 - Three-Dimensional Design Credits: 3
- ENT 433 - Small Business Management Credits: 3
- MKT 325 - Advertising and Promotional Strategy Credits: 3
- MKT 370 - Services Marketing Credits: 3

Performance

- THE 122 - Acting I: Fundamentals of Acting Credits: 3
- THE 222 - Acting II: Scene Study and Analysis Credits: 3
- THE 322 - Voice and Movement for the Stage Credits: 3
- THE 490 - Selected Topics in Theatre Credits: 3
- MUS 260 - Voice Class, Level I Credits: 3

Physics Department

Graduates with a B.S. in Physics often go on to graduate schools in physics or engineering. A significant percentage of them, however, use physics as a springboard to careers in other fields like medicine, law, or finance. Indeed, studies show that physics graduates are top scorers in exams like the MCAT or the LSAT and are appreciated everywhere for their problem solving abilities. Many students also choose to pursue both engineering and physics undergraduate degrees by taking advantage of the Physics Department's articulation agreements with several engineering schools in Pennsylvania and Maryland.

The Physics Department offers undergraduate studies leading to three different degrees: a Bachelor of Science in Physics, a Bachelor of Science in Applied Physics and a Bachelor of Science in Education. In addition, the Physics B.S. offers concentrations in Advanced Physics and Computational Physics, as well as a certificate in nanotechnology. A Physics Minor is also available.

Bachelor of Science

Physics, B.S.

The Physics B.S. offers the following concentrations:

1. *Advanced Physics:* Designed for students planning to go on to graduate school in physics. The concentration provides a solid and rigorous grounding in physics and will prepare the students well for the advanced physics GRE test, as well as graduate school studies.
2. *Computational:* Offers a solid grounding in physics through the physics core, and develops computational skills applicable to all scientific fields. These skills are developed through a computational physics course and courses in computer science. Students following this concentration can also complete a minor in computer science by taking one extra computer science course after fulfilling the concentration requirements. This concentration prepares students well for the job market by offering applicable skills as well as experience through its project or internship requirement.

120 crs.

General Education requirements (36 crs.)

Physics Core (55 crs.)

Additional courses (29 crs.)

Physics electives**9 cr (at least 3 courses at or above 300 level)

General electives

20 hours of general electives including at least 12 hours at the 300 level or higher. A minor in another discipline is strongly encouraged. See note at the end of the Core Curriculum description.

Physics Core Courses

55 crs.

All degrees require the successful completion of the Physics Core, which consists of the following courses:

Courses in Physics (32 crs.)

- PHY 107 - 1st Year Seminar for Physics Majors Credits: 2
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4
- PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Courses in allied fields (23 hrs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 322 - Differential Equations Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- ENGR 120 - Programming for Engineers Credits: 3

Note:

PHY 221, MAT 211, MAT 212, and CHM 121 satisfy general education requirements as well, for Skills (MAT 211), Category A (MAT 212), and Category C (PHY 221 and CHM 121), leaving a general education required curriculum of: 48 crs.-12 crs. = 36 crs.

Applied Physics, B.S.

The Applied Physics program is pursued by roughly half of the physics majors. It results in a dual Physics-Engineering degree, and it is controlled by 3+2 agreements between the Shippensburg Physics Department and several engineering schools. According to these agreements, students spend three years at Shippensburg University's Physics Department, completing 98 credits, and then proceed to complete their studies in two years at one of the participating engineering programs (most notably Penn State University or here at Shippensburg). After successfully completing the program students earn both an Applied Physics B.S. from Shippensburg and a B.S. in engineering from the school they transferred to (or a double major at Shippensburg). The Shippensburg physics credits consist of the Physics Core, required courses in allied fields (chemistry, computer science and mathematics) as well as general education courses.

The 3+2 program, fairly common in physics departments across the nation offer several advantages:

- By virtue of the agreement a student in a 3+2 program is guaranteed admission with junior standing into the engineering school chosen, provided that this student maintains, while at Shippensburg, a specified QPA which varies with engineering schools and disciplines. We notice, however, that engineering schools can occasionally put restrictions on the availability of seats, due to enrollment restrictions in some of their engineering disciplines.
- Due to their solid scientific background, students typically do very well after transferring to their engineering discipline.
- Students profit for three years of the small class size and careful faculty guidance that Shippensburg is known for.

Degree Requirements (98 crs.):

Students in the Applied Physics program must complete their Shippensburg requirements in three years. These consist of the following courses:

General Education requirements (36 crs.)

The Physics Core (55 crs.)

Additional courses (7 crs.)

- MAT 318 - Elementary Linear Algebra Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Note:

See note at the end of the Core Courses description

Physics Core Courses

55 crs.

All degrees require the successful completion of the Physics Core, which consists of the following courses:

Courses in Physics (32 crs.)

- PHY 107 - 1st Year Seminar for Physics Majors Credits: 2
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4
- PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Courses in allied fields (23 hrs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 322 - Differential Equations Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- ENGR 120 - Programming for Engineers Credits: 3

Note:

PHY 221, MAT 211, MAT 212, and CHM 121 satisfy general education requirements as well, for Skills (MAT 211), Category A (MAT 212), and Category C (PHY 221 and CHM 121), leaving a general education required curriculum of: 48 crs.-12 crs. = 36 crs.

Physics, Advanced Physics Concentration, B.S.

General Education requirements (36 crs. see note* at the end of the Core Curriculum description)

Physics Core Courses

55 crs.

All degrees require the successful completion of the Physics Core, which consists of the following courses:

Courses in Physics (32 crs.)

- PHY 107 - 1st Year Seminar for Physics Majors Credits: 2
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4
- PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Courses in allied fields (23 hrs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 322 - Differential Equations Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- ENGR 120 - Programming for Engineers Credits: 3

Note:

PHY 221, MAT 211, MAT 212, and CHM 121 satisfy general education requirements as well, for Skills (MAT 211), Category A (MAT 212), and Category C (PHY 221 and CHM 121), leaving a general education required curriculum of: 48 crs.-12 crs. = 36 crs.

Additional courses (29 crs.)

Chemistry (4 crs.)

- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Physics (25 crs.)

- PHY 411 - Quantum II Credits: 3
- PHY 421 - Electricity and Magnetism II Credits: 3
- PHY 431 - Mechanics II Credits: 3
- PHY 397 - Intro to Research Credits: 3
- PHY 398 - Research II Credits: 3
- PHY 3XX/4xx: Four 300- or 400-level Electives

Physics, Computational Physics Concentration, B.S.

General Education requirements (36 crs. see note* at the end of the Core Curriculum description above)

Physics Core Courses

55 crs.

All degrees require the successful completion of the Physics Core, which consists of the following courses:

Courses in Physics (32 crs.)

- PHY 107 - 1st Year Seminar for Physics Majors Credits: 2
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4
- PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Courses in allied fields (23 hrs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 322 - Differential Equations Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- ENGR 120 - Programming for Engineers Credits: 3

Note:

PHY 221, MAT 211, MAT 212, and CHM 121 satisfy general education requirements as well, for Skills (MAT 211), Category A (MAT 212), and Category C (PHY 221 and CHM 121), leaving a general education required curriculum of: 48 crs.-12 crs. = 36 crs.

Additional courses (29 crs.)

Math (6 crs.)

- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 410 - Numerical Analysis Credits: 3

Computer Science (12 crs.)

- CSC 111 - Computer Science II Credits: 4
- CMPE 220 - Computer Organization Credits: 4 or
- CSC 371 - Database Management Systems Credits: 4
- CMPE 322 - Microcontrollers & Interfaces Credits: 4

Physics

Two physics courses at 300 or 400 level (7 cr)

- PHY 471 - Computational Physics Credits: 4
- PHY 3XX or 4XX: 300- or 400-level Physics Elective
- PHY 3XX or 4XX: 300- or 400-level Physics Elective

Bachelor of Science in Education

Physics, B.S.Ed.

The Physics B.S.Ed. program leads to a teaching certification in Physics at the secondary education level.

Degree Requirements. (131 crs.)

General Education requirements (33 crs.)

Note: Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185)

Physics Core (55 crs.)

All degrees require the successful completion of the Physics Core

Additional courses (43 crs.)

Physics (3 crs.)

- PHY 4XX - 400 level Physics elective

Biology (4 crs.)

- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

Earth-Space Sciences (3 crs.)

- ESS 110 - Introduction to Geology Credits: 3 or
- ESS 210 - Physical Geology Credits: 3

Professional Education Requirements (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 440 - Teaching of Science in Secondary Schools Credits: 3
- EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Note:

See note at the end of the Core Curriculum description. BIO 162 also meets a General Education Category C requirement.

Certificate

Nanotechnology Certificate

The nanotechnology certificate offers students the technical expertise and theoretical understanding to manipulate matter at the nanometer length scale. Nanofabrication has applications in many fields including physics, biology, material science and engineering. This certificate is very popular with students in part because of the employment opportunities offered to its graduates.

The certificate requires the completion of one semester at the Penn State Center for Nanotechnology Education and Utilization; since this requirement is satisfied during the summer, enrolling in the concentration should not delay graduation.

Requirements (30 crs.)

Required Courses

- Engineering: Penn State-NSF NMT summer courses (18 crs.)
- PHY 311 - Quantum I Credits: 4
- PHY 325 - Semiconductor Devices Credits: 4
- PHY 450 - Quantum Materials Credits: 4

Minor

Physics Minor

26 crs.

Required Courses

- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4

Note:

If the student declaring the minor has already taken either the PHY 121,PHY 122 sequence or the PHY 205,PHY 206 with their associated labs, the PHY 221,PHY 222 requirement is waived for the minor.

Political Science Department

The Department of Political Science offers undergraduate programs leading to the degrees of Bachelor of Arts in Political Science, Bachelor of Science in Public Administration, a minor in Political Science and a minor in Public Administration. Students in both majors will learn to describe, analyze, draw conclusions, and present their findings both orally and in writing.

Political Science Features

Political science students choose between two tracks: general and international. In each track, students take a core group of courses and elect courses in applied competency subfields. The core and subfields are designed to develop student skills in written and oral communication as well as problem solving. Majors also complete two courses that emphasize experiential learning. All students are required to complete a capstone project in PLS 399 Senior Seminar.

Public Administration Features

The Public Administration major provides students with professional skills for careers in government and other public sector organizations. This major is designed to provide students with a strong foundation in public management practices and behaviors; it also exposes students to areas of specialization within the field of public administration. Public Administration students take core courses in government, policy analysis, budgeting, financial administration, and personnel administration and then select a group of electives to complete the program.

Internship Policy

Students in both majors have the opportunity to complete an internship with governmental agencies, non-profit organizations, and law firms to complement and supplement their course work. A student can count a maximum of six internship credits toward completion of the electives within the political science or public administration majors.

Career Opportunities

Political science and public administration are appropriate majors for students who plan a career in government, business, or journalism. Majors are also prepared to pursue graduate study in political science, international relations, public administration, or law.

Pre-Law Program

Students who plan to apply to law schools may select their major from a wide range of fields depending upon their interests. The scope of law is broad and offers room for individuals of varied educational and intellectual backgrounds. The Department of Political Science offers numerous courses for majors and non-majors that will help prepare students for law school. Students interested in legal careers are encouraged to seek advice from the department's pre-law advisor. LSAT registration forms and law school materials are available from the Political Science Department office.

Bachelor of Arts

Political Science, B.A

Political Science (39 crs.)

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

General Track Required (21 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 141 - World Politics Credits: 3
- PLS 201 - Foundations of Political Science: Concepts and Critical Analysis Credits: 3
- PLS 202 - Applications in Public Affairs Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 399 - Senior Seminar Credits: 3

Note:

Students must earn a C or better in each required core course.

In addition to the required core, students need to take courses in four applied competency areas. To meet this requirement students need between 9 and 15 credits; the number of credits depends on whether a course counts for more than one applied competency.

Applied Competencies

Applied Competency: Oral Communication (3 crs.)

- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 373 - Public Financial Administration Credits: 3

Applied Competency: Written Communication (3 crs.)

- PLS 231 - State and Local Government Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 312 - The American Presidency Credits: 3
- PLS 321 - Public Opinion and Political Media Credits: 3
- PLS 322 - Interest Groups in American Society Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 325 - African American Politics Credits: 3
- PLS 341 - International Law and Organization Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 363 - American Political Thought Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 381 - Principles of Labor Relations Credits: 3

Applied Competency: Problem Solving (3 crs.)

- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 325 - African American Politics Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 343 - Global Economic and Political Conflict Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 362 - Contemporary Political Ideologies Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 374 - Public Service Ethics Credits: 3

Applied Competency: Experiential Learning (6 crs.)

- PLS 251 - Introduction to Comparative Politics Credits: 3
- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 313 - The Judicial Process Credits: 3
- PLS 323 - Campaigns, Elections & Political Parties Credits: 3
- PLS 333 - Applications in State and Local Public Policy Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 359 - European Political Integration and Identity Credits: 3
- PLS 395 - Internship I Credits: 3
- Any Study Abroad course in any discipline.

Departmental Electives (3-9 crs.)

Any Political Science course(s).

A student can count a maximum of six internship credits toward the major. Additional internship credit hours can be used as credits applied toward graduation.

General Education

Students are strongly encouraged to take the following General Education courses:

- MAT 117 - Applied Statistics Credits: 3 (Category A or Required Skills)
- ECO 101 - Principles of Macroeconomics Credits: 3 (Category D) or
- ECO 102 - Principles of Microeconomics Credits: 3 (Category D) or
- ECO 113 - Principles of Economics Credits: 4 (Category D)
- GEO 101 - World Geography Credits: 3 (Category D) or
- GEO 103 - Geography of the United States and Canada Credits: 3 (Category D)
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3 (Category E)

Political Science, International Concentration, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Political Science - International Track (39 crs.)

International Track Required (24 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 141 - World Politics Credits: 3
- PLS 201 - Foundations of Political Science: Concepts and Critical Analysis Credits: 3
- PLS 202 - Applications in Public Affairs Credits: 3
- PLS 251 - Introduction to Comparative Politics Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 341 - International Law and Organization Credits: 3
- PLS 399 - Senior Seminar Credits: 3

Note:

Students must earn a C or better in each required core course.

In addition to the required core, students need to take courses in four applied competency areas. To meet this requirement students need between 9 and 15 credits; the number of credits depends on whether a course counts for more than one applied competency.

Applied Competencies

Applied Competency: Oral Communication (3 crs.)

- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 373 - Public Financial Administration Credits: 3

Applied Competency: Written Communication (3 crs.)

- PLS 231 - State and Local Government Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 312 - The American Presidency Credits: 3
- PLS 321 - Public Opinion and Political Media Credits: 3
- PLS 322 - Interest Groups in American Society Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 325 - African American Politics Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 363 - American Political Thought Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3

- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 381 - Principles of Labor Relations Credits: 3

Applied Competency: Problem Solving (3 crs.)

- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 325 - African American Politics Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 343 - Global Economic and Political Conflict Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 362 - Contemporary Political Ideologies Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 374 - Public Service Ethics Credits: 3

Applied Competency: Experiential Learning (6 crs.)

- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 313 - The Judicial Process Credits: 3
- PLS 323 - Campaigns, Elections & Political Parties Credits: 3
- PLS 333 - Applications in State and Local Public Policy Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 359 - European Political Integration and Identity Credits: 3
- PLS 395 - Internship I Credits: 3
- Any Study Abroad course in any discipline.

International Track Electives (12 crs.)

(Note: These courses are also used to satisfy the Applied Competencies.)

- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 343 - Global Economic and Political Conflict Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3

- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 359 - European Political Integration and Identity Credits: 3
- PLS 394 - Selected Topics in International Politics Credits: 3

Departmental Electives (0-3 crs.)

Any Political Science course.

A student can count a maximum of six internship credits toward the major. Additional internship credit hours can be used as credits applied toward graduation.

General Education

Students are strongly encouraged to take the following General Education courses:

- MAT 117 - Applied Statistics Credits: 3 (Category A or Core)
- ECO 101 - Principles of Macroeconomics Credits: 3 (Category D) or
- ECO 102 - Principles of Microeconomics Credits: 3 (Category D) or
- ECO 113 - Principles of Economics Credits: 4 (Category D)
- GEO 101 - World Geography Credits: 3 (Category D)
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3 (Category E)

Bachelor of Science

Public Administration, B.S.

(45 crs)

Required (30 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 202 - Applications in Public Affairs Credits: 3
- PLS 231 - State and Local Government Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 302 - Public Policy Analysis Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 373 - Public Financial Administration Credits: 3

Note:

Students must earn a C or better in each required core course.

Public Administration Electives (6 crs.)

- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 333 - Applications in State and Local Public Policy Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 374 - Public Service Ethics Credits: 3
- PLS 381 - Principles of Labor Relations Credits: 3
- PLS 389 - Selected Topics in Public Administration Credits: 3
- PLS 395 - Internship I Credits: 3
- PLS 396 - Internship II Credits: 3
- PLS 397 - Internship III Credits: 3-6
- PLS 431 - Pennsylvania Local Government Credits: 3

Note:

Internship - The department strongly encourages students to complete an internship. To qualify for an internship, a student must have a 2.0 overall QPA and a 2.3 QPA in the public administration major. Students must have completed the following courses to be eligible for an internship: PLS 100, PLS 201, PLS 231, PLS 271, PLS 300, and PLS 301. A student can count a maximum of six internship credits toward the major.

Electives (3) - Any Political Science course

Allied Fields (6 crs.) 16 crs. total ---Includes 6 crs. beyond General Education Requirements

Student majoring in public administration must also take the following courses in the allied fields. Three of these courses satisfy General Education requirements.

Economics (6 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3 or
- ECO 113 - Principles of Economics Credits: 4
- ECO - Any Economics course at or above 200 level

Sociology (6 crs.)

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

And an additional sociology course from the following:

- SOC 243 - Minority Groups Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3
- SOC 346 - City and Community Credits: 3
- SOC 351 - Race Relations Credits: 3
- SOC 354 - Social Movements and Social Change Credits: 3
- SOC 363 - Population Problems Credits: 3
- SOC 365 - Elites in Society Credits: 3

Mathematics (4 crs.)

- MAT 117 - Applied Statistics Credits: 3

Minor

Political Science Minor

18 crs.

Required (9 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 141 - World Politics Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3

Electives (9 crs.)

Students must select courses from the following list. Students must take two courses at the 300-level or above. Students may take either PLS 291 Contemporary Issues or PLS 391 Selected Topics in Political Science as one elective.

- PLS 231 - State and Local Government Credits: 3
- PLS 251 - Introduction to Comparative Politics Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 291 - Contemporary Issues Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 302 - Public Policy Analysis Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 312 - The American Presidency Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 321 - Public Opinion and Political Media Credits: 3
- PLS 322 - Interest Groups in American Society Credits: 3
- PLS 323 - Campaigns, Elections & Political Parties Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 325 - African American Politics Credits: 3

- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 341 - International Law and Organization Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 362 - Contemporary Political Ideologies Credits: 3
- PLS 363 - American Political Thought Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 374 - Public Service Ethics Credits: 3
- PLS 391 - Selected Topics in Political Science Credits: 1-3
- PLS 431 - Pennsylvania Local Government Credits: 3
- PLS 490 - Selected Topics in Political Science Credits: 3
- PLS 491 - Selected Topics in Political Science Credits: 3

Public Administration Minor

18 crs.

Required (9 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3

Public Administration Electives (6 crs.)

- PLS 231 - State and Local Government Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 373 - Public Financial Administration Credits: 3
- PLS 374 - Public Service Ethics Credits: 3

Elective (3 crs.)

Students must select one public administration/political science course to fulfill this requirement.

Professional Studies Program

The B.S. in Professional Studies with a concentration in Technical Leadership and Administration is a degree completion program designed for working adults who have earned 60 or more college credits. Most courses are offered on the Shippensburg campus although some of the core courses may be available at other locations, such as HACC-Gettysburg, in the evenings; and some courses may be online.

The program's core courses will provide the opportunity to explore how a liberal arts education can enhance career opportunities. These courses will help students understand the structure of organizations, the behavior of individuals within organizations, and how to resolve conflict in order for organizations to function efficiently. The professional courses will allow students to explore communications and management concepts and issues critical to the effective administration of work units and organizations. The electives give students the opportunity to enhance their educational experience, and the internship or research project at the end of the program promotes the integration of theory and practice.

Regularly admitted students with an interest in this major must meet the degree completion admission requirements, which include an Associates' Degree and five years of work experience.

Degree Requirements

- Completion of the 46-credit Professional Studies, Technical Leadership and Administration program with a minimum of a 2.0 cumulative QPA;
- Fulfillment of 48 credits of general education requirements;
- Attainment of a minimum of 120 college/university credits.

Psychology Department

The Department of Psychology offers an undergraduate program leading to the Bachelor of Arts degree. The psychology program has been designed to comply with the recommendations provided by the American Psychological Association, providing a broad base of knowledge with a focus on the scientific aspect of psychological science. This program will provide you with knowledge of psychology's basic terminology, research and statistical methods, major theories, and classic and current research and in-depth knowledge in areas of specialization; the general problem-solving skills common to all the liberal arts, plus the special research techniques of psychology, from experimental design to interviewing; and provide you with insight into your own psychological development, values, potentials, and career, through reflection and interaction with scholarly material, professors, and fellow students.

Psychology Features

All professors in the Department of Psychology have doctoral degrees and are trained researchers. We are a diverse department and our areas of expertise range from consulting work to research on human memory, the influence of groups, animal learning, behavioral neuroscience, mental disorders, child development, and social justice.

A variety of options encourage you to move beyond the classroom:

- You can do your own research project. To help you, we have laboratory facilities in Franklin Science Center that will allow you to experiment with rats, videotape interviews, use computers, and so on.
- You can do an internship by finding a position as a therapeutic support staff (TSS), assist children and adolescents in a school setting, attendant at a halfway house, personnel manager's assistant, or any psychology-related job and by writing a paper on the experience.
- You can attend talks by guest speakers, and take trips to conferences, institutions, and research facilities.
- You can join a Living Learning Community made up of psychology majors to form a network of friends with similar goals and have access to additional support in order to enhance your success and growth in the program.
- You can choose to participate in service learning projects working with children, and elderly in the community.

- If you qualify with an overall QPA of 3.0 or above and a 3.2 or above in psychology, you are invited to apply to Psi Chi, a national honor society. You must have completed three psychology courses at Shippensburg University and three semesters at Shippensburg University.

Honors in Psychology Program (48 crs.)

The Honors in Psychology Program is open to psychology majors who have and maintain a 3.6 overall QPA and 3.8 Psychology QPA. Students in their second semester (freshmen class) and beyond (up to and including first semester juniors) who meet this requirement will be invited to participate. If you are a transfer student who would like to participate or if you believe you are qualified and were not asked, please contact the department.

Honors students must earn their 15 Knowledge Base credits from some combination of 300-level courses, 400-level courses, and/or honors credit in 200-level courses. Students must earn nine credits from the following: PSY 379 - Capstone Seminar in Psychology Credits: 3, PSY 381 - Honor Thesis I Credits: 3, and PSY 382 - Honor Thesis II Credits: 3. Honors students must also earn 6 hours of honors credit from some combination of 300-level and 400-level courses (beyond those used to satisfy core or elective requirements for the major). With departmental permission, 500-level graduate courses can be taken to fulfill the requirements for these 6 credits. Upon graduation, the successful completion of this Honors program provides with additional designation as Honors in Psychology.

Psychology Career Opportunities

A bachelor's degree in psychology is a popular liberal arts degree for people seeking basic managerial positions in industry and government.

While the bachelor's degree will open up some mental health care positions, most students who wish to work specifically in psychology go on to master's programs in areas such as counseling, experimental, and industrial/organizational psychology. Some students pursue doctorates in areas such as clinical, developmental, and social psychology. More than 30 percent of our graduates go on to earn an advanced degree.

A bachelor's in psychology can lead to careers in:

- Clinical psychology
- Cognitive psychology
- Conditioning-learning
- Counseling psychology
- Developmental psychology
- Health psychology
- Industrial/organizational psychology
- Legal psychology
- Behavioral neuroscience
- Physiological psychology
- School psychology
- Social psychology
- Quantitative psychology

Students wishing to change majors to psychology must have a 2.30 quality point average and must apply the first 3 weeks of each semester.

Bachelor of Arts

Psychology, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Core Courses (27 crs.)

Developmental

Choose 1 from the following:

- PSY 265 - Childhood and Adolescence Credits: 3
- PSY 352 - Adulthood and Aging Credits: 3

Social/Personality

Choose from 1 of the following:

- PSY 240 - Psychology of Personality Credits: 3
- PSY 270 - Social Psychology Credits: 3

Abnormal

Choose 1 of the following:

- PSY 330 - Abnormal Psychology Credits: 3
- PSY 355 - Psychology of the Exceptional Child Credits: 3

Neuroscience

Choose 1 of the following:

- PSY 320 - Behavioral Neuroscience Credits: 3
- PSY 323 - Sensation and Perception Credits: 3

Learning/Behavioral

Choose 1 of the following:

- PSY 235 - Conditioning and Learning Credits: 3
- PSY 383 - Children's Understanding of Their Social World Credits: 3

Cognition/S&P

Choose 1 of the following:

- PSY 323 - Sensation and Perception Credits: 3
- PSY 325 - Psychology of Human Cognition Credits: 3

Methods

Complete all 3 of the following:

- PSY 105 - Research Design and Statistics for the Behavioral Sciences I Credits: 3
- PSY 205 - Research Design and Statistics for the Behavioral Sciences II Credits: 3
- PSY 301 - Experimental Psychology Credits: 3

Electives (12 crs.)

Select at least 2 from each category:

Ethical & Social Responsibility in a Diverse World

- PSY 315 - Psychology of Prejudice and the Minority Experience Credits: 3
- PSY 350 - Psychology of Sustainability Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- PSY 410 - Psychology and Women Credits: 3
- PSY 420 - Health Psychology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- PSY 470 - Legal Psychology Credits: 3

Professional Development

- PSY 311 - Applied Behavior Analysis Credits: 3
- PSY 335 - Psychology of Social Influence Credits: 3
- PSY 340 - Introduction to Clinical Psychology Credits: 3
- PSY 361 - Psychology of Group Interaction Credits: 3
- PSY 384 - Psychology of Person-to-Person Interaction Credits: 3
- PSY 432 - The Psychology of Computers and the Internet Credits: 3
- PSY 435 - Psychopharmacology Credits: 3
- PSY 445 - Psychology of Thinking Credits: 3
- PSY 450 - Crisis Intervention Credits: 3
- PSY 475 - Industrial and Organizational Psychology Credits: 3
- PSY 485 - Tests and Measurements Credits: 3

Capstone (3 crs.)

Choose 1 of the following:

- PSY 374 - Advanced Research in Psychology I Credits: 3
- PSY 375 - Advanced Research in Psychology II Credits: 3

- PSY 379 - Capstone Seminar in Psychology Credits: 3
- PSY 385 - Internship in Psychology Credits: 1-4
- PSY 386 - Internship in Psychology Credits: 3
- PSY 389 - Internship in Psychology III Credits: 3
- PSY 440 - History and Systems of Psychology Credits: 3

Minor

Psychology Minor

18 crs.

Introductory Course (3 credits)

- PSY 101 - General Psychology Credits: 3

A. Goal: Core Classes (9 credits)

All courses require a grade of C or better.

- PSY 235 - Conditioning and Learning Credits: 3
- PSY 240 - Psychology of Personality Credits: 3
- PSY 265 - Childhood and Adolescence Credits: 3
- PSY 270 - Social Psychology Credits: 3
- PSY 320 - Behavioral Neuroscience Credits: 3
- PSY 323 - Sensation and Perception Credits: 3
- PSY 325 - Psychology of Human Cognition Credits: 3
- PSY 330 - Abnormal Psychology Credits: 3
- PSY 352 - Adulthood and Aging Credits: 3
- PSY 355 - Psychology of the Exceptional Child Credits: 3
- PSY 383 - Children's Understanding of Their Social World Credits: 3

B. Goal: Professional Development (3-6 credits)

- PSY 311 - Applied Behavior Analysis Credits: 3
- PSY 335 - Psychology of Social Influence Credits: 3
- PSY 361 - Psychology of Group Interaction Credits: 3
- PSY 432 - The Psychology of Computers and the Internet Credits: 3
- PSY 435 - Psychopharmacology Credits: 3
- PSY 475 - Industrial and Organizational Psychology Credits: 3
- PSY 485 - Tests and Measurements Credits: 3

C. Goal: Ethical and Social Responsibility in a Diverse World (3-6 credits)

- PSY 315 - Psychology of Prejudice and the Minority Experience Credits: 3

- PSY 350 - Psychology of Sustainability Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- PSY 410 - Psychology and Women Credits: 3
- PSY 420 - Health Psychology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- PSY 470 - Legal Psychology Credits: 3

Note:

Students must have a total of 9 credits in Goals B & C, with at least one course in each of the areas.

Sociology/Anthropology Department

Sociology is the scientific study of human society and social life. The discipline studies the social causes and consequences of human behavior. In more practical language, sociology concerns itself with the institutional patterns of social life and social problems. By being aware of the social environment in which humans interact with each other, the study of sociology will develop an awareness of how social forces influence behavior and how humans, through their collective action, respond to social problems, and social change.

The Bachelor of Arts degree in sociology is a good choice if you are interested in working with people in counseling, social or public service, personnel, managerial or administrative positions. Careers in sociology, law, counseling, and ministry are possible with graduate training. Many of our students participate in our intern program where you may choose from existing positions or create one specific to your interests.

Sociology and Anthropology Features

Majors have the opportunity to fashion their individual programs around special interests which build on a core curriculum. For example, concentrations in gerontology, culture and social change, human relations, family and marriage, social problems, and social institutions and organizations are possible.

Minors are offered in anthropology and sociology. For details about the requirements of these programs, contact the sociology and anthropology department.

Anthropology students will emphasize the holistic study of humankind from a cross-cultural perspective. An appreciation of human diversity leads to a greater awareness of the common concerns and interests of people in many different societies. Courses in anthropology provide an exposure to the major areas of cultural anthropology, human paleontology and archaeology.

Sociology and Anthropology Career Opportunities

Because sociology is the scientific study of social relationships, it is ideal preparation for many professions and careers: law, business, government and all its related fields, personnel work, family and marriage counseling, any career in which human interaction is important.

The anthropology minor combines well with almost any major. Students have found it to be valuable in preparation for careers in international business, counseling, government, and research. Cross-cultural interaction is increasingly common, both within our diverse American population and with people abroad. Anthropology is a field designed to make such human interaction easier and more successful.

Bachelor of Arts

Sociology, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

(36 crs.)

Required (21 crs.)

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3
- SOC 201 - Sociological Practice Credits: 3
- SOC 220 - Social Stratification Credits: 3
- SOC 380 - Classical Social Theory Credits: 3
- SOC 385 - Introduction to Social Research Credits: 3
- SOC 386 - Data Collection and Analysis Credits: 3
- SOC 415 - Senior Seminar Credits: 3

Note:

Students must earn a C or better in each required core course. Students who receive a D or F in these classes may repeat them in accordance with university policy.

Sociology Electives - 15 crs.

This may include an internship in sociology, which is highly recommended.

Allied Fields

Arts and sciences students majoring in sociology must take the following courses in allied fields. All of these may be taken as general education.

- ANT 111 - Cultural Anthropology Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- ECO - Economics elective
- Sequence in Political Science
- GEO - Geography elective
- PHL - Philosophy elective
- PSY 101 - General Psychology Credits: 3

Free Electives

Free electives are to be taken in appropriate fields with advisement. They may be utilized to pursue various special interest areas in sociology (see below) or to develop the equivalent of a minor or a second concentration. Language or research tools may be alternative recommendations.

Internships in sociology are highly recommended and may be taken for a total of 9 credits of which 6 credits can be applied to the major.

Sociology courses may be grouped into special interest areas to give students more depth in a particular subfield of sociology. Courses taken as part of the general education and allied fields requirements may also reinforce particular interest groupings within sociology. Possible special interest areas and examples of supporting courses follow:

Cross Cultural Anthropology

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 211 - Comparative Cultures Credits: 3
- ANT 312 - Comparative Marriage and Family Credits: 3
- ANT 351 - Peoples and Cultures of Europe Credits: 3

Archaeology

- ANT 150 - Introduction to Archaeology Credits: 3
- ANT 330 - Mammoth Hunters and Moundbuilders Credits: 3
- ANT 360 - Aztec and Maya Archaeology Credits: 1-3

Culture and Social Change

- SOC 370 - Sociology of the Arts Credits: 3
- SOC 375 - Sociology of Media & Culture Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3
- SOC 354 - Social Movements and Social Change Credits: 3

Family and Marriage

- SOC 363 - Population Problems Credits: 3
- SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3
- SOC 344 - Sociology of Death Credits: 3
- SOC 410 - Family and Society Credits: 3

Social Problems

- SOC 244 - Criminology Credits: 3
- SOC 245 - Juvenile Delinquency Credits: 3
- SOC 363 - Population Problems Credits: 3

Gerontology

- SOC 371 - Social Dynamics of Aging Credits: 3

- SOC 320 - Sociology of Disability Credits: 3
- SOC 344 - Sociology of Death Credits: 3
- SOC 369 - Medical Sociology Credits: 3

Human Relations

- SOC 243 - Minority Groups Credits: 3
- SOC 351 - Race Relations Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3

Social Institutions/Organizations

- SOC 220 - Social Stratification Credits: 3
- SOC 365 - Elites in Society Credits: 3
- SOC 410 - Family and Society Credits: 3
- SOC 435 - Gender, Organizations, and Leadership Credits: 3

Note:

Students should refer to the sociology Course Descriptions in the catalog for other courses which may apply to their special interest areas.

Minor

Anthropology Minor

18 crs.

The anthropology minor consists of 18 credits, nine of which are required, and nine of which are electives. A minimum of 6 credits must be from 300-level or above courses. Three credits of internship may count toward fulfillment of the requirements of the minor.

Core Courses (9 crs.)

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 121 - Physical Anthropology Credits: 3
- ANT 105 - Great Discoveries in Archaeology Credits: 3
- OR
- ANT 150 - Introduction to Archaeology Credits: 3

Elective Courses (9 crs.)

- Any three ANT courses for a total of 9 credits; two of the three courses need to be at the 300 level or higher.

Sociology Minor

18 crs.

Required (6 crs.)

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3
- SOC 380 - Classical Social Theory Credits: 3

Sociology Electives (12 crs.)

SOC courses selected by advisement.

At least 3 credits must be at 300 level or higher.

Technical/Professional Communications Program

Students completing the Technical/Professional Communications Minor will possess a well-rounded education that will help them become lifelong learners, adaptable to and conversant with changing workplace dynamics.

The minor's flexible interdisciplinary design provides students with a combination of the intellectual capabilities and highly marketable professional skills they need to embark on a successful career. Courses offered include two core courses, in technical writing and computer systems, and a variety of additional courses ranging from computer design to advertising copy writing, from advanced technical writing to web design.

Students completing the Technical/Professional Communications Minor will possess up-to-date knowledge and skills that, combined with their major, can lead to careers as a business analyst, editor, market researcher, technical reporter, web developer, media specialist, ad writer/designer, and publications manager. In addition, these skills are often sought as a technical component in many professional positions that are not primarily technical: grant writer, researcher, and marketing manager, among many others.

Minor

Technical/Professional Communications Minor

Students completing the Technical/Professional Communications Minor will possess a well-rounded education that will help them become lifelong learners, adaptable to and conversant with changing workplace dynamics.

The minor's flexible interdisciplinary design provides students with a combination of the intellectual capabilities and highly marketable professional skills they need to embark on a successful career. Courses offered include two core courses, in technical writing and computer systems, and a variety of additional courses ranging from computer design to advertising copy writing, from advanced technical writing to web design.

Students completing the Technical/Professional Communications Minor will possess up-to-date knowledge and skills that, combined with their major, can lead to careers as a business analyst, editor, market researcher, technical reporter, web developer, media specialist, ad writer/designer, and publications manager. In addition, these skills are often sought as a technical component in many professional positions that are not primarily technical: grant writer, researcher, and marketing manager, among many others.

18 crs.

Required (6 crs.)

Students must complete 6 credit hours by taking two of the following core courses, one in writing and one in computer systems:

- ENG 238 - Technical/Professional Writing I Credits: 3
- CSC 103 - Overview of Computer Science Credits: 3
OR
- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 107 - Computer Science I - Lab Credits: 1
OR
- MIS 142 - Business Computer Systems Credits: 3

Note:

CSC 110 and CSC 107 for Computer Science Majors Only

Electives (12 crs.)

The remaining 12 credits may be completed by taking any of the following courses (no more than two courses per department can count for minor credit):

- ART 217 - Computer Design I Credits: 3
- ART 306 - Computer Design II Credits: 3
- ART 319 - Computer Design III Credits: 3
- ART 425 - Computer Design IV Credits: 3
- ART 430 - Computer Design V Credits: 3
- ART 435 - Computer Design VI Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 224 - Electronic Media Writing Credits: 3
- COM 285 - News Writing and Reporting Credits: 3
- COM 290 - Advertising Copywriting Credits: 3
- COM 425 - Feature Writing Credits: 3
- CSC 434 - Web Programming Credits: 4
- ENG 323 - Reviewing the Arts for Publication Credits: 3
- ENG 438 - Technical Professional Writing II Credits: 3
- HCS 260 - Computer-Mediated Communication Credits: 3
- HCS 350 - Theories of Organizational Communication Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- PHL 240 - Ethical Issues and the Media Credits: 3

Note:

ART 217 is a pre-requisite to any other courses listed in that department.

Women's and Gender Studies Program

Women's and Gender Studies offers an interdisciplinary program that examines the diverse experiences of women in the U.S. and globally, both past and present. Many courses in the program also critically examine the meanings of gender as a culturally constructed category of identity. The core courses and wide range of electives explore the intersections of gender, race, class, ethnicity, and sexuality, as well as the social and cultural institutions that shape women's and men's lives. Courses in WST investigate previously neglected materials, and apply new methodological, critical, and theoretical approaches in order to analyze and explain the role and status of women in society, and the impact of gendered practices within societies and cultures.

Our undergraduate WST minor is designed to provide you with basic groundwork in the field of Women's and Gender Studies; you will gain a combination of skills that can be used in diverse fields and across disciplines. You will gain an increased understanding of human diversity, especially gender diversity, that will help prepare you for our continuously changing global society. Through required coursework, research, electives in your own area of interest, internships, extracurricular activities, and leadership and service opportunities, you will gain knowledge and experience that will complement and enhance your major field of study.

Students with multicultural Women's and Gender Studies experience will have an advantage as potential employees, since employers will increasingly seek applicants with knowledge of both gender issues and cultural diversity. The Women's and Gender Studies minor will help prepare you to work with a wide variety of people and anticipate their changing needs. Graduates of the Women's and Gender Studies minor find opportunities in business administration and management, advertising, health fields, education, journalism, criminology, social work, counseling, psychology, politics, law, and international affairs.

Certificate

Women's and Gender Studies Certificate

Students can earn a Certificate in Women's and Gender Studies by completing the two core courses (WST 100 and WST 300) and two of the approved electives, which must come from two different disciplines. One course may be double-counted toward the student's major and the WST Certificate. Verification of the WST Certificate will appear on the student's transcript. Three courses must be taken at Shippensburg University.

Minor

Women's and Gender Studies Minor

Women's and Gender Studies offers an interdisciplinary program that examines the diverse experiences of women in the U.S. and globally, both past and present. Many courses in the program also critically examine the meanings of gender as a culturally constructed category of identity. The core courses and wide range of electives explore the intersections of gender, race, class, ethnicity, and sexuality, as well as the social and cultural institutions that shape women's and men's lives. Courses in WST investigate previously neglected materials, and apply new methodological, critical, and theoretical approaches in order to analyze and explain the role and status of women in society, and the impact of gendered practices within societies and cultures.

Our undergraduate WST minor is designed to provide you with basic groundwork in the field of Women's and Gender Studies; you will gain a combination of skills that can be used in diverse fields and across disciplines. You will gain an

increased understanding of human diversity, especially gender diversity, that will help prepare you for our continuously changing global society. Through required coursework, research, electives in your own area of interest, internships, extracurricular activities, and leadership and service opportunities, you will gain knowledge and experience that will complement and enhance your major field of study.

Students with multicultural Women's and Gender Studies experience will have an advantage as potential employees, since employers will increasingly seek applicants with knowledge of both gender issues and cultural diversity. The Women's and Gender Studies minor will help prepare you to work with a wide variety of people and anticipate their changing needs. Graduates of the Women's and Gender Studies minor find opportunities in business administration and management, advertising, health fields, education, journalism, criminology, social work, counseling, psychology, politics, law, and international affairs.

18 crs.

Core Requirements (6 crs.)

- WST 100 - Introduction to Women's and Gender Studies Credits: 3
- WST 300 - Seminar in Women's and Gender Studies Credits: 3

Approved Electives (12 crs.)

- ANT 312 - Comparative Marriage and Family Credits: 3
- ANT 320 - Comparative Gender Roles Credits: 3
- COM 245 - Diversity and the Media Credits: 3
- COM 410 - Women and the Media Credits: 3
- CRJ 326 - Victimology: The Victim and the Law Credits: 3
- CRJ 363 - Intimate Partner Violence Credits: 3
- CRJ 466 - Women and Criminal Justice Credits: 3
- ECO 303 - Labor Economics: Theory and Policy Credits: 3
- ENG 345 - Women's Literature Credits: 3
- ENG 370 - Queer Studies Credits: 3
- HCS 335 - Popular Culture and Gender Construction Credits: 3
- HCS 340 - Gender and Communication Credits: 3
- HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3
- HIS 318 - History of U.S. Women Credits: 3
- HIS 407 - Women in Comparative Perspective Credits: 3
- MAT 400 - History of Mathematics Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PSY 410 - Psychology and Women Credits: 3
- SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3
- SOC 320 - Sociology of Disability Credits: 3
- SOC 435 - Gender, Organizations, and Leadership Credits: 3
- SOC 445 - Sexuality and Sexual Orientation: A Social Approach Credits: 3
- SWK 265 - Understanding Diversity for Social Work Practice Credits: 3
- SWK 359 - Social Work Elective: Violence in Interpersonal Relationships Credits: 3
- SWK 420 - Gender Issues for Helping Professionals Credits: 3
- WST 200 - Independent Study in Women's and Gender Studies Credits: 3

- WST 390 - Internship in Women's and Gender Studies Credits: 3-6

Note:

To complete the Women's and Gender Studies minor, students will take the two core courses (WST 100 and WST 300) and four of the approved electives. These four electives must come from at least two different disciplines. Two courses may be double-counted toward the student's major and the WST minor. Two elective courses must be at the 300 or 400 level. Five courses must be taken at Shippensburg University.

Additional electives and special topics courses continue to be developed by affiliated Women's and Gender Studies faculty.

Honors Department

John L. Grove College of Business

The John L. Grove College of Business offers programs leading to the Bachelor of Science in Business Administration (B.S.B.A.), which are accredited by AACSB International. In order to maintain the high quality of our AACSB-accredited program, students will be required to participate in student outcomes assessment efforts that are designed to continuously improve the quality of our programs and services.

Mission of the John L. Grove College of Business

The John L. Grove College of Business of Shippensburg University provides a high-quality and a high-value comprehensive educational experience that prepares students to excel as principled leaders in today's global business community.

Business Internship Program

Juniors and seniors in the John L. Grove College of Business, who are in good academic standing and sophomores with at least a 3.00 cumulative quality point average or higher point average, are eligible to participate in the Business Internship Program. Interns do major-related work in business or the professions for free elective credit during the academic year or during the summer. Internships must be approved by the department chair and internship director. Attendance at an internship workshop is required before students may apply or register for a college-sponsored internship. Credit earned through the internship program may only be used as a free elective credit (a maximum of nine credit hours) and may not be used as a substitute for major course requirements.

Benefits of internship include applying academic knowledge and skills to on-the-job experiences, communicating and interacting with professionals in the world of work, developing professional self-confidence, clarifying career goals through exposure to a variety of career opportunities, earning money for university and personal expenses, building a network of professional contacts, completing free elective credits for graduation and returning to the university with renewed interest and a new perspective on learning.

Transfer Requirements

All transfer students seeking admission into the B.S.B.A. degree program in the John L. Grove College of Business must meet the university's minimum transfer quality point average requirements. In addition, transfer students must

complete MAT 140A / MAT 140B - College Algebra Credits: 3 (or equivalent) and/or MAT 181 - Applied Calculus Credits: 3 (or equivalent) with a C grade or higher before being considered for admission into the B.S.B.A. degree programs.

Students are permitted to transfer any required 100- or 200-level business course from a community college or from an accredited four-year institution provided the course content is equivalent and a grade of C or better is earned. Courses in business at the 300- or 400-level will be considered for transfer credit only if they were earned at a four-year institution whose business programs are accredited by the AACSB International, if the transfer student passes a standard examination prepared by the department offering the course, or if a grade of C or higher is earned in a validating course approved by the department. This last validation method is limited to one course in any one discipline and a total of six credits. Arrangements for validating a course should be made through the dean's office and the department that offers the course.

Refer to the Admission Policies chapter for further requirements for transfer students.

Changing Majors

Students requesting transfer from another college within the university into the B.S.B.A. degree programs in the John L. Grove College of Business are required to have completed a minimum of 12 credit hours with at least a 2.0 overall and business core cumulative quality point average, including a C or higher in MAT 140A / MAT 140B - College Algebra Credits: 3 and/or MAT 181 - Applied Calculus Credits: 3 (or higher) or a math placement level of 5 or higher, a C or higher in ENG 114 - Writing Intensive First-Year Seminar Credits: 3, and must obtain the approval of the department chair of the new major and the dean. First semester freshmen, excluding individuals testing at the advanced level in mathematics, must follow university policy and wait until the second semester to request approval to transfer. Admission to a specific major, at any given time, may be limited.

Students requesting to transfer from one major to another within the John L. Grove College of Business are required to have a minimum 2.0 cumulative quality point average and must obtain approval of the department chair of the new major and the dean. Refer to the Academic Policies chapter under Changing Majors for further information.

Business Administration B.S.

The business administration curriculum at Shippensburg University is designed to prepare students for management careers in business and the professions. The curriculum also provides the basis for graduate study in business, public administration, and law.

Because effective managers must be cognizant of the societal and environmental contexts of their decisions, the study of business administration requires a thorough grounding in the humanities, social sciences, and natural sciences. Therefore, a significant portion of a student's program is devoted to general education. Students are encouraged to seek advisement in developing a general education program which is suited to their individual needs and interests. Each student in the John L. Grove College of Business is assigned a faculty member through his or her departmental office for advisement purposes.

The completion of a minimum of 120 credit hours is required for graduation in the B.S.B.A. major degree programs. The specific course requirements for each B.S.B.A. degree program of study are outlined under the following sections titled *B.S.B.A. Core Requirements and Major Course Requirements*.

The first phase of business administration curriculum is a required common core and the second phase is completing the common core and the course requirements for one of the majors in the John L. Grove College of Business. The curriculum seeks to avoid narrow technical instruction; rather, the goal is to develop the analytical and conceptual skills necessary for successful management in a variety of situations. The core represents a consensus of what academicians

and practitioners consider to be a common body of knowledge for managers of all types, while specialization majors permit the acquisition of more advanced knowledge in a selected area.

Quality Point Average Requirements

Students in the B.S.B.A. program are required to meet the following academic standards in order to be in good academic standing and to graduate. Refer to the Academic Policies chapter under Grading and Graduation Requirements for further information.

1. Maintain a 2.0 or better cumulative quality point average in all courses taken.
2. Maintain a 2.0 or better cumulative business quality point average which includes all the business core courses.
3. Maintain a 2.0 or better cumulative major quality point average which includes all major course work and any business core courses within the major discipline.

English Requirements

All John L. Grove College of Business majors, including B.S.B.A., candidates, must complete ENG 114 Writing Intensive First-Year Seminar or ENG 115 Advanced Placement Writing, with a C grade or better in order to graduate and before scheduling upper-division business courses.

Curriculum Requirements

Due to the communication and quantitative skills required in the business curriculum, it is recommended students complete at least three years of college preparatory writing and mathematics in high school. Students seeking admission into the John L. Grove College of Business who lack these skills may find it necessary to take some remedial course work in writing and/or mathematics before enrolling in either ENG 114 Writing Intensive First-Year Seminar or MAT 140A/MAT 140B College Algebra.

All B.S.B.A. students are required to complete the general education requirements, the B.S.B.A. Core Requirements, and at least one of the sequences listed under Major Course Requirements.

Course Sequencing

The subject matter of the business administration degree program is largely cumulative, i.e., a significant proportion of advanced course content presupposes reasonable mastery of more elementary concepts. (This is especially true in the areas which rely heavily on applied mathematics and the behavioral sciences.) As a result, many advanced courses have prerequisites which are indicated in the course descriptions. Early in their careers within the Foundations of Business Administration course, students should develop, with the aid of their faculty advisor, a four-year course plan which ensures the appropriate prerequisites will be met and all graduation requirements will be satisfied.

For a variety of reasons, these plans will vary considerably from student to student. Nevertheless, there are some general rules which should be adhered to in developing the course plan:

1. BSN 101 - Foundations of Business Administration Credits: 2 should be taken in the first year.
2. MAT 140A/MAT 140B College Algebra, if required, MAT 181 - Applied Calculus Credits: 3 and SCM 200 - Statistical Applications in Business Credits: 3, should be completed by the end of the sophomore year.
3. MIS 142 - Business Computer Systems Credits: 3 should be completed the first year and BSL 261 - American Legal Environment Credits: 3 should be completed by the end of the sophomore year.

4. The ACC 200 - Fundamentals of Financial Accounting Credits: 3, ACC 201 - Managerial Accounting Credits: 3, and ECO 113 - Principles of Economics Credits: 4, should be taken by the end of the sophomore year.
5. Any 300-/400-level B.S.B.A. core and major course work should primarily be taken during the junior and senior years.

Business Administration-Major Undecided Option

The Business Administration-Major Undecided option is designed for students entering the John L. Grove College of Business who are undecided about the selection of a specific B.S.B.A. major. Since the course work in the B.S.B.A. degree program is basically the same for all majors through the sophomore year of study, the Business Administration-Major Undecided option provides students with an opportunity to take up to two years or 60 credits before officially declaring a specific B.S.B.A. major in the John L. Grove College of Business. Students are encouraged to select a specific B.S.B.A. major prior to beginning their junior year of study. Admission to a specific business major, at any given time, may be limited.

A student electing the Business Administration-Major Undecided option is assigned a full-time faculty member in the John L. Grove College of Business to assist with selecting a major, scheduling, and addressing other academic concerns. In the required Foundations of Business Administration course, students are also encouraged to utilize other services at the university to assist them in selecting a major, such as the Career Center's Career Education program, the Alumni Career Services program, and involvement in academic student professional organizations in the John L. Grove College of Business.

Accounting/Management Information Systems Department

The department offers B.S.B.A. degrees in Accounting and Management Information Systems.

Bachelor of Science in Business Administration

Accounting, B.S.B.A.

The goal of the accounting program is to provide students with the knowledge and skills expected of accountants today for the accomplishment of successful and rewarding careers.

In order to achieve this goal, students are exposed to both theoretical and practical accounting material with appropriate emphasis being given to logical reasoning and communication (written and oral) skills and the study of information systems and international practices.

The undergraduate program for a B.S.B.A. degree in accounting requires the completion of a minimum of 120 semester hours, which includes the satisfactory completion of the following six required courses and one accounting elective:

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (18 crs.)

- ACC 306 - Tax Accounting Credits: 3
- ACC 310 - Intermediate Accounting I Credits: 3
- ACC 311 - Intermediate Accounting II Credits: 3
- ACC 312 - Cost Determination and Analysis Credits: 3

- ACC 404 - Auditing Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3
Students who double major in ACC and MIS take MIS 355 instead of MIS 300

Accounting Electives (3 crs.)

(One course from the following 3-credit courses)

- ACC 401 - Advanced Accounting Credits: 3
- ACC 406 - Advanced Tax Accounting Credits: 3
- ACC 412 - Advanced Cost Analysis and Control Credits: 3
- ACC 490 - Selected Topics in Accounting Credits: 3

Note:

A student graduating with a major in accounting must be proficient in the use of microcomputers to function effectively in the accounting profession. In order to develop the proficiency expected of an accounting graduate, assignments will be given throughout the accounting program which require the use of a microcomputer. By the middle of the sophomore year a student majoring in accounting will be expected to have acquired a personal computer which is compatible with the hardware and software used by the Department of Accounting. Our computer labs, though well-equipped, are utilized by all college of business students. Due to this high demand, a personal computer is invaluable in fulfilling accounting major course requirements.

Accounting Career Opportunities

The accounting program is designed to prepare students for national and international careers in professional, industrial, and non-profit accounting. The Accounting Department is cognizant of developments in the academic and professional accounting areas to ensure the curricula and teaching methods are of the highest standards.

Accounting B.S.B.A./M.B.A. Five-Year Program

An accelerated B.S.B.A./M.B.A. program is proposed for students who are qualified on the basis of scholastic aptitude, academic performance, and accounting-related work experience. Students who qualify for the program may earn both the bachelor's and master's of Business Administration within a total period of ten semesters and two summer sessions. Students would be admitted provisionally at beginning of their fourth year upon meeting the admission requirements.

Management Information Systems, B.S.B.A.

Effective information is an integral part of any successful organization. The development and administration of an effective information system requires competency in both technological skills and business knowledge. As such, management information systems professionals utilize tools, techniques, and concepts of various disciplines such as computer science, management science, and organizational behavior. These interdisciplinary tools, combined with an understanding of the basic needs of an organization, enable the information system professionals to apply computer technology to solve a wide range of business problems. Management information systems (MIS) professionals frequently interact with individuals in many functional areas of an organization to analyze information needs and requirements and to serve as a liaison with computer systems personnel.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (18 crs.)

- MIS 240 - Introduction to Programming Concepts Credits: 3
- MIS 340 - Business Programming Credits: 3
- MIS 344 - Business Systems Analysis and Design Credits: 3
- MIS 355 - Database Applications Credits: 3
- MIS 420 - Telecommunications and Distributed Processing Credits: 3
- MIS 446 - Applied Project Management Credits: 3

Optional Electives

- MIS 242 - Design and Development of User Information Systems Credits: 3
- MIS 399 - Introduction to Corporate Cybersecurity Credits: 3
- MIS 442 - Electronic Commerce and Technology Integration Credits: 3
- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 106 - Computer Science I - Lab Credits: 1

MIS Career Opportunities

Career positions appropriate for an MIS graduate include systems analysts, database administrator, network specialist, web designer, software engineer, programmer/analyst, project manager, and technical trainer. Successful MIS professionals can advance to senior management and executive-level positions such as information systems manager, chief information officer, and chief executive officer. Those with work experience and considerable expertise may find lucrative opportunities as independent consultants, or may choose to start their own firms.

The Department of Labor predicts that management information systems-related jobs are expected to grow much faster than the average for all occupations between 2008 and 2018. Demand for MIS professionals stays strong in the foreseeable future as organizations continue to adopt and integrate increasingly sophisticated technologies into their business activities. In addition, various studies find MIS graduates among the highest paid college graduates.

Finance/Supply Chain Management Department

Bachelor of Science in Business Administration

Finance, B.S.B.A.

Finance is the study and practice of making money-denominated decisions. Individuals, business corporations, and government agencies located worldwide are all concerned with securing, managing, and investing funds efficiently; i.e., they must practice sound financial decision making. As a discipline, finance can be classified into six areas: corporate financial management, investments, financial institutions and markets, banking and insurance, personal financial planning, and real estate investment and valuation. The finance program at Shippensburg University offers a full range of courses in these areas. Our program is unique in the emphasis placed on the application of finance concepts. In addition to two applied courses in market, company, and security analysis, the finance major can apply for admission to the Investment Management Program class. In this class students utilize their accumulated knowledge and skills in the management of a real-money investment portfolio.

By the beginning of the sophomore year, a student majoring in finance will be expected to have access to a personal computer which is compatible with the hardware and software used in the finance program. Our computer labs, though well-equipped, are utilized by a large percentage of students from the college of business. Due to this high demand, a personal computer is invaluable to fulfilling the major finance course requirements.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (12 crs.)

- FIN 312 - Investments Credits: 3
- FIN 313 - Advanced Financial Management Credits: 3
- FIN 314 - Financial Institutions Credits: 3
- FIN 333 - Applied Company and Security Analysis Credits: 3

Electives (6 crs.)

(Two courses from the following 3-credit courses)

- FIN 320 - Risk Management and Insurance Credits: 3
- FIN 322 - Estate Planning Credits: 3
- FIN 324 - Retirement Planning and Employee Benefits Credits: 3
- FIN 340 - Principles of Real Estate Credits: 3
- FIN 393 - Selected Topics in Finance Credits: 1-3
- FIN 405 - Real Estate Appraisal and Investment Analysis Credits: 3
- FIN 414 - Bank Management Credits: 3
- FIN 421 - Personal Financial Planning Credits: 3
- FIN 425 - Global Financial Management Credits: 3
- FIN 434 - Investment Management Program Credits: 1-3
- FIN 435 - Investment Management Program Credits: 1-3
- FIN 442 - Derivatives Markets Credits: 3
- FIN 490 - Selected Topics in Finance Credits: 1-3

Finance Career Opportunities

Students develop a wide range of analytical skills with both theoretical and real problems and can, therefore, choose a career within a full spectrum of jobs: corporate financial analyst (revenue and capital budget), financial planner, security analyst, portfolio manager or analyst, pension fund manager, security broker or dealer, banking industry analyst, mortgage analyst, corporate risk manager, or consultant on mergers and acquisitions.

Shippensburg University graduates who majored in finance have obtained responsible positions in major corporations, profit and non-profit, and positions in a variety of major and regional banks and other financial institutions.

For those students with a concentration in real estate, career opportunities are available in a wide array of firms. For example, a graduate may take a position with a real estate development firm, a financial institution or real estate investment firm, a real estate brokerage firm, a real estate management firm, or an appraisal firm. There are also a wide variety of job opportunities in the non-profit or governmental sector for a student with an expertise in real estate.

Finance, Personal Financial Planning Concentration, B.S.B.A.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Personal Financial Planning Concentration

Personal financial planning is the process of managing financial resources to achieve individual goals. It is a six-step process-determine current financial conditions, develop financial goals, identify alternative courses of action, evaluate alternatives, create and implement a financial plan, and evaluate and revise the plan. The basic elements of personal financial plan include cash flow/budgeting analysis, insurance needs, employee benefits, education funding

requirements, investment decision, analysis of debt, portfolio analysis, retirement planning, forecasting retirement benefits and costs, income tax planning, and estate planning.

Required (21 crs.)

- FIN 312 - Investments Credits: 3
- FIN 320 - Risk Management and Insurance Credits: 3
- FIN 421 - Personal Financial Planning Credits: 3
- FIN 322 - Estate Planning Credits: 3
- FIN 324 - Retirement Planning and Employee Benefits Credits: 3
- FIN 333 - Applied Company and Security Analysis Credits: 3
- ACC 306 - Tax Accounting Credits: 3

Personal Financial Planning Career Opportunities

The field of financial planning is experiencing substantial growth. The public's need for professional financial advice has been increasing drastically due to the changes in demographics and financial regulation. *U.S. News and World Report* lists personal financial planning as one of the 20 hot jobs for the 21st century. With a specialty in personal financial planning, you can choose a career within a full array of jobs. Typically, you can be a self-employed financial advisor or work for depository and non-depository financial institutions such as banks, saving institutions, credit unions, brokerage firms, investment companies, and insurance agencies. Alternative options include accounting firms, law offices, and human resource and employee benefit departments, among others. Current salaries are highly competitive and the current average income for experienced financial planners depends upon the specific career option selected and the geographic region. U.S. Department of Labor reports the median annual earnings of personal financial advisors was \$56,680.

Supply Chain Management, B.S.B.A.

Supply Chain Management involves the strategic integration of diverse business facilities, functions, and activities throughout the supply chain for the purpose of providing goods and services to customers as efficiently as possible. Achieving efficiency in the supply chain is accomplished by developing knowledge of transportation, inventory control, warehousing, material handling, purchasing, production control, and the tools necessary to analyze and coordinate these activities. The concept of total cost analysis (taking all costs into account before making decisions), and cost trade-offs (letting one or more costs rise to take advantage of greater savings in other costs) is also central to supply chain management. These concepts, once honed, apply to many facets of business and personal decision making.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (15 crs.)

- SCM 315 - Strategic Procurement Credits: 3
- SCM 355 - Managing Quality and Continuous Improvement Credits: 3
- SCM 370 - Integrated Supply Chain Systems Credits: 3
- SCM 380 - Data Mining for Supply Chain Management Credits: 3
- SCM 420 - Global Logistics Systems Credits: 3

Electives (3 crs.)

(One course from the following 3-credit courses)

- ACC 312 - Cost Determination and Analysis Credits: 3
- ECO 355 - Environmental Economics Credits: 3
- FIN 320 - Risk Management and Insurance Credits: 3
- FIN 340 - Principles of Real Estate Credits: 3
- FIN 405 - Real Estate Appraisal and Investment Analysis Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- MGT 340 - Human Resource Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 394 - Leadership and Decision-Making Credits: 3
- MGT 450 - Negotiation Credits: 3
- MIS 240 - Introduction to Programming Concepts Credits: 3
- MIS 242 - Design and Development of User Information Systems Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3
- MIS 446 - Applied Project Management Credits: 3
- MKT 310 - Personal Selling Credits: 3
- MKT 342 - Business-to-Business Marketing and Analysis Credits: 3
- MKT 365 - Relationship Marketing Credits: 3
- MKT 370 - Services Marketing Credits: 3
- SCM 390 - Strategic Warehouse Management Credits: 3
- SCM 410 - Distribution Systems in Supply Chains Credits: 3

Supply Chain Management Career Opportunities

Graduates with a Supply Chain Management background can find employment in a wide range of occupational specialties including logistics, warehousing management, transportation management, operations and production management, purchasing, inventory control, and customer service to name but a few. Salaries for recent graduates in supply chain programs, according to several surveys, rank near the top among the various business majors. Supply Chain Management also plays a central role in the global economy. Many job opportunities are available which involve developing and maintaining the international supply chain.

Supply Chain Management, Logistics Management Concentration, B.S.B.A.

Supply Chain Management involves the strategic integration of diverse business facilities, functions, and activities throughout the supply chain for the purpose of providing goods and services to customers as efficiently as possible. Achieving efficiency in the supply chain is accomplished by developing knowledge of transportation, inventory control, warehousing, material handling, purchasing, production control, and the tools necessary to analyze and coordinate these activities. The concept of total cost analysis (taking all costs into account before making decisions), and cost trade-offs (letting one or more costs rise to take advantage of greater savings in other costs) is also central to supply chain management. These concepts, once honed, apply to many facets of business and personal decision making.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Logistics Management Concentration

Logistics is that part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements. Logistics activities typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network

design, inventory management, supply/demand planning, and management of third party logistics services providers. To varying degrees, the logistics function also includes sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. It is involved in all levels of planning and execution-strategic, operational and tactical. Logistics is an integrating function, which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions including marketing, sales manufacturing, finance, and information technology.

Required (12 crs.)

- SCM 370 - Integrated Supply Chain Systems Credits: 3
- SCM 390 - Strategic Warehouse Management Credits: 3
- SCM 410 - Distribution Systems in Supply Chains Credits: 3
- SCM 420 - Global Logistics Systems Credits: 3

Electives (6 crs.)

(Two courses from the following 3-credit courses)

- ACC 312 - Cost Determination and Analysis Credits: 3
- ECO 355 - Environmental Economics Credits: 3
- FIN 320 - Risk Management and Insurance Credits: 3
- FIN 340 - Principles of Real Estate Credits: 3
- FIN 405 - Real Estate Appraisal and Investment Analysis Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- MGT 340 - Human Resource Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 394 - Leadership and Decision-Making Credits: 3
- MGT 450 - Negotiation Credits: 3
- MIS 240 - Introduction to Programming Concepts Credits: 3
- MIS 242 - Design and Development of User Information Systems Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3
- MIS 446 - Applied Project Management Credits: 3
- MKT 310 - Personal Selling Credits: 3
- MKT 342 - Business-to-Business Marketing and Analysis Credits: 3
- MKT 365 - Relationship Marketing Credits: 3
- MKT 370 - Services Marketing Credits: 3
- SCM 315 - Strategic Procurement Credits: 3
- SCM 355 - Managing Quality and Continuous Improvement Credits: 3
- SCM 380 - Data Mining for Supply Chain Management Credits: 3

Logistics Career Opportunities

Logistics is the universal thread or pipeline that plans and coordinates the delivery of products and services to customers all over the world. Logistics professionals manage and coordinate activities in this global pipeline to ensure an effective and efficient flow of materials and information from the time a need arises until it is satisfied and beyond. The demand for logistics managers at all levels is excellent. The Collegiate Employment Research Institute reports that logistics is a field with more positions than graduates each year. *The Wall Street Journal* reports that senior logistics

management talent is also in short supply. As logistics managers' roles and value have grown, the need for well-educated, talented professionals with a diverse array of skills has emerged. Earning potential for logistics managers is excellent! In addition to receiving outstanding salaries, logistics managers receive a full range of valuable benefits and most are eligible for bonus pay. A recent study by William M. Mercer, Inc., indicates that more than 85 percent of logistics managers can earn incentive pay in addition to their base salary. It is also important to note salaries for logistics managers have risen each of the last five years according to annual surveys conducted by Ohio State University and Cahners Research.

Management/Marketing/Entrepreneurship Department

Bachelor of Science in Business Administration

Entrepreneurship, B.S.B.A

The Entrepreneurship program is focused on opportunity identification, enhancement, and realization to create value for all stakeholders. The point of view for all entrepreneurship ventures is the "owner," but it has evolved to include companies and organizations of all types and stages. The skills a student learns through an entrepreneurship major are vital for the success of any business--large or small, public or private, corporate or not-for profit, local or global. The major conveys a broad skill-set for business, while it also provides students with customized paths for success in specific business systems including new ventures, franchises, corporate ventures, socially responsible companies, and family-controlled enterprises.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3

- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (15 crs.)

- ENT 336 - Product Design & Development Credits: 3
- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 431 - Corporate Entrepreneurship Credits: 3
- ENT 432 - Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3

Electives (3 crs.)

(One course from the following 3-credit courses)

- MGT 340 - Human Resource Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 450 - Negotiation Credits: 3
- MGT 470 - International Management Credits: 3
- MGT 490 - Selected Topics in Management Credits: 1-3
- MGT 498 - Strategy Implementation Credits: 3
- MKT 370 - Services Marketing Credits: 3
- MKT 430 - Marketing Research Credits: 3

Entrepreneurship Career Opportunities

Entrepreneurship is what powers the economy, and students develop the skills and contacts necessary to make ideas real. An entrepreneurship major from Shippensburg University will prepare students for any one of the following career tracks: corporate entrepreneurship, also known as intrapreneurship, where our graduates develop new operations or products for existing corporations; independent entrepreneurship, where our graduates start their own for-profit firms; family business, where our graduates go into the family firm as new or future management; and social entrepreneurship, where our graduates start new or develop existing not-for-profit or community service oriented firms.

More specifically, when company recruiting ads use words like leading-edge or talk about developing new products or markets, they are talking about corporate entrepreneurship. When government and civic organizations talk about becoming more innovative and proactive, they are building on the growing social entrepreneurship movement. As always, if you have an idea of your own, for a product, a service, or just a way of life for yourself, there is no alternative to going independent. For any of these goals, an entrepreneurship major from Shippensburg University can get you where you want to be.

Management, Human Resources Management Concentration, B.S.B.A.

The human resource management concentration covers the fields of personnel management, industrial relations, and training. The program is designed to provide students with a solid understanding of the wide range of opportunities in the field. The courses emphasize both the theoretical aspects and the practical skills needed for success in the field. By careful selection of elective courses, students can design a program to suit their individual career interests.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3

- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (12 crs.)

- MGT 340 - Human Resource Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 346 - Human Resource Management Law Credits: 3
- MGT 348 - Compensation Administration Credits: 3

Electives (6 crs.)

(Two courses from the following 3-credit courses)

- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 431 - Corporate Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3
- FIN 324 - Retirement Planning and Employee Benefits Credits: 3
- MGT 349 - International Human Resource Management Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 394 - Leadership and Decision-Making Credits: 3
- MGT 450 - Negotiation Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3

Human Resource Management Career Opportunities

The Department of Labor continues to project a strong demand for entry-level jobs in the human resource management field. Human resource management is among the top paying fields. Graduates of the program are prepared to begin their careers in the human resource management departments of corporations or government agencies as trainees,

recruiters, compensation specialists, job analysts, grievance counselors, and arbitration managers. The program provides a solid foundation for graduate study in the fields of personnel, industrial relations, human resource management, and organizational development.

Management, International Management Concentration, B.S.B.A.

Firms, large and small, have the opportunity to participate in worldwide business ventures, whether through exporting, importing, international trade, or by manufacturing or setting up service operations overseas. The firms also face the challenges of competition from foreign companies.

The international management concentration provides students with a better grasp of the opportunities and challenges, and facilitates functioning in an international environment. The program provides exposure to the cultures of various countries, development of competence in at least one foreign language, and training in a broad range of management and business theories and skills relevant to international operations.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
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Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (12 crs.)

- MGT 340 - Human Resource Management Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 470 - International Management Credits: 3
- MKT 360 - International Marketing Credits: 3

Electives (6 crs.)

(Two courses from the following 3-credit courses)

- ANT 220 - Anthropology for International Studies Credits: 3
- ECO 321 - International Economics Credits: 3
- FIN 425 - Global Financial Management Credits: 3
- GEO 101 - World Geography Credits: 3
- MGT 349 - International Human Resource Management Credits: 3
- PLS 141 - World Politics Credits: 3

Note:

Only one of ANT 220, GEO 101, or PLS 141 may be counted as a major elective course.

International Management Language Requirement (12 crs.)

Twelve credits in one modern language beyond the beginning level (other than one of the literature courses) shall be elected by the student. All four courses must be taught in the selected language. At least one commercial course (e.g., FRN 320, GER 215, SPN 330) shall be among the four courses selected by the student. Students in International Management must achieve an intermediate level on the ACTFL (American Council on the Teaching of Foreign Languages) Oral Proficiency Interview. The competency examination must be completed no later than the middle of their senior year (105 credits).

International Management Career Opportunities

The program prepares students for job opportunities in government agencies, multinational corporations, or firms of all sizes with international operations. The program also provides a solid foundation for the pursuit of graduate study.

Management, Management Concentration, B.S.B.A.

The Management program provides the student with a broad understanding of a variety of systematic business practices, techniques and philosophies. The program stresses the mastery of key managerial concepts from the perspective of how they affect the behavior, performance and satisfaction of individuals and how individual performance and satisfaction contribute to organizational efficiency and effectiveness. Special attention is devoted to the necessity of adapting to environmental conditions and the implementation of corporate strategic objectives.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (15 crs.)

- ENT 431 - Corporate Entrepreneurship Credits: 3
- MGT 340 - Human Resource Management Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 394 - Leadership and Decision-Making Credits: 3
- MGT 498 - Strategy Implementation Credits: 3

Electives (3 crs.)

- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 432 - Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 450 - Negotiation Credits: 3
- MGT 470 - International Management Credits: 3
- MGT 490 - Selected Topics in Management Credits: 1-3

Management Career Opportunities

Completion of the management program facilitates employment potential in both manufacturing and service firms. Industrial and retail sales positions, with a career orientation toward sales management, are also likely. The program also provides a solid foundation for graduate study.

Marketing, B.S.B.A.

The marketing program is designed to provide students with the tools necessary to implement marketing strategies and policies. The program provides an optimum balance between theory and practice. Due to the designed flexibility of the program, students have the opportunity to tailor a marketing program of study to best fit their individual career interests.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (9 crs.)

- MKT 306 - Buyer Behavior Credits: 3
- MKT 430 - Marketing Research Credits: 3
- MKT 495 - Marketing Analysis and Strategy Development Credits: 3

Electives (9 crs.)

Three courses from the following 3 credit courses:

- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3
- MKT 310 - Personal Selling Credits: 3
- MKT 315 - Sales Management Credits: 3
- MKT 325 - Advertising and Promotional Strategy Credits: 3
- MKT 335 - E-Marketing Credits: 3
- MKT 340 - Tourism and Events Planning Credits: 3
- MKT 342 - Business-to-Business Marketing and Analysis Credits: 3
- MKT 352 - Principles of Retailing Credits: 3
- MKT 360 - International Marketing Credits: 3
- MKT 365 - Relationship Marketing Credits: 3
- MKT 370 - Services Marketing Credits: 3
- MKT 380 - Sports Marketing Credits: 3
- MKT 390 - Selected Topics in Marketing Credits: 1-3
- MKT 490 - Selected Topics in Marketing Credits: 1-3

Marketing Career Opportunities

Marketers are in demand as the field of marketing is pervasive in our society. It is a critical function in all organizations. Examples of fields seeking marketing professionals are: e-business, advertising, business-to-business marketing, consulting, international marketing, marketing research, retail management, sales and sales management, supply chain management, and transportation. Shippensburg marketing graduates are sought regularly by employers and they are also well prepared for further pursuit of their educations at top graduate schools across the nation.

Minor

Entrepreneurship Minor

The Entrepreneurship minor provides students with the same basic business knowledge and skills as the Business Minor, but with a strong emphasis on innovation and problem-solving. Students will be exposed to entrepreneurial thinking, opportunity identification, capital funding, and other aspects of the entrepreneurial process applicable in business start-ups, as well as in existing businesses, governmental organizations, and nonprofits. This minor will prepare students to succeed as innovators and value creators in a rapidly changing world.

The minor is made up of six courses, five of which are required. Three of the five required courses provide an essential background in the fundamental business disciplines most necessary for the entrepreneur -- accounting, finance, and marketing. The two remaining required courses focus on the basics of entrepreneurship and managing small businesses. An elective course allows the student to explore further in entrepreneurship, marketing, or management.

18 (crs.)

Required Courses (15 crs.)

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3
- FIN 311 - Financial Management Credits: 3
- MKT 305 - Principles of Marketing Credits: 3

Electives (Select One):

- ENT 336 - Product Design & Development Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 370 - International Business Credits: 3
- MKT 370 - Services Marketing Credits: 3

Business Department

Minor

Business Minor

In order to be admitted to the minor, you must successfully complete the general education prerequisites for the program. The first prerequisite is completion of ECO 113 Principles of Economics, ECO 102 Principles of Microeconomics or ECO 101 Principles of Macroeconomics with a C or better. The second prerequisite is the completion of MAT 140A/MAT 140B College Algebra or MAT 117 (taken at Shippensburg University) with a C or better or a higher level mathematics course or a math placement level of 5 or higher.

The business minor consists of four required core business courses and two business elective courses. The four required courses provide you with a solid fundamental background in business. In addition, these foundation courses will apply directly toward meeting some of the requirements of most MBA programs if you decide to pursue a master's degree in business later. The two elective courses in business allow you to tailor the minor to complement your major and to develop an area of specialization to further enhance future employment opportunities.

Numerous studies have shown a high percentage of students, regardless of major, end up pursuing careers in business or careers that require an understanding of business. No matter what career path you take after graduation, whether self-employed or working for an organization, the business concepts and skills you gain from the business minor will help to expand your opportunities and ensure your success.

18 crs.

Required Core Courses

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
- FIN 311 - Financial Management Credits: 3

- MGT 305 - Organizational Behavior Credits: 3
- MKT 305 - Principles of Marketing Credits: 3

Elective Business Courses

Two (2) College of Business courses with advisement and completion of prerequisites.

Interested students are encouraged to check out the John L. Grove College of Business website at www.ship.edu/business for more information on the business minor. To apply for the business minor, students should stop by Grove Hall 128 to complete an application.

College of Education and Human Services

The College of Education and Human Services offers programs leading to Bachelor of Science degrees in criminal justice and exercise science, and a Bachelor of Social Work. It also offers undergraduate students the opportunity to earn a Bachelor of Science in Education degree and to qualify for certification to teach in the public schools of Pennsylvania. Students can choose programs leading to a degree and certification in either Early Childhood/Elementary Education: PK-4 or Elementary/Middle Level Education: Grades 4-8, Secondary Education. Teacher education candidates may also earn Environmental Education Certification.

The Military Science Department (Army Reserve Officers Training Corps) provides the opportunity for students of all majors to earn a commission in the United States Army. Available to men and women, the Army ROTC program develops students' ability to organize, motivate, and lead others.

Graduate programs in counseling, criminal justice, educational leadership and special education, social work, and teacher education are presented in the *Graduate Catalog*, which may be obtained by writing to the dean of Graduate Studies or visiting the website www.ship.edu/catalog.

Certification of Teachers

To insure a consistently high quality of instruction in the public schools of the Commonwealth, all teachers are required by law to have a teaching certificate. This legal permit to teach is issued by the Pennsylvania Department of Education to an individual who has completed certain specific course requirements in the area or areas of instruction indicated. Specific undergraduate curricula of the university prepares students to be sponsored for initial teacher certification. Early Childhood/Elementary Education: PK-4 or Elementary/Middle Level Education: Grades 4-8, and secondary education programs prepare teachers for the Commonwealth.

Pennsylvania Standards for Teacher Certification require that teacher certification candidates must achieve a QPA of 3.0 at the accumulation of 48 credit hours of college level work and must pass all mandated state required assessments (i.e., Praxis, PAPA, PECT) prior to achieving Professional Standing. Once Professional Standing is achieved, students may enter 300 and 400 level education course work and are officially teacher candidates.

To complete an approved course of study for teacher certification at Shippensburg University, all teacher candidates must achieve passing scores in all sections of the required assessments prior to student teaching. Ninety-seven percent of students who complete the Shippensburg University program pass all aspects of these tests. In addition, to be recommended for certification, a 3.0 QPA for all course work at the university must be attained prior to graduation.

Teacher Education

Teacher education programs at Shippensburg University prepare competent professionals for teaching and for leadership positions in a variety of educational settings and institutions. They can systematically design, implement, and continually evaluate and revise instructional programs to meet the lifelong learning needs of the communities they serve. The responsibility for an effective program is a shared one that relies upon the cooperation and enthusiastic participation of the wider university community. Each certification program includes a balanced offering of a foundation in general education, an intensive study of a teaching specialty and a planned sequence of professional experiences designed to explore the theory and practice of teaching.

On completion of a teacher education program a student should have attained the following:

- Understanding of the teacher as a reflective practitioner who continually evaluates the effects of his/her choices and actions on others (students, parents, and other professionals in the learning community) and who actively seeks out opportunities to grow professionally.
- Knowledge of the scope and basic principles of the natural sciences and mathematics, the social sciences, and the humanities and arts as these disciplines represent human achievement and enlightenment.
- In-depth knowledge in at least one academic discipline or teaching specialty and ability to identify, select, and/or develop materials of instruction, which provide data needed for the development of basic concepts and generalizations in the discipline/specialty.
- Effective communications skills (listening, speaking, reading, writing, perceiving) and human relations skills that promote human worth, dignity, and ethnic understanding.
- Skills in assessing and evaluating the affective, cognitive, and performance needs of students and the ability to implement materials and methods of instruction, which can be used by students with different abilities, interests, learning styles, personality characteristics, and ethnic backgrounds.
- Understanding of the world of work and the process by which students identify the relationship between dimensions of self (heredity, interest, values) and future (potential) work roles.
- Ability to work effectively with parents, paraprofessionals, other professional personnel, and community groups in developing a sound instructional program for all students.
- Ability to participate effectively in professional, political, and service groups concerned with the solution of contemporary professional, social, political, and economic problems.

Intergroup Education

The State Board of Education "... encourages all school districts in the Commonwealth to provide a long-range program of intergroup and human relations education designed to improve each pupil's knowledge of and sensitivity to the social groups that make up our pluralistic society. In addition, the board requires all teacher education institutions provide similar instruction for all prospective teachers."

The faculty and administration of the College of Education and Human Services at Shippensburg University firmly support the position teachers must be knowledgeable about the societal issues created by cultural pluralism and skilled in working with multi-ethnic groups. As a result, students in the teacher education curriculum are expected to build into their academic programs opportunities to learn about cultural diversity in the United States and the world and to plan supplementary field and work experiences to develop the skills needed to work with culturally mixed groups.

Students are required to take at least one three-credit course which is devoted primarily to the study of some aspect of Africa, Asia, Latin America, the Middle East, or the non-white peoples of North America and which incorporates a diversity of perspectives on culture. Such a course is intended to extend the students' informational background and develop sensitivity to cultural differences. If properly planned, the course(s) selected could be fitted into the general education requirement each student must complete.

Suitable field experiences in education and summer work experiences should be used to supplement such course work.

Secondary Education Curriculum

The College of Education and Human Services provides programs for the preparation of teachers in the secondary schools in cooperation with the College of Arts and Sciences. Policies and guidelines for teacher education programs are developed by an all-university Teacher Education Council. Here, representatives from all colleges concerned with teacher preparation work together to develop integrated training programs involving total university participation.

The secondary student's program is cooperatively planned and supervised by the College of Education and Human Services and by the college of the student's academic major. The faculty advisor is assigned from the student's major field. The student must meet graduation requirements and the requirements for admission, retention, and graduation in a teacher certification program as specified by the College of Education and Human Services and by the college of his/her major. Faculty from academic departments assigned to teach secondary professional education courses and supervise student teachers must have the approval of the dean of the College of Education and Human Services.

A student in the secondary education curriculum is educated in depth in at least one area of knowledge which he/she is then licensed to teach. This area of concentrated study is supplemented with studies in related fields which are selected with advisement. Through consultation with advisors and the department chair, students are responsible for choosing the proper course combinations to qualify them for admission to professional standing, admission to student teaching, and for graduation and Instructional Level I certification.

The Pennsylvania Department of Education requires a 3.0 quality point average must be maintained throughout a student teacher's preparation program. The PDE requires a 3.0 quality point average for certification candidates. Additional requirements for majors in secondary educational fields may be found in the curricular material of the separate colleges indicated as follows:

Arts and Sciences

Biology
Chemistry
Earth and Space Science
English
French
Mathematics
Physics
Social Studies-Geography
Social Studies-History
Spanish

Interdisciplinary Additional Certifications

Environmental Education
General Science

Required Professional Education Courses

Required Courses

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- Required field experience see advisor
- Methods I and II courses
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
-

Required Field Experiences

Field service hours are an integral part of our teacher preparation programs. It is the responsibility of students to work with academic advisors to fulfill requirements for all field experiences. Stage One field experiences begin during freshman and/or sophomore years. Foundational courses in all programs include observation strategies and protocol for working in school districts. Several education courses require observation hours. Students observe, tutor, and assist teachers in assigned schools.

Students apply for Professional Standing during junior and senior years. To achieve Professional Standing, students must maintain a 3.0 QPA, complete Stage One field work, pass Praxis I basic skill assessments, have the recommendation of academic advisors, and apply to become a teacher candidate. Once Professional Standing is achieved, students begin Stage Two field placements. During Stage Two field work, students plan lessons and units, co-teach classes, and have more intensive classroom involvement.

Stage Three field experience is student teaching, which is 16 weeks in classrooms. To enter student teaching, students must complete all teacher preparation program requirements as well as pass all Praxis exams.

Assignments for student teaching are completed with the approval of the Director of Field Services for the College of Education and Human Services. Students attend a Student Teaching Application meeting held in October of each year. Students apply one academic year prior to when they plan to student teach. Prerequisites for student teaching are published by the Office of Field Services, are available in departmental offices, and listed on the website www.ship.edu/COEHS/Field_Services/Office_of_Field_Services. Graduates of other universities or others desiring certification or international student teaching and others who need special assignments must contact the Office of Field Services (717-477-1487) to schedule an appointment for program planning and approval by the dean and/or associate dean of the College of Education and Human Services.

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Criminal Justice Department

The mission of the Criminal Justice Department is to provide current and future criminal justice professionals with a comprehensive background and skillset that will enable them to think critically about crime and justice and to be effective decision makers in the criminal justice field. The faculty strives to educate students to be critical thinkers who can communicate their thoughts effectively in an oral and written form, as well as to instill a comprehensive knowledge of the criminal justice system.

These objectives are achieved through a balanced approach in which both theoretical and practical issues of application are addressed. The curriculum is guided by the following needs: comprehensive knowledge of the field of criminal justice (both theoretical and practical), critical analysis, effective communication (oral and written), exposure to human and cultural diversity issues, ethical problem solving, and technology.

Criminal Justice Features

The department is committed to developing and maintaining a curriculum that reflects the changing market forces behind the criminal justice system. The curriculum consists of 21 core credits, 21 criminal justice elective credits, a 3-credit capstone course, and 15 interdisciplinary course credits. Students are required to achieve a grade of C or above in all criminal justice courses.

Students are strongly encouraged to take advantage of the opportunity to participate in internships with government agencies, non-profit organizations, and private criminal justice enterprises. Internships provide an excellent opportunity for the practical application of skills and knowledge obtained in the classroom. Internships are a valuable career-building tool that enhance a student's resume and demonstrate field experience. A maximum of 12 internship credits may be used to fulfill degree requirements. Internships are available in the summer and during the academic year. To be eligible for an internship, the student must have completed 60 credits and have a minimum 2.0 QPA. The student is responsible for obtaining the required clearances; Pennsylvania State Police Background Check (ACT 34), Child Abuse Clearance (ACT 151), and proof of liability insurance are required before the internship will be approved by the Department Chair. Students whose internship has been approved will be scheduled by the department.

Criminal Justice Academic Advisement

Students are encouraged to work with their faculty advisors throughout their educational process. Faculty members offer both academic and career advising. Faculty advisement and support goes beyond the scope of scheduling courses. Students can access their advisor's information by logging into the myShip web portal; advisement information is posted under the My Academics menu.

Criminal Justice Career Possibilities

Completion of this strong and diversified program will enhance the student's chances for employment and advancement in both public and private organizations within the criminal and juvenile justice system. Criminal justice majors are eagerly recruited by a wide range of public and private sector organizations whose focus is the detection, reduction and correction of criminal behavior. These agencies exist at the local, state, and federal level and are constantly searching for individuals with the communication and analytical skills developed by this comprehensive criminal justice curriculum. Students frequently begin their criminal justice careers with local police departments, courts, or correctional institutions and advance to the state or federal level as they gain experience. For further information, contact the department at crimjust@ship.edu or visit www.ship.edu/Criminal_Justice.

Bachelor of Science

Criminal Justice, B.S.

(60 crs.)

Required Core (21 crs.)

- CRJ 100 - Introduction to Criminal Justice Credits: 3
- CRJ 211 - Criminal Law and Procedure Credits: 3
- CRJ 221 - Policing a Democracy Credits: 3
- CRJ 241 - Survey of Corrections Credits: 3
- CRJ 309 - Theories of Crime and Crime Control Credits: 3
- CRJ 310 - Research Methods Credits: 3
- CRJ 452 - Race, Ethnicity, and Crime Credits: 3

Criminal Justice Electives (21 crs.)

- CRJ 321 - Criminal Investigation Credits: 3
- CRJ 326 - Victimology: The Victim and the Law Credits: 3
- CRJ 336 - Introduction to Forensic Science Credits: 3
- CRJ 342 - Crime Prevention Credits: 3
- CRJ 345 - Organization & Management of CRJ Agencies Credits: 3
- CRJ 351 - Juvenile Justice Credits: 3
- CRJ 356 - Organized Crime Credits: 3
- CRJ 363 - Intimate Partner Violence Credits: 3
- CRJ 365 - White Collar Crime Credits: 3
- CRJ 370 - Mock Trial Credits: 3
- CRJ 390 - Selected Topics in Criminal Justice Credits: 3
- CRJ 393 - Selected Topics in Criminal Justice Credits: 3
- CRJ 396 - Selected Topics in Criminal Justice Credits: 3
- CRJ 397 - Selected Topics in Criminal Justice Credits: 3
- CRJ 411 - Terrorism Credits: 3
- CRJ 433 - Evidence Law Credits: 3
- CRJ 440 - Community Corrections Credits: 3

- CRJ 456 - Forensic Science: Evidence Analysis Credits: 3
- CRJ 461 - Social Construction of Homicide Credits: 3
- CRJ 463 - Comparative Criminal Justice Credits: 3
- CRJ 464 - Popular Culture, Crime and Justice Credits: 3
- CRJ 466 - Women and Criminal Justice Credits: 3
- CRJ 471 - Internship in Criminal Justice I Credits: 3
- CRJ 472 - Internship in Criminal Justice II Credits: 3
- CRJ 473 - Internship in Criminal Justice III Credits: 3
- CRJ 474 - Internship in Criminal Justice IV Credits: 3
- CRJ 490 - Selected Topics in Criminal Justice Credits: 3
- CRJ 491 - Selected Topics in Criminal Justice Credits: 3

Note:

CRJ 471, CRJ 472, CRJ 473, CRJ 474 Each 3 credit Internship = 120 hours of work

Capstone Course (3 crs.)

- CRJ 454 - Policy, Professionalism, and Ethics Credits: 3

Interdisciplinary Courses (15 crs.)

Students must complete five courses, 200-level or above. Criminal Justice or Military Science courses will not fulfill this requirement.

Required General Education Courses (9 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PSY 101 - General Psychology Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Certificate

Victimology and Victim Services Certificate

12 (crs.)

Required Courses (6 crs.)

- CRJ 326 - Victimology: The Victim and the Law Credits: 3
- CRJ 469 - Victim Treatment and Services Credits: 3

Electives at 300 or 400 level (Select Two) (6 crs.)

Please note these courses have the following 'required core' prerequisites: CRJ 309 & 310 .

- CRJ 342 - Crime Prevention Credits: 3
- CRJ 363 - Intimate Partner Violence Credits: 3
- CRJ 381 - Mental Health in the Criminal Justice System Credits: 3
- CRJ 398 - Selected Topics in Criminal Justice Credits: 3 *
- CRJ 461 - Social Construction of Homicide Credits: 3
- CRJ 466 - Women and Criminal Justice Credits: 3
- CRJ 471 - Internship in Criminal Justice I Credits: 3 *

Note:

* Courses require departmental approval.

Minor

Criminal Justice Minor

A minor in Criminal Justice provides the fundamental exposure necessary to understand the increasing complexity of the criminal justice system. To gain admittance into the Criminal Justice minor, the student must have 2.5 QPA or greater. All Criminal Justice courses must be passed with a grade of C or better. At least one Criminal Justice course must be taken in a face-to-face format: NO EXCEPTIONS. Non-majors are required to choose from the following courses:

18 crs.

Required

- CRJ 100 - Introduction to Criminal Justice Credits: 3

Complete two of the following courses at the 200 level:

- CRJ 211 - Criminal Law and Procedure Credits: 3
- CRJ 221 - Policing a Democracy Credits: 3
- CRJ 241 - Survey of Corrections Credits: 3

Required 300 level course:

- CRJ 309 - Theories of Crime and Crime Control Credits: 3

**Complete two additional CRJ elective courses at the 300-400 level
(excludes Internships)**

Note:

CRJ 100, CRJ 211, CRJ 221, and CRJ 241 can be offered as summer online course.

Educational Leadership and Special Education Department

The Department of Educational Leadership and Special Education promotes an education system that prepares professionals to meet the needs of students in a rapidly changing and diverse society. By maintaining close contact with constituents, alliances are constantly expanding with local school districts and other community agencies that seek to meet the education needs of individuals with disabilities. It is through many of these efforts, as well as collaborative training programs that the programs seek to improve educational services for all students by providing information dissemination, technical assistance, and professional services to local school districts and community agencies.

The special education programs at Shippensburg University are continually being evaluated to insure the education of professionals using a "best practices" model. The programs in special education are committed to preparing skilled and knowledgeable professionals to work in a variety of settings that serve the needs of students with disabilities in the least restrictive educational and societal environment.

Students who wish to obtain certification in special education have two options:

1. Enroll in the Dual Special Education/PreK-4 major. This option provides the opportunity to qualify for teacher certification in two areas - PreK-4 Early Childhood and PreK-8 Special Education.
2. Complete a PreK-4, 4-8, or Secondary Content area with teacher certification (e.g., English, Mathematics, Social Studies, or Science) and then enroll in the Masters of Special Education program to qualify to apply for certification in special education.

Exercise Science Department

Exercise science involves the study of physical activity and how the body responds. The field is comprised of various subdisciplines including exercise physiology, biomechanics, motor behavior, and the psychology of physical activity. Students interested in the Exercise Science major should have a strong background in the sciences including biology, mathematics, chemistry, and physics.

Exercise scientists rely on scientific principles in these areas to advance their understanding of how the body responds to exercise and to advocate physical activity to prevent diseases such as diabetes and heart disease.

Exercise Science Career Possibilities

Traditionally, exercise scientists have focused on enhancing athletic performance. Currently, exercise scientists also work and study in commercial, clinical, and workplace settings to increase health, fitness, and quality of life of the general population.

Employment opportunities include, but are not limited to, wellness program coordinators, cardiopulmonary rehabilitation specialist, group exercise instructor, biomechanist, exercise physiologist, corporate or recreational fitness director, certified personal trainer, certified strength and conditioning coach, exercise test technologist, sales or marketing of medical/fitness equipment, pharmaceuticals sales, geriatric recreational therapist. The following career paths are additional options for exercise science students, and may require further training and/or education: athletic trainer, dietitian or sports nutritionist, occupational or physical therapist, medical doctor or physician's assistant, nurse, researcher, academician, chiropractor.

Bachelor of Science

Exercise Science, B.S.

Transfer students, both internal and external, are selected for admission based on the following criteria:

- Academic proficiency in college or university course work, including a 2.75 QPA.
- Completion of 15 credits, including a C or better in BIO 161, BIO 162 or BIO 237
- Selection is competitive and students will be selected from those who fulfill the above requirements.

Exercise Science Requirements (47-53 crs.)

- ESC 244 - Mechanical Analysis of Sports Skills Credits: 3
- ESC 250 - Introduction to Kinesiology Credits: 3
- ESC 321 - Exercise Physiology I Credits: 4
- ESC 333 - Biomechanics Credits: 4
- ESC 340 - Prevention and Care of Athletic Injuries Credits: 3
- ESC 336 - Motor Behavior Credits: 3
- ESC 350 - Nutrition for Sport & Fitness Credits: 3
- ESC 352 - Psychology of Physical Activity Credits: 3
- ESC 420 - Cardiac Rehab and Special Populations Credits: 4
- ESC 421 - Exercise Physiology II Credits: 4
- ESC 422 - Exercise Testing and Prescription Credits: 3
- ESC 424 - Internship Credits: 6-12
- Electives: Credits: 6-12 (Depending on Internship)

Required General Education Courses

Students must complete the following courses as part of their general education requirements:

- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- CHM 105 - An Observational Approach Credits: 3
OR
- CHM 121 - Chemical Bonding Credits: 3 *and*
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- MAT 117 - Applied Statistics Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PSY 101 - General Psychology Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3
OR
- WST 100 - Introduction to Women's and Gender Studies Credits: 3

Please Note:

Students taking CHM 121 will need to complete CHM 125 as an elective choice. Students taking PHY 121 will need to complete PHY 123 as an elective choice.

Note:

All students are required to acquire certification by attending an American Red Cross (ARC) or American Heart Association (AHA) or National Safety Council (NSC) workshop at the students' expense. All students doing an internship must hold current certifications (at the students' expense): First aid, CPR certification, child abuse; criminal record, TB test, and proof of insurance liability.

Students are required to achieve a grade of C or above in all Exercise Science courses.

All students are required to take one certification examination at the student's expense. This examination must be completed before the student's diploma may be released. These include:

1. American College of Sports Medicine Certified Health Fitness Specialist exam (ACSM-HFS), or
2. American College of Sports Medicine Certified Personal Trainer exam (ACSM-CPT), or
3. National Strength and Conditioning Association Certified Personal Trainer (NSCA-CPT) exam, or
4. National Strength and Conditioning Association Certified Strength and Conditioning Specialist (NSCA-CSCS) exam.

Certificate

Power, Agility, and Group Exercise (PAGE) Certificate

Exercise Science Majors in PAGE Certificate (10 crs.)

- ESC 321 - Exercise Physiology I Credits: 4
- ESC 348 - Group Exercise Techniques & Leadership Credits: 3
- ESC 387 - Theory and Practice of Power and Agility Training Credits: 3

Non-Exercise Science Majors in PAGE Certificate (9 crs.)

- ESC 243 - Physiological Basis of Sport Credits: 3
- ESC 348 - Group Exercise Techniques & Leadership Credits: 3
- ESC 387 - Theory and Practice of Power and Agility Training Credits: 3

Minor

Coaching Minor

The coaching minor prepares coaches to work with athletic teams in youth sports, junior or senior high school sports, or in recreational sports settings.

The coaching minor prepares students to coach after school and to be employed by school districts as a coach. However it does not prepare teachers to teach physical education classes in a school setting. Many Shippensburg University students enroll in the coaching minor to supplement their chosen major. For example, Elementary Education majors who minor in coaching are trained to teach during the day and coach after school. Secondary Education majors also

select the coaching minor for the same reason. Biology majors who select the coaching minor have gone on to graduate school to study exercise physiology after graduation from Shippensburg University. Psychology majors with a Coaching minor have gone on to graduate school in sport psychology. Business majors with the coaching minor have gone on to graduate school in sport management and marketing. The coaching minor can be a stepping stone to many career options.

Students are required to achieve a grade of C or better in all Coaching minor courses.

Education majors who student teach during their senior year are encouraged to declare the minor early.

Coaching Requirements - (18 crs.)

Required Courses

- ESC 243 - Physiological Basis of Sport Credits: 3
- ESC 244 - Mechanical Analysis of Sports Skills Credits: 3
- ESC 325 - Sport Psychology Credits: 3
- ESC 340 - Prevention and Care of Athletic Injuries Credits: 3
- ESC 400 - Methods of Coaching Credits: 3

Electives (Select One): (3 crs.)

- ESC 207 - Stress Management Credits: 3
- ESC 213 - Organization and Administration for Fitness and Sport Facilities Credits: 3
- ESC 387 - Theory and Practice of Power and Agility Training Credits: 3
- SOC 275 - Sociology of Sport and Leisure Credits: 3

Exercise Science Minor

The Exercise Science minor is designed to provide students with content from a breadth of disciplines in the exercise science field. The minor is ideal for students who are interested in broadening their experience and knowledge base in the study and analysis of principles related to human movement. Students will acquire new information on key domains of the field including exercise physiology, psychological approach to physical activity, acquisition of motor skills, nutrition principles and injury prevention and treatment strategies. Specifically, the minor provides students with an introductory grounding in physiologic principles that help us understand not only how human systems respond to exercise stress, but also how the body changes with chronic exercise stress. Students also benefit from applied learning experiences in all classes. Such opportunities allow students to apply course principles and to develop new skills.

Students are required to achieve a grade of C or above in all Exercise Science minor courses.

Students must have a 2.5 or better overall GPA, C or better in Biology, and C or better in PSY 101 for admission.

Course Requirements (18 crs.)

Prerequisites

- BIO 150 - Human Biology Credits: 3

- PSY 101 - General Psychology Credits: 3

Required

- ESC 243 - Physiological Basis of Sport Credits: 3
- ESC 244 - Mechanical Analysis of Sports Skills Credits: 3
- ESC 250 - Introduction to Kinesiology Credits: 3
- ESC 352 - Psychology of Physical Activity Credits: 3

Two of the three following:

- ESC 336 - Motor Behavior Credits: 3
- ESC 340 - Prevention and Care of Athletic Injuries Credits: 3
- ESC 348 - Group Exercise Techniques & Leadership Credits: 3
- ESC 350 - Nutrition for Sport & Fitness Credits: 3

Military Science Department

Army Reserve Officers Training Corps (ROTC)

Army ROTC is a program which combines courses in military science with summer training opportunities to transform students into U.S. Army officers. Upon successful completion of the program and graduation, cadets are awarded a commission as a second lieutenant in either the U.S. Army, the Army National Guard, or the U.S. Army Reserve.

Scholarships

Army ROTC scholarships are offered for two, three, and four years. The four-year scholarships are awarded on a worldwide competitive basis to U.S. citizens who will be entering an institution as a freshman. Military science-enrolled or non-enrolled students may compete for three-year (starts in sophomore year) and two-year (starts in junior year) scholarships. Recipients receive full tuition, academic fees, book and supply expenses (not room and board), and a monthly stipend. Scholarship recipients incur a service commitment for active or reserve forces duty.

Financial Assistance

Books and equipment for military science courses and the ROTC program are provided free of charge to all students. All juniors and seniors in the ROTC program (advanced course) and scholarship cadets are paid a tax-free stipend and receive other benefits.

Academic Advisement

Students are encouraged to contact the Department of Military Science for information concerning the ROTC program. The military science department is available to discuss the program with interested students at 717-477-1782.

The Four-Year Program

The Four-Year Army ROTC program is divided into two parts called the basic course and the advanced course.

The basic course (MIL 131/ MIL 132 and MIL 231/ MIL 232) is usually taken during the first two years of college and covers such subjects as customs, traditions and organizations of the service, national defense, military history, and leadership development. In addition, a variety of outside social and professional enrichment activities are available. ROTC textbooks, uniforms, and other essential materials for the basic course are furnished to students at no cost. After they have completed the basic course, students who have demonstrated the potential to become an officer and who have met the physical and scholastic standards are eligible to enroll in the advanced course. There is no military obligation incurred by students completing the basic course.

The advanced course (MIL 331/ MIL 332 and MIL 350/ MIL 351) is usually taken during the final two years of college. It includes instruction in management, tactics, ethics, and professionalism, and further leadership development. Textbooks and uniforms in the advanced course are also furnished to students at no cost.

During the summer between their junior and senior years of college, advanced course cadets attend a paid four-week training session called the Leader Development Assessment Course (LDAC) at Fort Lewis, Washington. LDAC provides cadets the chance to practice what they've learned in the classroom and introduces them to Army life in a field environment.

Students may utilize up to the maximum number of credits in the core curriculum received through completions of Military Science (ROTC) classes as free electives which are credited towards graduation. All credits are computed into QPA and overall credits completed.

The Two-Year Program

The Two-Year program is designed for junior and community college graduates, students at four-year colleges who did not take ROTC during their first two years and students entering a two-year postgraduate course of study.

To enter the Two-Year program, students must first attend the paid four-week Leader's Training Course, held during the summer between their sophomore and junior years of college. At LTC, students learn to challenge themselves physically and mentally and to build their confidence and self-respect.

After they have successfully completed LTC, students who meet all the necessary enrollment requirements are enrolled in the advanced course.

Leaders Training Course (LTC) Practicum

The Military Science Leadership Practicum is a paid, four-week course conducted at Fort Knox, Kentucky, during the summer. It is designed primarily for junior and community college graduates entering Shippensburg University seeking hands-on experiences in the U.S. Army.

The practicum prepares students for 300-level military science courses, but there is no obligation to continue in military science for attending the practicum. Students who successfully complete the leadership practicum may continue on in the advanced ROTC program. Exceptional performance during this program may qualify the student for a scholarship. Participants receive room, board, travel expenses, medical care, and are paid approximately \$700 for the four-week period.

Leader Development Assessment Course (LDAC) Practicum

The four-week summer training program, conducted at Fort Lewis, Washington, stresses the application of military skills to rapidly changing situations. Participants are evaluated on their ability to make sound decisions, to direct team efforts toward the accomplishment of common goals, and to meet mental and physical challenges. Completion of this practicum is required prior to commissioning and is normally attended between the junior and senior years. Participants receive room, board, travel expenses, medical care, and are paid approximately \$700 for the four-week period.

Military Science Career Possibilities

Individuals who complete the ROTC program earn a commission as a Second Lieutenant upon graduation and serve in the active Army or Reserve components.

In addition to the core requirements, cadets must complete a course in military history. Students are also encouraged to better enhance their education in courses such as anthropology, written communication, human behavior, management, and international studies.

Minor

Military Science Minor

The Military Science Minor enhances students' individual leadership skills and prepares them for future leadership opportunities across a broad range of disciplines. This minor can be complete by all students at the University, whether they choose to serve in the military or not. Outcomes and objectives of the Minor Program center around Leadership, the Army Profession, Professional Competence, Adaptability, Teamwork, Lifelong Learning, and Comprehensive Fitness.

For the students that take four years of Military Science, the minor codifies the coursework they are already completing. For the student that does not desire to serve in the Army, the minor is flexible enough to allow students to choose interdisciplinary coursework while still achieving the minor's outcomes and objectives. This path allows the student to pursue a diverse program that incorporates military history, ethics, public administration, and the use of the military as an instrument of national power. While the Military Science classes are taught through a military lens, the components of adaptability, teamwork, comprehensive fitness, leadership, and critical thinking are interdisciplinary and applicable regardless of a student's chosen future career path.

All students that graduate the four-year ROTC program will receive commissions into the United States Army as second lieutenants. Clearly the program benefits these students through their military career. Students that choose to take the minor but not the commission into the Army not only learn similar skills, but codify for future employers their academic endeavors that relate to a plethora of state and federal agencies.

18-20 (crs.)

Required Courses (8 crs.)

- MIL 131 - Military Science I (2 crs.) Credits: 2
- MIL 132 - Military Science I Credits: 2
- MIL 231 - Military Science II Credits: 2
- MIL 232 - Military Science II Credits: 2

Electives (Select One) (2-3 crs.)

- MIL 331 - Military Science III Credits: 2 *
- MIL 332 - Military Science III Credits: 2 *
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 342 - American Foreign Policy Credits: 3

Electives (Select One): (3 crs.)

- HIS 345 - Military History of the United States Credits: 3
- HIS 352 - The US and Vietnam Credits: 3
- MIL 350 - Military Science IV Credits: 3 *
- MIL 351 - Military Science IV Credits: 3 *
- PHL 230 - The Ethics of War and Terrorism Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 371 - Public Management Credits: 3

Electives (Select Two) (5-6 crs.)

Remaining credits can be selected from any of the above required courses not fulfilling a prior area.

- HIS 342 - U.S. Immigration and Ethnicity Credits: 3
- HIS 352 - The US and Vietnam Credits: 3
- MIL 331 - Military Science III Credits: 2 *
- MIL 332 - Military Science III Credits: 2 *
- MIL 350 - Military Science IV Credits: 3 *
- MIL 351 - Military Science IV Credits: 3 *
- PHL 230 - The Ethics of War and Terrorism Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 371 - Public Management Credits: 3

Note:

* Students that do not intend to contract with the US Army may only take these courses with Departmental Approval.

Two elective courses, for a total of 6 credits, must be at the 300 or 400 level.

Other Degrees

ROTC Program

Program Requirements

Basic Program

- MIL 131 - Military Science I (2 crs.) Credits: 2

- MIL 132 - Military Science I Credits: 2
- MIL 231 - Military Science II Credits: 2
- MIL 232 - Military Science II Credits: 2
- or
- Prior Military Service up to 4 or more crs
- or
- Leaders Training Course

Advanced Program

- MIL 331 - Military Science III Credits: 2
- MIL 332 - Military Science III Credits: 2
- Leadership Development and Assessment Course
- MIL 350 - Military Science IV Credits: 3
- MIL 351 - Military Science IV Credits: 3

Additional Advanced Course Requirements

In addition to the core requirements, cadets must complete a course in military history. Students are also encouraged to better enhance their education in courses such as anthropology, written communication, human behavior, management, and international studies.

Social Work/Gerontology Department

The social work program prepares students for professional entry-level social work practice. Accredited by the Council on Social Work Education (CSWE), the curriculum builds on a firm liberal arts foundation to develop a broad-based approach for understanding and working with people in a variety of ways.

Social work is a dynamic profession that strives to respond to human needs in an ever-changing world. The profession can be characterized by its diversity-diversity of clientele, diversity of knowledge and skill base, diversity of career opportunities, and diversity as a value base for respect of people's differences. The professional value base of empowerment, access to opportunity, and social justice is evident throughout the program objectives.

Students interested in pursuing a social work major should consult with the BSW Program Director and declare the major as soon as possible. There are two levels of admission into the major. The first is a pre-professional standing. The second level is a professional standing and will only be granted after students successfully complete a formal admission process.

Professional standing will require a minimum overall quality point average of 2.50 and 40 hours of volunteer service. Admission procedures are fully described in the social work student handbook.

The program is organized by competencies that are integrated throughout the curriculum. Whereas the liberal arts foundation sets the stage for critical thinking and the abilities to draw knowledge about the human condition from a wide variety of disciplines, the social work-specific curriculum builds upon the foundation in a sequence of courses designed to prepare the entry-level social worker for practice. Social work courses blend theoretical and practical components throughout the plan of study. In the senior year, students have a field practicum (agency-based) which is coordinated by a faculty person. This capstone experience is designed to integrate theory and practice with agency-based instruction and a concurrent seminar course.

During the educational experience as a social work major, a student can expect to develop a professional identity based on the values and ethics of the profession. Themes of development throughout the program are: self awareness, interactional skill competencies, critical thinking abilities using problem-solving theory, understanding of human behavior from a system/ecological framework, appreciation of diversity, commitment to social justice, and the generalist competencies to work across systems, i.e., individuals, families, groups, organizations, and communities.

Bachelor of Social Work

Social Work, B.S.W.

The baccalaureate social work degree is the first level of professional education for entry into the social work profession. Thus, the goal of our social work program is to build on the liberal arts perspective and integrate the knowledge, values, and skills for competent generalist entry-level practice. The program curriculum is designed around core competencies and practice behaviors.

The program operates as a community. We have a student resource room and student organizations which provide a wide variety of extracurricular opportunities. For example: volunteer work, programs about practice opportunities, social activities, trips to state and national conferences, and networking.

Academic Advisement

Students are encouraged to work with their advisors throughout their educational process. The faculty offer extended advising and support. Regular review of students' progress is completed by the faculty during the professional development review which is conducted each semester.

Career Opportunities

Upon graduation, an entry-level generalist social worker will possess the professional judgment and proficiency to apply differentially, with supervision, the common professional foundation to serve people in systems of various sizes and types. Social work offers many career opportunities in diverse fields such as health, child welfare and domestic violence, aging, developmental disabilities, substance abuse, and behavioral health to name a few. A graduate will have special skills for delivering services to clients, which include the development and provision of resources on client's behalf through organizational and community work. The graduate will be prepared with a breadth and depth of analytical and interactional skills for beginning work with individuals, families, groups, organizations, and communities. The program's objective is to prepare students in these learning areas at a level that maintains accreditation by the Council on Social Work Education (CSWE) and is evaluated by employers and graduate programs as an excellent foundation for both entry-level practice and future career development. This task requires a program and curriculum designed to enable each student to develop the values, knowledge and self-awareness skills as reflected in our stated educational competencies.

Required Courses (55 crs.)

** Students must earn a C or higher in Social Work courses in order for them to count as prerequisites and towards program completion. All courses are 3 credits unless otherwise specified.*

- SWK 102 - Social Work in Social Welfare Credits: 3
- SWK 150 - Human Relations Lab Credits: 3

- SWK 250 - Assessing Individuals in the Social Environment Credits: 3
- SWK 265 - Understanding Diversity for Social Work Practice Credits: 3
- SWK 270 - Social Work Practice with Individuals Credits: 3
- SWK 375 - Social Work Skills for Working with Groups Credits: 3
- SWK 327 - Social Work Practice with Families Credits: 3
- SWK 340 - Assessing Organizations and Communities in Society Credits: 3
- SWK 360 - Research Techniques for Social Workers Credits: 3
- SWK 370 - Social Work Practice with Organizations and Communities Credits: 3
- SWK 420 - Gender Issues for Helping Professionals Credits: 3
- SWK 450 - Social Welfare Policies and Services Credits: 3
- SWK 388 - Preparation for Practicum Credits: 1
- SWK 462 - Seminar in Social Work Methods Credits: 3 **
- SWK 460 - Field Work in Social Work I Credits: 6 **
- SWK 461 - Field Work in Social Work II Credits: 6 **

Note:

**Note: During this course students must apply for professional standing, students who transfer in this course must apply during their first semester. These procedures and criteria are described in the student handbook.*

***Note: Field work in social work and the Seminar in Social Work Methods are taken for 15 credit hours with no additional course work during the last semester in the senior year. Students must have earned a C or better in all required social work courses and full faculty approval before they are eligible for field work and Seminar in Social Work Methods.*

Social Work Electives (3 crs.)

One of the following courses is required:

- SWK 262 - Social Work Elective: Introduction to Child Welfare Practice Credits: 3
- SWK 347 - Special Fields of Social Work: Behavioral Health Credits: 3
- SWK 348 - Special Fields of Social Work: Substance Abuse Credits: 3
- SWK 351 - Social Work Elective: Aging Credits: 3
- SWK 356 - Social Work Elective: Intellectual and Developmental Disabilities Credits: 3
- SWK 357 - Special Fields of Social Work: Health Care Credits: 3
- SWK 358 - Special Fields of Social Work: Schools Credits: 3
- SWK 359 - Social Work Elective: Violence in Interpersonal Relationships Credits: 3
- SWK 383 - Selected Topics in Social Welfare Credits: 1-3
- SWK 490 - Selected Topics in Social Welfare Credits: 1-3

Allied Fields (15-16 crs.)

Students majoring in social work must take the following courses in allied fields which may also meet general education requirements.

- PSY 101 - General Psychology Credits: 3
- BIO 150 - Human Biology Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

- PLS 100 - U.S. Government and Politics Credits: 3
- MAT 117 - Applied Statistics Credits: 3

Minor

Gerontology Minor

Gerontology is the interdisciplinary study of the aging process, older adults, and issues important to those in later life. Our undergraduate gerontology minor is designed to provide you with the necessary knowledge, skills, and abilities to better serve our rapidly growing older population. Through required course work, electives in your personal area of interest, applied experiences, research opportunities and volunteer activities, you will gain a firm understanding of aging-related issues that can be applied to your major field of study.

Because our older adult population is growing at an astounding rate, it is highly likely you will encounter older people, regardless of your chosen profession. For example, those interested in working with older adults (e.g., psychologists, social workers, physicians, health services professionals), those who want to design products that can be useful to older people (e.g., financial planners, computer software/hardware engineers) or those who are concerned about issues that impact later adulthood (e.g., lawyers, political scientists, sociologists) should all consider enrolling in the gerontology minor. Knowledge about aging can make you a better professional and will signal employers you have what it takes to better serve the needs and interests of this group.

18 crs.

Core Requirements (6 crs.)

To gain a foundation in aging knowledge and service, all students are required to complete the following courses:

- GRN 100 - Introduction to Gerontology Credits: 3
- GRN 301 - Gerontology Internship Credits: 3

Approved Electives (12 crs.)

To fulfill the remainder of the minor requirements, students are encouraged to take elective courses that match their personal and professional areas of interest. These include:

- COM 245 - Diversity and the Media Credits: 3
- DS 100 - Introduction to Disability Studies Credits: 3
- ECO 317 - Health Economics Credits: 3
- ESC 200 - Lifestyle Management Credits: 3
- ESC 250 - Introduction to Kinesiology Credits: 3
- ESC 352 - Psychology of Physical Activity Credits: 3
- GRN 303 - Gerontology Internship II Credits: 3
- GRN 391 - Selected Topics in Gerontology Credits: 1-3
- GRN 491 - Advanced Selected Topics in Gerontology Credits: 1-3
- PSY 352 - Adulthood and Aging Credits: 3
- PSY 420 - Health Psychology Credits: 3
- PSY 435 - Psychopharmacology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3

- SOC 320 - Sociology of Disability Credits: 3
- SOC 344 - Sociology of Death Credits: 3
- SOC 369 - Medical Sociology Credits: 3
- SOC 371 - Social Dynamics of Aging Credits: 3
- SOC 445 - Sexuality and Sexual Orientation: A Social Approach Credits: 3
- SWK 351 - Social Work Elective: Aging Credits: 3
- SWK 356 - Social Work Elective: Intellectual and Developmental Disabilities Credits: 3
- SWK 357 - Special Fields of Social Work: Health Care Credits: 3
- SWK 383 - Selected Topics in Social Welfare Credits: 1-3
- SWK 420 - Gender Issues for Helping Professionals Credits: 3
- SWK 450 - Social Welfare Policies and Services Credits: 3

Note:

Selected Topics with an aging theme or significant aging content from any department may count towards the gerontology minor. Contact the director for approval.

ESC 352 has a prerequisite of PSY 101 and ESC 250

GRN 391 may be repeated.

Teacher Education Department

Each of the teacher education curriculums at Shippensburg is a four year program requiring at least 120 credit hours leading to the degree of Bachelor of Science in Education for either Early Childhood/Elementary Education: PK-4 or Elementary/Middle Level Education: Grades 4-8. There is also the option to enroll in a Special Education PK-4 Dual option which leads to certification in both ECH Elementary PK-4 Education and Special Education. Successful completion of one of these programs of study qualifies the graduate for a variety of professional employment possibilities. The basic program qualifies the student to apply for a teaching certificate, making the graduate eligible for employment at either the Early Childhood/Elementary Education: PK-4 or Elementary/Middle Level Education: Grades 4-8 levels. Students who choose the Elementary/Middle Level Education: Grades 4-8 program will choose either a single or double area in which they will be certified to teach. A certification to teach environmental education (K-12) is given to those students completing the environmental education concentration. Some certification options may require more than 120 credits as well as have prerequisite courses that may need to be completed.

Students experience a standards-based curriculum that provides them with the knowledge, skills and dispositions to become reflective educators. Underlying all of their course work is a common theme that centers upon applying research, best practice, the integration of technology, and ongoing assessment to make informed decisions about the ways to best meet the individualized needs of their students. Effective communication skills, the ability to collaborate with others, active learning, a respect for diversity, and professionalism are the hallmarks of their classwork and field experiences.

Students share in the broad programs of general education provided for all students at the university, including courses in the humanities, natural sciences, and social sciences.

Admission Requirements

Students admitted to either the Early Childhood/Elementary Education: PK-4 or Elementary/Middle Level Education: Grades 4-8 education programs are expected to maintain an adjusted quality point average of at least a 3.0. In

conjunction with the approved QPA, the department requires that a grade of C or higher must be obtained in each course listed on the approved planning sheet.

Faculty periodically review students' social and academic progress and make recommendations for appropriate supportive actions if needed.

To be admitted into Professional Standing, a student must have attained or exceeded the cut scores on the approved basic skills test (PAPA - Pre-service Academic Performance Assessment). The cost of the testing program is paid by the individual student. In addition, the student must have met the approved writing competencies, achieved a minimum of a C grade in all courses required by the department, and achieved an overall quality point average of at least 3.0. All courses listed on the program planning sheet are the courses required by the department.

A student transferring into the program from another program on campus must have a 3.0 quality point average. A student transferring into the program from another institution of higher education must have a 3.0 quality point average. Please note that some programs have limited availability due to course offerings. Student applications will be evaluated and ranked for consideration. It is possible that even if a student meets the requirements, they may not be able to enter a desired program due to limited space.

Bachelor of Science in Education

Early Childhood/Elementary Education: PK-4, B.S.Ed.

Minimum of 120 credit hours required

Required Courses

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3
OR
- ENG 115 - Advanced Placement Writing Credits: 3

- HCS 100 - Introduction to Human Communication Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- MAT 110 - Fundamentals of Mathematics I Credits: 3
- MAT 111 - Fundamentals of Mathematics II Credits: 3
- PSY 101 - General Psychology Credits: 3

Choose one:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Biology (3 crs.)

Choose one:

- BIO 100 - Basic Biology Credits: 3

- BIO 142 - Introduction to Ecology Credits: 3
- BIO 150 - Human Biology Credits: 3
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 208 - Field Biology Credits: 3
- BIO 242 - Ecology Credits: 3

Physical Sciences (3 crs.)

Choose one:

- PHY 108 - Astronomy Credits: 3
- PHY 110 - Physics for Society Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1 and
- PHY 121 - Introductory Physics I - Lecture Credits: 3
or
- PHY 205 - Intermediate Physics I Credits: 3
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- CHM 121 - Chemical Bonding Credits: 3

Earth Sciences (3 crs.)

Choose one:

- ESS 108 - Conservation of Natural Resources Credits: 3
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3
- BIO 145 - Environmental Biology Credits: 3

*Note:

One course in either biology, physical sciences, or earth sciences must be a lab course. BIO 142, BIO 162 , BIO 208, BIO 242, CHM 105, ESS 110, ESS 111, ESS 210, PHY 121, PHY 205.

Fine Arts (6 crs.)

(Choose 2 from different disciplines)

Discipline 1

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Discipline 2

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3
- THE 121 - Introduction to the Theatre Credits: 3

Political, Geographic and Economic (6 crs.)

(Choose 2 from different disciplines)

Discipline1

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3

Discipline 2

- GEO 101 - World Geography Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Literature Elective (3 crs.)

Choose one:

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Professional Core (60 crs.)

- ECH 210 - The Early Childhood Profession Credits: 3
- ECH 220 - Developmental Science: Physical, Motor, & Health Credits: 3
- ECH 260 - Developmental Science: Cognitive & Language Credits: 3
- ECH 320 - Developmental Science: Social & Emotional Basis for Guiding Children's Behavior Credits: 3
- ECH 333 - Social Studies Methods for PK-4th Grade Credits: 3
- ECH 343 - Mathematics Methods I for PreKindergarten & Kindergarten Credits: 3
- ECH 370 - Assessing Young Children Credits: 3
- ECH 373 - Science and Technology Methods in PK-4 Credits: 3
- ECH 393 - Mathematics Methods II, Grades 2-4 Credits: 2
- ECH 394 - Technology Instruction for Early Childhood Classrooms Credits: 1
- ECH 415 - Professional Practicum in PK-4 Credits: 3
- ECH 440 - Building Family and Community Partnerships Credits: 3
- ECH 453 - Integrated Curriculum Pre K-4 Credits: 3
- ECH 480 - Early Childhood Professional Seminar Credits: 3

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3
- RDG 363 - Reading and Writing in PK-4 Credits: 3
- RDG 383 - English Language Learners in PK-4 Credits: 2
- RDG 443 - Reading Measures and Interventions in PK-4 Credits: 4

Student Teaching Semester

- ECH 489 - Early Childhood Student Teaching Credits: 1-12

Early Childhood/Elementary Education: PK-4, Early Childhood Concentration B.S.Ed.

Required Courses

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- MAT 111 - Fundamentals of Mathematics II Credits: 3

Categories of Knowledge

Category A - Rational Thinking (3 crs.)

- MAT 110 - Fundamentals of Mathematics I Credits: 3

Category B - Literary Artistic and Cultural Traditionals (9 crs.)

Literature (Select one)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3
- Foreign Literature, with advisement

Fine Arts (6 crs.)

(Choose 2 from different disciplines)

Art

(ART 101 recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Music (3 crs.)

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Theatre (3 crs.)

- THE 121 - Introduction to the Theatre Credits: 3

Category C - Laboratory Science (9 crs.)

Select one course from each of the 3 categories. **One** of the 3 courses must have a laboratory component indicated with an asterisk (*).

Biology (3 crs.)

- BIO 100 - Basic Biology Credits: 3
- BIO 142 - Introduction to Ecology Credits: 3 *
- BIO 150 - Human Biology Credits: 3
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4 *
- BIO 208 - Field Biology Credits: 3 *
- BIO 242 - Ecology Credits: 3 *

Earth Science (3 crs.)

- ESS 108 - Conservation of Natural Resources Credits: 3
- ESS 110 - Introduction to Geology Credits: 3 *
- ESS 111 - Introduction to the Atmosphere Credits: 3 *
- ESS 210 - Physical Geology Credits: 3 *
- BIO 145 - Environmental Biology Credits: 3

Physical Sciences (3 crs.)

- PHY 108 - Astronomy Credits: 3
- PHY 110 - Physics for Society Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
and

- PHY 123 - Physics I Laboratory Credits: 1 *
- PHY 205 - Intermediate Physics I Credits: 3 *
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3 *
- CHM 121 - Chemical Bonding Credits: 3

Category D - Political, Geographic and Economic (6 crs.)

(Choose 2 from different disciplines)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- GEO 101 - World Geography Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Category E - Social & Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Choose One of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Professional Core (60 crs.)

- ECH 210 - The Early Childhood Profession Credits: 3
- ECH 220 - Developmental Science: Physical, Motor, & Health Credits: 3
- ECH 260 - Developmental Science: Cognitive & Language Credits: 3
- ECH 320 - Developmental Science: Social & Emotional Basis for Guiding Children's Behavior Credits: 3
- ECH 333 - Social Studies Methods for PK-4th Grade Credits: 3
- ECH 343 - Mathematics Methods I for PreKindergarten & Kindergarten Credits: 3
- ECH 370 - Assessing Young Children Credits: 3
- ECH 373 - Science and Technology Methods in PK-4 Credits: 3
- ECH 393 - Mathematics Methods II, Grades 2-4 Credits: 2
- ECH 394 - Technology Instruction for Early Childhood Classrooms Credits: 1
- ECH 415 - Professional Practicum in PK-4 Credits: 3
- ECH 440 - Building Family and Community Partnerships Credits: 3
- ECH 453 - Integrated Curriculum Pre K-4 Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3
- RDG 363 - Reading and Writing in PK-4 Credits: 3

- RDG 383 - English Language Learners in PK-4 Credits: 2
- RDG 443 - Reading Measures and Interventions in PK-4 Credits: 4
- ECH 340 - Preschool and Kindergarten Curriculum Credits: 3
- ECH 410 - Physical, Motor, and Sensory Development in Early Childhood Credits: 3
- ECH 462 - Practicum in Early Childhood Concentration with Administrative Field Experiences Credits: 3
- ECH 470 - Language Development, Literacy, and Play in Early Childhood Education Credits: 3

Electives (Select One):

- SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3

Elementary/Middle Level Education: Grades 4-8, English/Language Arts Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Area

Language Arts (30 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- ENG 190 - General Education Special Topics Credits: 3 or

- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3 or
- ENG 250 - Introduction to Literature Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 426 - Teaching Adolescent Literature Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 334 - Classroom Based Literacy Assessment Credits: 3
- RDG 340 - Seminar in Literacy Tutoring Credits: 3
- TCH 303 - Books and Materials for Children Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Cognate Areas

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Fine Arts (6 crs.) (Select two from different disciplines)

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meets general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (42 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- RDG 329 - Reading in the Content Areas Credits: 3
- TCH 251 - Elements of Middle Level Instruction Credits: 3
- TCH 322 - Teaching Middle Level Language Arts Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (15 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Math and Language Arts Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Mathematics (20 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 333 - Geometry Credits: 3

English/Language Arts (21 crs.)

- ENG 190 - General Education Special Topics Credits: 3 or
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3 or
- ENG 250 - Introduction to Literature Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 426 - Teaching Adolescent Literature Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 334 - Classroom Based Literacy Assessment Credits: 3

- RDG 340 - Seminar in Literacy Tutoring Credits: 3
- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3

Note:

ENG 190, ENG 248, ENG 250, ENG 114 , ENG 115 meet general education requirements

Cognate Areas

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Writing/Fluency Competencies (3 crs.)

- HCS 100 - Introduction to Human Communication Credits: 3

Note:

HCS 100 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- RDG 329 - Reading in the Content Areas Credits: 3
- TCH 322 - Teaching Middle Level Language Arts Credits: 3
- TCH 342 - Teaching Middle Level Mathematics Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Math and Science Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Mathematics (20 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 333 - Geometry Credits: 3

Note:

MAT 110 , MAT 111 meet general education requirements

Science (22-23 crs.)

- BIO 100 - Basic Biology Credits: 3 or
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

- CHM 105 - An Observational Approach Credits: 3
- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3

- BIO 142 - Introduction to Ecology Credits: 3 or
- BIO 145 - Environmental Biology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Cognate Areas

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 399 - Independent Study Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 399 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 342 - Teaching Middle Level Mathematics Credits: 3
- TCH 366 - Teaching Science at the Middle Level Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Math and Social Studies Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Mathematics (20 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 333 - Geometry Credits: 3

Note:

MAT 110, MAT 111 meet general education requirements

Social Studies (21 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- GEO 101 - World Geography Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Choose One:

- GEO 305 - Geography of Europe Credits: 3
- GEO 308 - Geography of Latin America Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- GEO 415 - Regional Geographic Studies Credits: 3

- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Choose One:

- ECO 345 - The Economics of Growth and Development Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 312 - The American Presidency Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3

Note:

GEO 101, ECO 101, HIS 105, HIS 106 meet general education requirements

Cognate Areas

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, ESS 110 meet general education requirements

Language Arts (12 crs.)

- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3
- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Literature

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meets general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meet general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 342 - Teaching Middle Level Mathematics Credits: 3
- TCH 348 - Teaching Middle Level Social Studies Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Mathematics Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Area

Mathematics (30 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 333 - Geometry Credits: 3

Choose Two of the Following:

- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 326 - Mathematical Modeling Credits: 3
- MAT 400 - History of Mathematics Credits: 3

Cognate Areas

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meets general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 251 - Elements of Middle Level Instruction Credits: 3
- TCH 342 - Teaching Middle Level Mathematics Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Science and English/Language Arts Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Science (22-23 crs.)

- BIO 100 - Basic Biology Credits: 3 or
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- CHM 105 - An Observational Approach Credits: 3
- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3 and
- PHY 123 - Physics I Laboratory Credits: 1
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- BIO 142 - Introduction to Ecology Credits: 3 or
- BIO 145 - Environmental Biology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

English/Language Arts (21 crs.)

- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3 or
- ENG 250 - Introduction to Literature Credits: 3

- ENG 420 - Special Topics in Writing Credits: 3
- ENG 426 - Teaching Adolescent Literature Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 334 - Classroom Based Literacy Assessment Credits: 3
- RDG 340 - Seminar in Literacy Tutoring Credits: 3

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3

Note:

ENG 190 , ENG 248 ENG 250 , ENG 114 , ENG 115 meet general education requirements

Cognate Areas

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3

- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Note:

MAT 110 , MAT 111 meet general education requirements.

Writing/Fluency Competencies (3 crs.)

- HCS 100 - Introduction to Human Communication Credits: 3

Note:

HCS 100 meets general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meets general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- RDG 329 - Reading in the Content Areas Credits: 3
- TCH 322 - Teaching Middle Level Language Arts Credits: 3
- TCH 366 - Teaching Science at the Middle Level Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Science and Social Studies Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Science (22-23 crs.)

- BIO 100 - Basic Biology Credits: 3 or
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

- CHM 105 - An Observational Approach Credits: 3
- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3

- BIO 142 - Introduction to Ecology Credits: 3 or
- BIO 145 - Environmental Biology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Social Studies (21 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- GEO 101 - World Geography Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Choose One:

- GEO 305 - Geography of Europe Credits: 3
- GEO 308 - Geography of Latin America Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- GEO 415 - Regional Geographic Studies Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Choose One:

- ECO 345 - The Economics of Growth and Development Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 312 - The American Presidency Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3

Note:

ECO 101 , GEO 101 , HIS 105 , HIS 106 meet general education requirements

Cognate Areas

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meet general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 348 - Teaching Middle Level Social Studies Credits: 3
- TCH 366 - Teaching Science at the Middle Level Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Science Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Science (31 crs.)

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 208 - Field Biology Credits: 3 or
- BIO 242 - Ecology Credits: 3
- CHM 105 - An Observational Approach Credits: 3

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
or
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3 or
- ESS 220 - Oceanography Credits: 3 or
- ESS 355 - Meteorology Credits: 3 or
- ESS 404 - Applied Meteorology and Climatology Credits: 3

Note:

BIO 161, CHM 105, ESS 110, meet general education requirements

Cognate Areas

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or

- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Additional Coursework

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Art

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

ART 101 is recommended

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meets general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 251 - Elements of Middle Level Instruction Credits: 3
- TCH 366 - Teaching Science at the Middle Level Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Social Studies Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Area

Social Studies (33 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 345 - The Economics of Growth and Development Credits: 3
- GEO 101 - World Geography Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Choose One:

- GEO 305 - Geography of Europe Credits: 3
- GEO 308 - Geography of Latin America Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- GEO 415 - Regional Geographic Studies Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Choose One:

- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3

Choose One:

- HIS 301 - The West in American History Credits: 3
- HIS 302 - American Business History Credits: 3
- HIS 304 - American Diplomatic History Credits: 3
- HIS 305 - The Civil War Era Credits: 3
- HIS 309 - History of the American Worker Credits: 3
- HIS 314 - History of Jacksonian America Credits: 3
- HIS 318 - History of U.S. Women Credits: 3
- HIS 338 - Colonial America Credits: 3
- HIS 341 - African-American History Credits: 3
- HIS 342 - U.S. Immigration and Ethnicity Credits: 3
- HIS 345 - Military History of the United States Credits: 3
- HIS 402 - Revolutionary America Credits: 3
- HIS 413 - Pennsylvania History Credits: 3

Choose One:

- PLS 311 - The Legislative Process Credits: 3
- PLS 312 - The American Presidency Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3

Note:

ECO 101, GEO 101, GEO 140, HIS 105, HIS 106 meet general education requirements

Cognate Areas

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (3 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 251 - Elements of Middle Level Instruction Credits: 3
- TCH 348 - Teaching Middle Level Social Studies Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Special Education and Early Childhood Education, B.S.Ed.

Required Courses (15 cr.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- MAT 111 - Fundamentals of Mathematics II Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Categories of Knowledge

Category A - Rational Thinking

- MAT 110 - Fundamentals of Mathematics I Credits: 3

Category B - Literary Artistic and Cultural Traditionals (9 crs.)

Literature (Select one)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Fine Arts (6 crs.)

Choose 2 from different disciplines

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Category C - Laboratory Science (9 crs.)

Select one course from each of the 3 categories. One of the 3 courses must have a laboratory component indicated with an asterisk (*).

Biology

- BIO 100 - Basic Biology Credits: 3
- BIO 142 - Introduction to Ecology Credits: 3 *
- BIO 150 - Human Biology Credits: 3
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4 *
- BIO 208 - Field Biology Credits: 3 *
- BIO 242 - Ecology Credits: 3 *

Earth Science

- ESS 108 - Conservation of Natural Resources Credits: 3
- ESS 110 - Introduction to Geology Credits: 3 *
- ESS 111 - Introduction to the Atmosphere Credits: 3 *
- ESS 210 - Physical Geology Credits: 3 *
- BIO 145 - Environmental Biology Credits: 3

Physical Sciences

- PHY 108 - Astronomy Credits: 3
- PHY 110 - Physics for Society Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
and
- PHY 123 - Physics I Laboratory Credits: 1 *
- PHY 205 - Intermediate Physics I Credits: 3 *
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3 *
- CHM 121 - Chemical Bonding Credits: 3

Category D - Political, Geographic and Economic (6 crs.)

(Choose 2 from different disciplines)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- GEO 101 - World Geography Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Category E - Social & Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Choose One of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Professional Core (75 cr.)

- ECH 210 - The Early Childhood Profession Credits: 3
- ECH 280 - Physical, Language and Cognitive Development Credits: 3
- ECH 320 - Developmental Science: Social & Emotional Basis for Guiding Children's Behavior Credits: 3

- ECH 333 - Social Studies Methods for PK-4th Grade Credits: 3
- ECH 370 - Assessing Young Children Credits: 3
- ECH 373 - Science and Technology Methods in PK-4 Credits: 3
- ECH 393 - Mathematics Methods II, Grades 2-4 Credits: 2
- ECH 394 - Technology Instruction for Early Childhood Classrooms Credits: 1
- ECH 415 - Professional Practicum in PK-4 Credits: 3
- ECH 440 - Building Family and Community Partnerships Credits: 3
- ECH 453 - Integrated Curriculum Pre K-4 Credits: 3
- ECH 480 - Early Childhood Professional Seminar Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 280 - Best Practices in Collaboration: Educators, Families, & Related Service Providers Credits: 3
- EEC 320 - Interventions for Students with Communication Impairments Credits: 3
- EEC 325 - Interventions for Students with Social/Emotional and Behavioral Impairments Credits: 3
- EEC 330 - Teaching Students with Exceptionalities in a Standards-Aligned System Credits: 3
- EEC 335 - Interventions for Students with Cognitive and/or Physical Impairments Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 447 - Special Education Processes in a Standards Aligned System Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3
- RDG 363 - Reading and Writing in PK-4 Credits: 3
- RDG 383 - English Language Learners in PK-4 Credits: 2
- RDG 443 - Reading Measures and Interventions in PK-4 Credits: 4

Early Childhood/Special Education Student Teaching (12 crs.)

- ECS 489 - Student Teaching and Professional Practicum Credits: 12

Minor

Reading Minor

18 (crs.)

- RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3
- RDG 330 - Content Area Reading in the Primary Grades Credits: 3
- RDG 334 - Classroom Based Literacy Assessment Credits: 3
- RDG 340 - Seminar in Literacy Tutoring Credits: 3
- RDG 345 - Teaching Language Arts in PreK-4 Classroom Credits: 3
- RDG 350 - Text Accessibility and Comprehension in the PK-4 Classroom Credits: 3

Certification

Environmental Education Certification

Shippensburg University offers an approved program in environmental education. The program may be taken by Early Childhood/Elementary Education: PK-4 or Elementary/Middle Level Education: Grades 4-8 as an academic sequence or by secondary education majors in biology or geography/earth science. Secondary students in other fields may enroll in the program with the permission of their department chair.

The environmental education program at Shippensburg is a somewhat structured program, but it also allows for much diversity in the selection of courses for the completion of the requirements for the certification. This certification allows the teacher to teach any subject matter which is labeled as environmental education in any grade from kindergarten through the 12th grade.

To receive the certification a student must complete a minimum of 24 credits from the courses described below. The only course which is required of all students is EDU 410 - Environmental Education Practicum Credits: 3.

The practicum is offered during fall semester of odd numbered years and summers during even numbered years.

The additional 21 credits may be selected in a variety of ways, but a minimum of 12 credits must be selected from a core of courses and nine credits must be selected from courses outside of the student's major field of study. These 21 credits must also be selected from a minimum of three departments of the university and include a statistics course.

24 crs.

Required Course

- EDU 410 - Environmental Education Practicum Credits: 3

Core Courses - 12 crs. minimum

The student must select a minimum of one course from each of the four categories (A-D) below. Additional courses may be counted toward Related Electives.

Category A.

- BIO 142 - Introduction to Ecology Credits: 3
- BIO 242 - Ecology Credits: 3

Category B.

- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Category C.

- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3

Category D.

- BIO 145 - Environmental Biology Credits: 3
- ESS 108 - Conservation of Natural Resources Credits: 3

Related Electives

Any remaining credits must be selected from the courses listed below. It is recommended students take as broad a base of courses as possible if they have a strength in one of the science areas. If an area of strength is not evident, it is recommended the remaining electives be used to establish one.

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 121 - Physical Anthropology Credits: 3
- BIO 205 - Marine Biology Credits: 3
- BIO 220 - Microbiology Credits: 4
- BIO 245 - Marine Ecology Credits: 3
- BIO 362 - Invertebrate Zoology Credits: 3
- BIO 363 - Vertebrate Zoology Credits: 3
- BIO 444 - Conservation Biology Credits: 3
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- ECO 310 - Public Finance Credits: 3
- ECO 340 - Introduction to Regional Economics Credits: 3
- ECO 345 - The Economics of Growth and Development Credits: 3
- ESS 220 - Oceanography Credits: 3
- ESS 355 - Meteorology Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- GEO 103 - Geography of the United States and Canada Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- GEO 203 - Climatology Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 371 - Public Management Credits: 3
- MAT 117 - Applied Statistics Credits: 3

Note:

BIO 205, BIO 245, and BIO 446 are offered at the Marine Science Consortium, Wallops Island, Virginia.

A student should normally indicate interest in receiving the certification early in his/her undergraduate studies. This interest should be communicated to his/her advisor or department chair so a suitable program can be planned which will allow the student to complete the requirements within a normal four-year program. Students and advisors are urged to consult the catalog for any prerequisites for courses above the 100 levels.

Academic Programs and Services

Academic Success Program

Programs of Study

Major

Accounting, B.S.B.A.

The goal of the accounting program is to provide students with the knowledge and skills expected of accountants today for the accomplishment of successful and rewarding careers.

In order to achieve this goal, students are exposed to both theoretical and practical accounting material with appropriate emphasis being given to logical reasoning and communication (written and oral) skills and the study of information systems and international practices.

The undergraduate program for a B.S.B.A. degree in accounting requires the completion of a minimum of 120 semester hours, which includes the satisfactory completion of the following six required courses and one accounting elective:

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3

- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (18 crs.)

- ACC 306 - Tax Accounting Credits: 3
- ACC 310 - Intermediate Accounting I Credits: 3
- ACC 311 - Intermediate Accounting II Credits: 3
- ACC 312 - Cost Determination and Analysis Credits: 3
- ACC 404 - Auditing Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3
Students who double major in ACC and MIS take MIS 355 instead of MIS 300

Accounting Electives (3 crs.)

(One course from the following 3-credit courses)

- ACC 401 - Advanced Accounting Credits: 3
- ACC 406 - Advanced Tax Accounting Credits: 3
- ACC 412 - Advanced Cost Analysis and Control Credits: 3
- ACC 490 - Selected Topics in Accounting Credits: 3

Note:

A student graduating with a major in accounting must be proficient in the use of microcomputers to function effectively in the accounting profession. In order to develop the proficiency expected of an accounting graduate, assignments will be given throughout the accounting program which require the use of a microcomputer. By the middle of the sophomore year a student majoring in accounting will be expected to have acquired a personal computer which is compatible with the hardware and software used by the Department of Accounting. Our computer labs, though well-equipped, are utilized by all college of business students. Due to this high demand, a personal computer is invaluable in fulfilling accounting major course requirements.

Accounting Career Opportunities

The accounting program is designed to prepare students for national and international careers in professional, industrial, and non-profit accounting. The Accounting Department is cognizant of developments in the academic and professional accounting areas to ensure the curricula and teaching methods are of the highest standards.

Accounting B.S.B.A./M.B.A. Five-Year Program

An accelerated B.S.B.A./M.B.A. program is proposed for students who are qualified on the basis of scholastic aptitude, academic performance, and accounting-related work experience. Students who qualify for the program may earn both the bachelor's and master's of Business Administration within a total period of ten semesters and two summer sessions. Students would be admitted provisionally at beginning of their fourth year upon meeting the admission requirements.

Applied Physics, B.S.

The Applied Physics program is pursued by roughly half of the physics majors. It results in a dual Physics-Engineering degree, and it is controlled by 3+2 agreements between the Shippensburg Physics Department and several engineering schools. According to these agreements, students spend three years at Shippensburg University's Physics Department, completing 98 credits, and then proceed to complete their studies in two years at one of the participating engineering programs (most notably Penn State University or here at Shippensburg). After successfully completing the program students earn both an Applied Physics B.S. from Shippensburg and a B.S. in engineering from the school they transferred to (or a double major at Shippensburg). The Shippensburg physics credits consist of the Physics Core, required courses in allied fields (chemistry, computer science and mathematics) as well as general education courses.

The 3+2 program, fairly common in physics departments across the nation offer several advantages:

- By virtue of the agreement a student in a 3+2 program is guaranteed admission with junior standing into the engineering school chosen, provided that this student maintains, while at Shippensburg, a specified QPA which varies with engineering schools and disciplines. We notice, however, that engineering schools can occasionally put restrictions on the availability of seats, due to enrollment restrictions in some of their engineering disciplines.
- Due to their solid scientific background, students typically do very well after transferring to their engineering discipline.
- Students profit for three years of the small class size and careful faculty guidance that Shippensburg is known for.

Degree Requirements (98 crs.):

Students in the Applied Physics program must complete their Shippensburg requirements in three years. These consist of the following courses:

General Education requirements (36 crs.)

The Physics Core (55 crs.)

Additional courses (7 crs.)

- MAT 318 - Elementary Linear Algebra Credits: 3

- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Note:

See note at the end of the Core Courses description

Physics Core Courses

55 crs.

All degrees require the successful completion of the Physics Core, which consists of the following courses:

Courses in Physics (32 crs.)

- PHY 107 - 1st Year Seminar for Physics Majors Credits: 2
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4
- PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Courses in allied fields (23 hrs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 322 - Differential Equations Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- ENGR 120 - Programming for Engineers Credits: 3

Note:

PHY 221, MAT 211, MAT 212, and CHM 121 satisfy general education requirements as well, for Skills (MAT 211), Category A (MAT 212), and Category C (PHY 221 and CHM 121), leaving a general education required curriculum of: 48 crs.-12 crs. = 36 crs.

Art, B.A.

Requirements for the Art Major - 39 crs.

The art major program for a B.A. in art consists of basic core courses plus a selected concentration, which may be fine arts, history, or studio. Please note that some courses are only offered in the fall or spring. Students should plan their schedules accordingly and with care. All art majors are required to take the following courses:

Foundation Courses (12 crs.)

(Taken during first year of program)

- ART 101 - Art Appreciation Credits: 3
- ART 110 - Basic Drawing Credits: 3
- ART 215 - Color and Two-Dimensional Design Credits: 3 offered in fall only
- ART 218 - Three-Dimensional Design Credits: 3 offered in spring only

Additional Foundation Courses (12 crs.)

- ART 210 - Drawing II Credits: 3
- ART 232 - Art History II Credits: 3 offered in fall only
- ART 233 - Art History III Credits: 3 offered in spring only
- ART 385 - Senior Art Seminar Credits: 3 (One year sequential course which begins in the fall; students may not enter mid-year.)

Art Electives (15 crs.)

All art majors also must elect five courses (15 crs.) or six courses (18 crs.) if ART 101, ART 232, or ART 233 is taken as a general education elective in Category B of the General Elective credits required by Shippensburg University. Not all courses are offered every semester. Students should check with their advisor to learn the sequence of courses and the general education courses required for their major as they develop their four-year plan. Four of the six electives must be 300 level or higher. Courses are selected from the following list:

- ART 211 - Figure Drawing Credits: 3 offered in 'even' year fall only
- ART 217 - Computer Design I Credits: 3
- ART 231 - Art History I Credits: 3 offered in 'even' year fall only
- ART 300 - Independent Studio/Ceramics Credits: 3
- ART 301 - Independent Studio/Drawing Credits: 3
- ART 302 - Independent Studio/Enameling Credits: 3
- ART 303 - Independent Studio/Painting Credits: 3
- ART 304 - Independent Studio/Sculpture Credits: 3
- ART 305 - Independent Studio /Computer Design Credits: 3
- ART 306 - Computer Design II Credits: 3 offered in spring only
- ART 309 - Independent Studio Credits: 3
- ART 319 - Computer Design III Credits: 3 offered in spring only
- ART 321 - Watercolor I Credits: 3 offered in spring only
- ART 322 - Watercolor II Credits: 3 offered in fall only
- ART 326 - Painting I Credits: 3 offered in fall only
- ART 327 - Painting II Credits: 3 offered in spring only
- ART 337 - Printmaking I Credits: 3

- ART 339 - History of American Art Credits: 3 offered in 'even' year fall only
- ART 340 - Ceramics Credits: 3 offered in fall only
- ART 341 - Advanced Ceramics Credits: 3 offered in spring only
- ART 356 - Social Structures of Aesthetics, Philosophy and Criticism in the Arts Credits: 3
- ART 370 - Sculpture Credits: 3 offered in fall only
- ART 393 - Selected Topics in Art Credits: 1-3
- ART 395 - Internship in Art I Credits: 3
- ART 399 - Independent Study Credits: 3
- ART 400 - Contemporary Methods in Art Education Credits: 3
- ART 425 - Computer Design IV Credits: 3 offered in spring only
- ART 430 - Computer Design V Credits: 3
- ART 435 - Computer Design VI Credits: 3 offered in spring only
- ART 490 - Selected Topics in Art Credits: 1-3

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

Art Education Certification, B.A.

In addition to the 24 credits of foundation courses listed under the Art (B.A.), the following are required courses for the Art Education Certification program, including the College of Education and Human Services required courses for Pennsylvania Certification, K-12.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Required Art Courses

- ART 217 - Computer Design I Credits: 3
- ART 326 - Painting I Credits: 3 offered in fall only
- ART 340 - Ceramics Credits: 3
- ART 356 - Social Structures of Aesthetics, Philosophy and Criticism in the Arts Credits: 3
- ART 370 - Sculpture Credits: 3 offered in fall only
- ART 400 - Contemporary Methods in Art Education Credits: 3

Required General Education Courses

Students are required to complete the following courses as part of their general education requirements:

- BIO 145 - Environmental Biology Credits: 3
- ESS 108 - Conservation of Natural Resources Credits: 3

- GEO 103 - Geography of the United States and Canada Credits: 3
- PSY 101 - General Psychology Credits: 3
- Students must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185).

Required College of Education and Human Services courses

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
(*Students in the K-12 Art Certification program will take 12 crs. of EDU 495*)

Note:

Students must also take the Praxis I and II Examinations and complete all Pennsylvania Certification requirements to earn K-12 certification from the Pennsylvania Department of Education (PDE).

Biology, B.S.

Requirements

Students enrolled in a program of studies leading to the Bachelor of Science degree will fulfill the following requirements:

Biology Core Courses (13 crs.)

Students must earn a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 260 - Genetics Credits: 4
- BIO 499 - Capstone Seminar in Biology Credits: 1

Upper Division Electives (13-14 crs.)

Ecology/Evolution Elective:

- BIO 242 - Ecology Credits: 3 or
- BIO 430 - Principles of Evolution Credits: 3

Physiology Elective:

- BIO 351 - Animal Physiology Credits: 4 or

- BIO 350 - Human Physiology Credits: 4

Organismal Elective:

- BIO 230 - Botany Credits: 3 or
- BIO 317 - Parasitology Credits: 3 or
- BIO 362 - Invertebrate Zoology Credits: 3 or
- BIO 363 - Vertebrate Zoology Credits: 3

Cellular Elective:

- BIO 220 - Microbiology Credits: 4 or
- BIO 385 - Cell Biology Credits: 3

Additional Biology Electives (14-15 crs.)

Electives should be selected with advisement. Biology credits should total at least 41.

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

Allied Fields (32 crs.)

Mathematics

MAT 211 Students unable to start at the level of Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
OR
- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4
or
- CHM 222 - Modern Organic Chemistry II Credits: 3 and
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1
- Additional courses in biology, allied fields or other areas related to the major may be chosen with advisement

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology, Biotechnology Concentration, B.S.

Biotechnology is a collection of techniques that uses living organisms or substances from those organisms for specific applications. Individuals with training in biotechnology can work in a variety of jobs in industrial, government, and academic settings. These careers may be in research, product development, production, quality control, technical writing, sales, education, or administration. Students in the biology program at Shippensburg University may choose the concentration in biotechnology. Students enrolled in this program will obtain a broad background in biology, chemistry, and physics as well as gain substantial biotechnology laboratory experience that includes the cloning and manipulation of DNA, immunochemical analyses, and cell culture. Students interested in pre-forensics should take 7-8 credits of suggested Criminal Justice courses.

Students in the biotechnology concentration must maintain at least a 2.5 QPA in their major and overall program through graduation. Students who are withdrawn from this concentration because their QPA has fallen below the minimum 2.5 may reapply when they regain the minimum QPA.

Biology Core Courses (25 crs.)

Students must earn a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 230 - Botany Credits: 3
- BIO 260 - Genetics Credits: 4
- BIO 385 - Cell Biology Credits: 3
- BIO 418 - Molecular Biology Credits: 3
- BIO 461 - Techniques in Biotechnology Credits: 3
- BIO 499 - Capstone Seminar in Biology Credits: 1

Upper Division Electives (7 crs.)

Physiology Elective:

- BIO 351 - Animal Physiology Credits: 4 or
- BIO 350 - Human Physiology Credits: 4

Experiential Elective

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

- BIO 397 - Introduction to Research Credits: 1-3
- BIO 398 - Research II Credits: 1-3
- or
- BIO 391 - Biology Internship I Credits: 1-3
- BIO 392 - Biology Internship II Credits: 1-3

Additional Biology Electives (9 crs.)

Electives should be selected with advisement. Biology credits should total at least 41.

Strongly Recommended Electives:

- BIO 220 - Microbiology Credits: 4
- BIO 324 - Pathogenic Microbiology Credits: 3
- BIO 371 - Human Anatomy Credits: 4
- BIO 408 - Principles of Virology Credits: 3
- BIO 409 - Immunology Credits: 3

Allied Fields (38-39 crs.)

Mathematics

MAT 221 Students unable to start at the level of Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
- OR
- MAT 217 - Statistics I Credits: 4
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1
- CHM 301 - Biochemistry I Credits: 3
- CHM 371 - Analytical Chemistry Credits: 4 or
- CHM 420 - Biochemistry II Credits: 3

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology, Clinical Sciences Concentration, B.S.

The Clinical Sciences concentration enables students who are interested in Medical Technology, Histotechnology, Cytotechnology or Respiratory Therapy to include their clinical training as part of their B.S. in Biology degree requirements. Students in this concentration may enter a clinical program in medical technology (aka: medical laboratory science), histotechnology, cytotechnology, or respiratory therapy after their junior year of college and then transfer credits back to Shippensburg University following successful completion of their clinical education. An overall GPA of at least 2.5 is required to be eligible for this concentration and application to clinical sites is required one year in advance of the professional program starting date. Credits from the clinical year will be used to meet remaining elective requirements for Biology in addition to meeting "free electives" to complete the B.S. in Biology degree.

The clinical year may be taken at any of the hospital schools affiliated with Shippensburg University or any other hospital program accredited by the National Accrediting Agency for Clinical Laboratory Science. Although hospitals give preference to their affiliates, admission is on a competitive basis and Shippensburg University cannot guarantee admission to a hospital program for the clinical year.

The following is a list of current hospital affiliations for Shippensburg University (or non-affiliated but approved sites):

Medical Technology

- Altoona Hospital, Augusta Health (Fishersville, VA)
- Conemaugh Memorial Medical Center (Johnstown, PA)
- Pennsylvania College of Health Sciences
- Reading Medical Center
- Rockingham Memorial Hospital (Harrisonburg, VA)
- Saint Vincent Health Center (Erie, PA)
- Williamsport Hospital Histotechnology
- York Hospital

Histotechnology

- Conemaugh Memorial Medical Center (Johnstown, PA)

Cytotechnology

- Thomas Jefferson University (Philadelphia, PA)
- Magee Women's Hospital (Pittsburgh, PA; non-affiliate)

Respiratory Therapy

- Lancaster Regional Medical Center (via Millersville University)

Biology Core Courses (24 crs.)

Students must earn at least a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 220 - Microbiology Credits: 4
- BIO 260 - Genetics Credits: 4
- BIO 350 - Human Physiology Credits: 4
- BIO 385 - Cell Biology Credits: 3
- BIO 300 - Careers in the Health Professions Credits: 1

Additional Biology Electives

(Must take at least 7 additional Biology elective credits; see below). Specific electives to meet Clinical Sciences concentration requirements.

Please note only 3 credits of research may count as biology electives. Credits in excess of that number count as free electives.

Medical Technology

Required:

- BIO 324 - Pathogenic Microbiology Credits: 3
- BIO 374 - Hematology Credits: 2
- BIO 409 - Immunology Credits: 3

Also recommended:

- BIO 317 - Parasitology Credits: 3
- BIO 418 - Molecular Biology Credits: 3

Histotechnology

Required:

- BIO 371 - Human Anatomy Credits: 4
- BIO 375 - Histology Credits: 3

Cytotechnology

Recommended:

- BIO 371 - Human Anatomy Credits: 4
- BIO 418 - Molecular Biology Credits: 3

Respiratory Therapy

Required:

- BIO 371 - Human Anatomy Credits: 4

Also recommended:

- BIO 409 - Immunology Credits: 3
- ENG 238 - Technical/Professional Writing I Credits: 3

Allied Fields (32 crs.)

Mathematics

Students unable to start at the level of MAT 211 Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
OR
- MAT 217 - Statistics I Credits: 4
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4
or
- CHM 222 - Modern Organic Chemistry II Credits: 3 and
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology, Ecology and Environmental Biology Concentration, B.S.

Students interested in ecological and environmental fields may choose the ecology and environmental biology concentration within the biology program. Students enrolled in this program will fulfill the following requirements:

Biology Core Courses (19 crs.)

Students must earn at least a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 230 - Botany Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 260 - Genetics Credits: 4
- BIO 499 - Capstone Seminar in Biology Credits: 1

Upper Division Electives (19-20 crs.)

Physiology Elective (4 crs.)

- BIO 351 - Animal Physiology Credits: 4 or
- BIO 350 - Human Physiology Credits: 4

Ecology and Conservation Electives (9 crs.)

Choose any 3:

- BIO 362 - Invertebrate Zoology Credits: 3

- BIO 363 - Vertebrate Zoology Credits: 3
- BIO 406 - Mammalogy Credits: 3
- BIO 412 - Ichthyology Credits: 3
- BIO 417 - Herpetology Credits: 3
- BIO 419 - Ornithology Credits: 3
- BIO 430 - Principles of Evolution Credits: 3
- BIO 442 - Aquatic Ecology Credits: 3
- BIO 444 - Conservation Biology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Cellular Elective (3-4 crs.)

- BIO 220 - Microbiology Credits: 4 or
- BIO 385 - Cell Biology Credits: 3

Experiential Elective (3 crs.)

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

- BIO 397 - Introduction to Research Credits: 1-3
- BIO 398 - Research II Credits: 1-3
- or
- BIO 391 - Biology Internship I Credits: 1-3
- BIO 392 - Biology Internship II Credits: 1-3

Additional Biology Electives (2-3 crs.)

Electives should be selected with advisement. Biology credits should total at least 41.

Allied Fields (35 crs.)

Geography-Earth Science

Choose one of the following courses:

- ESS 110 - Introduction to Geology Credits: 3
- ESS 210 - Physical Geology Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3

Mathematics

Students unable to start at the level of MAT 211 - Calculus I Credits: 4 will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
OR
- MAT 217 - Statistics I Credits: 4
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4
or
- CHM 222 - Modern Organic Chemistry II Credits: 3 and
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology, Health Professions Concentration, B.S.

Students in biology may pursue studies in a number of health sciences including pre-medicine, pre-dentistry, pre-optometry, pre-podiatry, pre-veterinary medicine, pre-pharmacy, pre-chiropractic, and pre-physical therapy. The Health Professions Committee, consisting of members of the Biology and Chemistry departments, provides students with advisement on such matters as course selection, professional school admission test information, and professional school interviews. Health professions-oriented students are encouraged to join the Health Sciences Club. This organization hosts professional program representatives and health care practitioners who discuss admissions procedures and criteria and career opportunities.

Shippensburg University Health Professions Committee Policy regarding support of pre-professional health science applicants is as follows:

The Health Professions Committee, comprised of faculty members from the biology and chemistry departments, provides students who are applying to medical, dental, optometry, podiatric, and veterinary medical programs practice interviews and committee letters of recommendation to support their applications. These particular disciplines are identified because admissions committees for these programs prefer committee

letters of reference in lieu of individual reference letters. Students applying to other health professional programs will obtain individual letters of reference as required for their professional school applications.

The policy of the Shippensburg University Health Professions Committee requires a minimum 3.2 cumulative QPA (medical, dental, veterinary applicants) or 3.0 cumulative QPA (optometry, podiatric applicants) in order for a student to be granted a practice interview and committee letter. For transfer students, at least two semesters must be completed at Shippensburg University before a committee interview and letter will be provided. This minimum QPA requirement is based on the past history of success for former students and the recommendations set forth by professional programs. However, this requirement does not imply these minimum QPAs will be competitive for successful application.

Students should seek counsel from their pre-health advisor regarding the suitability of their qualifications for their desired program of study prior to requesting a committee interview and letter. Committee interviews are typically conducted in mid-April and requests for interviews should be made to the primary health science advisor prior to April 1 of the application year.

Affiliations

Shippensburg University has several agreements with health professional schools that enable qualified and motivated students to enter a professional program before they complete their requirements for the baccalaureate degree. If students complete at least 90 credits of specific course work (with advisement), Shippensburg University will accept credits transferred from the affiliated program after students complete their first professional year. Students are then awarded a B.S. in biology. Though admission is not guaranteed, the programs do give Shippensburg University students preferred consideration for admission. Accelerated articulation agreements exist with:

- Philadelphia College of Osteopathic Medicine
- Salus University - College of Optometry
- Temple University School of Podiatric Medicine
- Temple University School of Dentistry
- New York Chiropractic College
- Logan Chiropractic College
- Thomas Jefferson University - Jefferson College of Health Professions

An articulation program also exists with Arcadia University's Physician Assistant master's degree program.

The Thomas Jefferson University College of Health Professions affiliation enables students to pursue undergraduate degrees in radiologic sciences, biotechnology, cytotechnology and nursing, a master's degree in occupational therapy, and a doctoral degree in physical therapy. Students complete two or three years of specific course work at Shippensburg University prior to being admitted to Thomas Jefferson University for the professional portion of their program.

Students in the health professions concentration must maintain at least a 2.8 QPA in their major and overall program through graduation. Students who are withdrawn from the health professions track because their QPA has fallen below the 2.8 minimum may reapply when they regain the minimum QPA.

Biology Core Courses (17 crs.)

Students must earn a "C" or better in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 220 - Microbiology Credits: 4

- BIO 260 - Genetics Credits: 4
- BIO 499 - Capstone Seminar in Biology Credits: 1

Upper Division Electives (13-14 crs.)

Physiology Elective:

- BIO 351 - Animal Physiology Credits: 4 or
- BIO 350 - Human Physiology Credits: 4 (required for pre-physical therapy students.)

Anatomy Elective:

- BIO 370 - Comparative Vertebrate Anatomy Credits: 4 or
- BIO 371 - Human Anatomy Credits: 4 (required for pre-physical therapy students.) or
- BIO 375 - Histology Credits: 3

Molecular/Cellular Elective:

- BIO 385 - Cell Biology Credits: 3 or
- BIO 418 - Molecular Biology Credits: 3

Breadth Elective: Choose One

- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 230 - Botany Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 330 - Animal Behavior Credits: 3
- BIO 363 - Vertebrate Zoology Credits: 3
- BIO 412 - Ichthyology Credits: 3
- BIO 417 - Herpetology Credits: 3
- BIO 419 - Ornithology Credits: 3
- BIO 430 - Principles of Evolution Credits: 3

Additional Biology Electives (10-11 crs.)

Electives should be selected with advisement. Certain professional schools may have specific requirements.

BIO 300 - Careers in the Health Professions Credits: 1 (strongly recommended)

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

Allied Fields (31-34 crs.)

Mathematics

MAT 211 Students unable to start at the level of Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
OR
- MAT 217 - Statistics I Credits: 4
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4 or
- CHM 222 - Modern Organic Chemistry II Credits: 3 required for pre-med, pre-dental, pre-vet, and pre-pharmacy students. Check professional program chemistry prerequisites for other health disciplines.
and
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1 required for pre-med, pre-dental, pre-vet, and pre-pharmacy students. Check professional program chemistry prerequisites for other health disciplines.
and
- CHM 301 - Biochemistry I Credits: 3 required for pre-med, pre-dental, pre-vet, and pre-pharmacy students. Check professional program chemistry prerequisites for other health disciplines.

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

Biology with Secondary Certification, B.S.

Students enrolled in a program of studies leading to the Bachelor of Science degree with secondary certification will fulfill the following requirements:

Biology Core Courses (25 crs.)

Students must earn a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 208 - Field Biology Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 260 - Genetics Credits: 4
- BIO 385 - Cell Biology Credits: 3
- BIO 430 - Principles of Evolution Credits: 3
- BIO 499 - Capstone Seminar in Biology Credits: 1

Physiology Elective (4 crs.)

- BIO 350 - Human Physiology Credits: 4 or
- BIO 351 - Animal Physiology Credits: 4

Additional Biology Electives (9 crs.)

Electives should be selected with advisement. Biology credits should total at least 38.

Please note only 3 credits of research and 3 credits of internship may count as biology electives. Credits in excess of that number count as free electives.

Allied Fields (24 crs.)

Mathematics

MAT 211 Students unable to start at the level of Calculus I will take MAT 175 - Precalculus Credits: 3 or other prerequisite courses.

- MAT 117 - Applied Statistics Credits: 3
- MAT 211 - Calculus I Credits: 4

Physics

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1

Chemistry

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1

Note:

Students who have successfully completed more difficult physics and chemistry courses can substitute them for lower level required courses in those fields.

(Not required but strongly recommended)

- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- CHM 227 - Introduction to Biochemistry Credits: 4

Prescribed General Education Course (3 crs.)

Students must complete the following course as part of their general education requirements:

- PSY 101 - General Psychology Credits: 3

Professional Education Requirements (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 440 - Teaching of Science in Secondary Schools Credits: 3
- EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

Students seeking certification in secondary education are also required to complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185).

Chemistry, B.S.

Shippensburg University offers a program of study in chemistry approved by the American Chemical Society (ACS). This program is designed for students who seek technical careers in industry or government or graduate work in chemistry. Any student desiring departmental recommendation for graduate work and certification by the American Chemical Society should complete the department core curriculum and the following courses.

Chemistry Core Curriculum

The following courses are part of the department core curriculum. These courses are required for all chemistry majors and concentrations. All chemistry majors will take a comprehensive examination in the beginning of the fall semester of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Allied Fields (20 crs.)

Arts and Sciences students majoring in chemistry must take the following courses in allied fields.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Chemistry Core Curriculum and additional 9 credits in chemistry coursework listed below:

Choose one of the following chemistry seminar courses:

- CHM 312 - Chemistry Seminar Credits: 1
- CHM 313 - Chemistry Seminar Credits: 1
- CHM 314 - Chemistry Seminar Credits: 1
- CHM 315 - Chemistry Seminar Credits: 1

- CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1

- CHM 490 - Selected Topics in Chemistry Credits: 1-3 or
- CHM 420 - Biochemistry II Credits: 3

- CHM 481 - Advanced Inorganic Chemistry Credits: 4

Allied Fields (4 crs.)

Arts and sciences students majoring in chemistry must take the following courses in allied fields.

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 106 - Computer Science I - Lab Credits: 1

Chemistry, Biochemistry Concentration, B.S.

Biochemistry is the study of chemistry focused on living organisms. The biochemistry concentration is designed to prepare students for careers or graduate study in biochemistry and meets the recommended guidelines of both the American Society for Biochemistry and Molecular Biology and the American Chemical Society. The biochemistry curriculum also prepares students for application to medical, dental, and veterinary school. Students interested in completing the chemistry-biochemistry concentration must complete all courses in the chemistry core curriculum and those listed below. Students desiring additional preparation and certification by the American Chemical Society should also complete the requirements listed under ACS Certification.

Chemistry Core Curriculum

The following courses are part of the department core curriculum. These courses are required for all chemistry majors and concentrations. All chemistry majors will take a comprehensive examination in the beginning of the fall semester of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Allied Fields (20 crs.)

Arts and Sciences students majoring in chemistry must take the following courses in allied fields.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3

- PHY 125 - Physics II Laboratory Credits: 1
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Biochemistry Concentration

Chemistry Core Curriculum and additional 7 credits in chemistry coursework listed below:

CHM 496 or CHM 497 Introduction to Research 1 cr. [(biochemistry concentration students that desire ACS certification must complete a total of 3 credits in research)]

- CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1
- CHM 420 - Biochemistry II Credits: 3
- CHM 421 - Biochemistry Laboratory Credits: 1
- CHM 496 - Introduction to Research I Credits: 1-3
- CHM 312 - Chemistry Seminar Credits: 1

Allied Fields Required (13-14 crs.)

- BIO 260 - Genetics Credits: 4
- BIO 385 - Cell Biology Credits: 3
- BIO 461 - Techniques in Biotechnology Credits: 3

(Choose 1 of the following) 3-4 crs.

- CHM 481 - Advanced Inorganic Chemistry Credits: 4
- BIO 220 - Microbiology Credits: 4
- BIO 408 - Principles of Virology Credits: 3
- BIO 409 - Immunology Credits: 3

Chemistry, Forensics Concentration, B.S.

The forensics concentration has a curriculum that includes the Chemistry B.S. with additional courses in biology and criminal justice to prepare a student for application to a masters program in forensic science. Ultimately, these students will be candidates for employment in the forensic chemistry field. Students interested in completing the chemistry-forensics concentration must complete all courses in the chemistry core curriculum and those listed below. Students desiring additional preparation and certification by the American Chemical Society should also complete the requirements listed under ACS Certification.

Students enrolled in the forensic concentration may apply for an internship at the Cumberland County District Attorney's Office Forensic Laboratory in Carlisle, PA. To be eligible for the internship students must have completed Organic Chemistry II, have a minimum QPA of 3.0, complete a background check and polygraph test at an interview. Students who would like to graduate with ACS certification must take an additional 2 credits in research and CHM 312 - Chemistry Seminar Credits: 1.

Chemistry Core Curriculum

The following courses are part of the department core curriculum. These courses are required for all chemistry majors and concentrations. All chemistry majors will take a comprehensive examination in the beginning of the fall semester of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Allied Fields (20 crs.)

Arts and Sciences students majoring in chemistry must take the following courses in allied fields.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Allied Fields Required (16 crs.)

- CRJ 100 - Introduction to Criminal Justice Credits: 3
- CRJ 211 - Criminal Law and Procedure Credits: 3
- CRJ 336 - Introduction to Forensic Science Credits: 3
- CRJ 456 - Forensic Science: Evidence Analysis Credits: 3
- BIO 260 - Genetics Credits: 4

Chemistry, Pre-Pharmacy Concentration, B.S.

The pre-pharmacy concentration includes a curriculum that prepares students for application to a doctorate in pharmacy (Pharm.D.) program while earning a B.S. in chemistry. The curriculum prepares students for transfer into the first of four professional years of pharmacy school after receiving their B.S in chemistry from Shippensburg University.

Students need not commit to the concentration until the end of their sophomore year. Course advisement will be used when considering the varied requirements of the Pennsylvania colleges of pharmacy; however, all students who opt for this concentration will easily satisfy the course requirements to apply to several pharmacy schools. In addition, students will be encouraged to shadow pharmacists in the area and to attend seminars within our department that will introduce the various jobs that pharmacists perform. The chemistry and biology curriculum requirements prepare students to successfully take the Pharmacy College Admissions Test (PCAT) exam.

Students interested in completing the chemistry-pre-pharmacy concentration must complete all courses in the chemistry core curriculum and those listed below. Students desiring additional preparation and certification by the American Chemical Society should also complete the requirements listed under ACS Certification.

The pre-pharmacy concentration is intended to prepare students who complete four years at Shippensburg University to apply for entrance to the third year of a six-year pharmacy program. Students intending to apply to a pharmacy school will be advised to take an additional 9-10 credits of free electives to specifically meet the pre-professional requirements of individual schools prior to matriculating. Before applying to any pharmacy school, students must take the Pharmacy College Admission Test (PCAT). A competitive score on the PCAT and QPA is required for acceptance into pharmacy school.

Chemistry Core Curriculum

The following courses are part of the department core curriculum. These courses are required for all chemistry majors and concentrations. All chemistry majors will take a comprehensive examination in the beginning of the fall semester of their senior year at a time and place designated by the department. A satisfactory performance in all areas of this examination is a requirement for departmental recommendation and ACS certification.

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Allied Fields (20 crs.)

Arts and Sciences students majoring in chemistry must take the following courses in allied fields.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1

- PHY 206 - Intermediate Physics II Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Requirements

Chemistry Core Curriculum and additional 4-5 credits in chemistry coursework listed below:

- CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1

Choose 1 of the following

- CHM 420 - Biochemistry II Credits: 3
- CHM 481 - Advanced Inorganic Chemistry Credits: 4
- CHM 490 - Selected Topics in Chemistry Credits: 1-3

Allied Fields Required (11 crs.)

- MAT 117 - Applied Statistics Credits: 3
- BIO 220 - Microbiology Credits: 4
- BIO 350 - Human Physiology Credits: 4 or
- BIO 371 - Human Anatomy Credits: 4

Chemistry Secondary Certification, B.S.

Students interested in teaching chemistry in the state of Pennsylvania should enroll in the Chemistry Secondary Education Certification program. Students enrolled in a program of studies leading to the degree of Bachelor of Science with secondary certification will fulfill the chemistry core curriculum and the requirements listed below. Students are expected to graduate with a minimum QPA of 3.0 as required by the state of Pennsylvania for certification. Any student enrolled in chemistry-secondary education desiring the additional preparation for this program and certification by the American Chemical Society must complete the Chemistry- secondary education curriculum and the additional requirements specified under ACS certification.

Teacher Education students majoring in chemistry must take the chemistry core curriculum and the following courses in allied fields. Some of these may be taken as general education

Required (39 crs.)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3

- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3

Professional Education Requirements (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 440 - Teaching of Science in Secondary Schools Credits: 3
- EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Allied Fields (20 crs.)

Teacher Education students majoring in chemistry must take the following courses in allied fields. Some of these may be taken as general education.

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 206 - Intermediate Physics II Credits: 3
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115) and 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250).

Communication/Journalism, Electronic Media Concentration, B.A.

The electronic media professional emphasis prepares students for careers working in television, radio, cable, web streaming and video production. In addition to being able to take professional classes in areas like electronic news gathering, studio and remote field production, sports journalism, media advertising, and on-air producing and performance, students benefit from hands-on experience through WSYC-FM and SUTV, our student-run radio and television stations, and two professional internship opportunities.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

42 crs.

All majors must take 42 credits in the Communication/Journalism major to graduate.

The Communication/Journalism major consists of a required Communication/Journalism Core (5 courses; 15 credits), a student-selected Professional Emphasis (4 courses; 12 credits), and Communication/Journalism Electives (5 courses; 15 credits).

Theory and Writing Core (15 crs.)

Each student must complete COM 111 and COM 112 with a C or better grade before taking any other communication/journalism courses:

- COM 111 - Introduction to Mass Communication Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 245 - Diversity and the Media Credits: 3

Each student must have the appropriate class standing before taking the final two core courses (6 crs.):

Prior to taking COM 355 students must have Jr. standing and have taken the following: COM 201 & COM 241, or COM 285 & COM 293, or COM 224 & COM 284

- COM 345 - Communication Law and Ethics Credits: 3
- COM 355 - Communication/Journalism Professional Practicum Credits: 3

Note:

Once a student has selected a professional emphasis area, he or she can transfer to another area if there is an opening in that emphasis and with the permission of the student's academic advisor.

Professional Emphasis (12 crs.)

Electronic Media

- COM 224 - Electronic Media Writing Credits: 3
- COM 284 - Electronic Media Basic Production Credits: 3
- COM 424 - Electronic Media Producing and Performance Credits: 3
- COM 484 - Electronic Media Programming and Management Credits: 3

Communication/Journalism Electives (15 crs.)

Students must complete five courses to complete the major.

- COM 290 - Advertising Copywriting Credits: 3
- COM 305 - Sports Journalism Credits: 3
- COM 335 - Media Advertising and Sales Credits: 3
- COM 360 - Basic Digital Photographic Communication Credits: 3
- COM 362 - Photojournalism Credits: 3

The Following Elective Courses Require Junior or Senior Status:

- COM 395 - Internship I Credits: 1-6
- COM 396 - Internship II Credits: 1-6
- COM 410 - Women and the Media Credits: 3
- COM 425 - Feature Writing Credits: 3
- COM 451 - Electronic Field Production Credits: 3
- COM 452 - Multimedia Journalism Credits: 3
- COM 460 - Case Studies in Public Relations Credits: 3
- COM 470 - Advanced Digital Photographic Communication Credits: 3
- COM 476 - Magazine Design Credits: 3
- COM 481 - Digital Media Design Credits: 3
- COM 482 - Internet Communication Credits: 3
- COM 490 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 491 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 492 - Selected Topics in Communication/Journalism Credits: 1-3

Note:

COM 395 and COM 396 may be scheduled through the department secretary by qualified juniors/seniors who have a 2.5 QPA and who have written approval from the department's internship coordinator. Only 6 credits of internship count towards the major; additional internship credits available only by departmental permission.

Communication/Journalism, Print and Online Media Concentration, B.A.

The Print & Online Media Professional Emphasis focuses on reporting and writing across a variety of styles and platforms, including breaking news, enterprise journalism and features. These stories are reported and produced using words, video, audio, graphics and various digital applications. The program of study prepares students for jobs in online media outlets and print publications such as newspapers and magazines.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

42 crs.

All majors must take 42 credits in the Communication/Journalism major to graduate.

The Communication/Journalism major consists of a required Communication/Journalism Core (5 courses; 15 credits), a student-selected Professional Emphasis (4 courses; 12 credits), and Communication/Journalism Electives (5 courses; 15 credits).

Theory and Writing Core (15 crs.)

Each student must complete COM 111 and COM 112 with a C or better grade before taking any other communication/journalism courses:

- COM 111 - Introduction to Mass Communication Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 245 - Diversity and the Media Credits: 3

Each student must have the appropriate class standing before taking the final two core courses (6 crs.):

Prior to taking COM 355 students must have Jr. standing and have taken the following: COM 201 & COM 241, or COM 285 & COM 293, or COM 224 & COM 284

- COM 345 - Communication Law and Ethics Credits: 3
- COM 355 - Communication/Journalism Professional Practicum Credits: 3

Note:

Once a student has selected a professional emphasis area, he or she can transfer to another area if there is an opening in that emphasis and with the permission of the student's academic advisor.

Professional Emphasis (12 crs.)

Print Media

- COM 285 - News Writing and Reporting Credits: 3
- COM 293 - Editing Credits: 3
- COM 375 - Public Affairs Reporting Credits: 3
- COM 478 - Digital Journalism Credits: 3

Communication/Journalism Electives (15 crs.)

Students must complete five courses to complete the major.

- COM 290 - Advertising Copywriting Credits: 3
- COM 305 - Sports Journalism Credits: 3
- COM 335 - Media Advertising and Sales Credits: 3
- COM 360 - Basic Digital Photographic Communication Credits: 3
- COM 362 - Photojournalism Credits: 3

The Following Elective Courses Require Junior or Senior Status:

- COM 395 - Internship I Credits: 1-6
- COM 396 - Internship II Credits: 1-6
- COM 410 - Women and the Media Credits: 3
- COM 425 - Feature Writing Credits: 3
- COM 451 - Electronic Field Production Credits: 3
- COM 452 - Multimedia Journalism Credits: 3
- COM 460 - Case Studies in Public Relations Credits: 3
- COM 470 - Advanced Digital Photographic Communication Credits: 3
- COM 476 - Magazine Design Credits: 3
- COM 481 - Digital Media Design Credits: 3
- COM 482 - Internet Communication Credits: 3
- COM 490 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 491 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 492 - Selected Topics in Communication/Journalism Credits: 1-3

Note:

COM 395 and COM 396 may be scheduled through the department secretary by qualified juniors/seniors who have a 2.5 QPA and who have written approval from the department's internship coordinator. Only 6 credits of internship count towards the major; additional internship credits available only by departmental permission.

Communication/Journalism, Public Relations Concentration, B.A.

The public relations professional emphasis prepares students for careers working in media relations, public affairs and digital strategic communications. The department offers a wide range of PR classes that not only teach students how to research, create, design and implement strategic communication plans and campaigns, but also how to use social media effectively in commercial, non-profit and governmental environments. Students have the opportunity to get involved in the PR departments of our student media groups and to join and lead our chapter of the Public Relations Student Society of America (PRSSA), a network of more than 11,000 students across the nation who study and practice professional public relations for real-world clients.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP testing or CLEP testing.

42 crs.

All majors must take 42 credits in the Communication/Journalism major to graduate.

The Communication/Journalism major consists of a required Communication/Journalism Core (5 courses; 15 credits), a student-selected Professional Emphasis (4 courses; 12 credits), and Communication/Journalism Electives (5 courses; 15 credits).

Theory and Writing Core (15 crs.)

Each student must complete COM 111 and COM 112 with a C or better grade before taking any other communication/journalism courses:

- COM 111 - Introduction to Mass Communication Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 245 - Diversity and the Media Credits: 3

Each student must have the appropriate class standing before taking the final two core courses (6 crs.):

Prior to taking COM 355 students must have Jr. standing and have taken the following: COM 201 & COM 241, or COM 285 & COM 293, or COM 224 & COM 284

- COM 345 - Communication Law and Ethics Credits: 3
- COM 355 - Communication/Journalism Professional Practicum Credits: 3

Note:

Once a student has selected a professional emphasis area, he or she can transfer to another area if there is an opening in that emphasis and with the permission of the student's academic advisor.

Professional Emphasis (12 crs.)

Public Relations

- COM 201 - Principles of Public Relations Credits: 3
- COM 241 - Public Relations Writing Credits: 3
- COM 381 - Promotional Publication Design Credits: 3
- COM 432 - Public Relations Research and Campaigns Credits: 3

Communication/Journalism Electives (15 crs.)

Students must complete five courses to complete the major.

- COM 290 - Advertising Copywriting Credits: 3
- COM 305 - Sports Journalism Credits: 3
- COM 335 - Media Advertising and Sales Credits: 3
- COM 360 - Basic Digital Photographic Communication Credits: 3
- COM 362 - Photojournalism Credits: 3

The Following Elective Courses Require Junior or Senior Status:

- COM 395 - Internship I Credits: 1-6
- COM 396 - Internship II Credits: 1-6
- COM 410 - Women and the Media Credits: 3
- COM 425 - Feature Writing Credits: 3
- COM 451 - Electronic Field Production Credits: 3

- COM 452 - Multimedia Journalism Credits: 3
- COM 460 - Case Studies in Public Relations Credits: 3
- COM 470 - Advanced Digital Photographic Communication Credits: 3
- COM 476 - Magazine Design Credits: 3
- COM 481 - Digital Media Design Credits: 3
- COM 482 - Internet Communication Credits: 3
- COM 490 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 491 - Selected Topics in Communication/Journalism Credits: 1-3
- COM 492 - Selected Topics in Communication/Journalism Credits: 1-3

Note:

COM 396 and COM 396 may be scheduled through the department secretary by qualified juniors/seniors who have a 2.5 QPA and who have written approval from the department's internship coordinator. Only 6 credits of internship count towards the major; additional internship credits available only by departmental permission.

Computer Engineering, B.S.

Computer Engineering is a branch of engineering that combines software and electrical engineering to develop computer systems. Computer engineers are involved in the hardware development process, designing and building hardware systems; and they are involved in the software process, designing and building the operating systems and applications programs for those systems. These skills are vital for today's pervasive computing environment, where we are surrounded by systems built from discrete components, microcontrollers, embedded Systems-On-a-Chip, and reconfigurable logic devices.

The curriculum is designed to be a four-year, 120-credit-hour engineering program. The curriculum meets or exceeds national Computer Engineering academic standards. Generally, the curriculum requires 20 credits of computer engineering, 12 credits of computer science, 8 credits of elective/internship credit, 23 credits of mathematics, 20 credits of physics and engineering, and 39 credits of general education and basic science.

Students will learn how to program machines in a variety of languages, including C, Java, and Assembly languages; they will use CAD tools to design, build, and test printed circuit boards with microcontrollers, write software for their board, and integrate into existing systems; they will develop software for System-On-a-Chip systems using embedded operating systems and applications frameworks, they will build applications for mobile phones, and they will implement common algorithms on Digital Signals Processors; and they will use EDA tools to program reconfigurable FPGA devices for high-performance applications. Throughout this work, students will use sound engineering practices to guide their development processes.

Core Requirements

Engineering Core (12 crs.)

- ENGR 100 - Engineering Seminar I Credits: 1
- ENGR 110 - Modeling and Simulation Credits: 3
- ENGR 120 - Programming for Engineers Credits: 3
- ENGR 200 - Engineering Seminar II Credits: 1
- ENGR 300 - Engineering Seminar III Credits: 1
- ENGR 310 - Statistical Process Control Credits: 3

Physics (20 crs.)

- PHY 123 - Physics I Laboratory Credits: 1
and
- PHY 205 - Intermediate Physics I Credits: 3
OR
- PHY 221 - Fundamentals of Physics I Credits: 5

- PHY 125 - Physics II Laboratory Credits: 1
and
- PHY 206 - Intermediate Physics II Credits: 3
OR
- PHY 222 - Fundamentals of Physics II Credits: 5

- PHY 355 - Electronics Credits: 4

Mathematics (23 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 322 - Differential Equations Credits: 3

Computer Science and Engineering (32 crs.)

For the capstone experience, a student can take either CMPE 498 or CMPE 499.

- CMPE 220 - Computer Organization Credits: 4
- CMPE 320 - Operating Systems Credits: 4
- CMPE 322 - Microcontrollers & Interfaces Credits: 4
- CMPE 420 - Digital and Reconfigurable Computing Credits: 4
- CMPE 498 - Engineering Research Methods Credits: 2
- CMPE 499 - Engineering Design & Development Credits: 2
- CSC 431 - Computer Networks Credits: 4

Electives (8 crs.)

8 credits of CMPE or ELEC courses at 300 level or higher, internship, or CS course with departmental approval.

- CS or Engineering Elective/Internship

Computer Science, Computer Graphics Concentration, B.S.

The computer science program is designed to enable the student to gain knowledge of computer science and to apply this knowledge to an application area. Students will be proficient in developing computer software to solve problems in a number of contexts.

The computer science B.S. degree program and its concentrations are accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>, placing Shippensburg University among 30 Pennsylvania colleges and universities that have accredited ABET programs and one of 10 that include computer science programs.

Core Requirements (47 crs.)

Mathematics

- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3

Computer Science

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- CMPE 220 - Computer Organization Credits: 4
- CSC 310 - Design and Analysis of Algorithms Credits: 4
- CMPE 320 - Operating Systems Credits: 4
- CSC 371 - Database Management Systems Credits: 4
- CSC 498 - Senior Research Methods Credits: 2
- CSC 499 - Senior Research and Development Credits: 2
- SWE 200 - Design Patterns Credits: 4

Two Semester Science Sequence

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

OR

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

OR

- PHY 123 - Physics I Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3

Computer Graphics Concentration (19-20 crs.)

- CSC 350 - Introduction to Computer Graphics Credits: 4
- CSC 361 - Video Game Programming Credits: 4
- CSC 451 - Computer Graphics Algorithms Credits: 4
- CSC/SWE/CMPE/ELEC Elective at 300 level or above

Interdisciplinary Course (Choose one):

- ART 217 - Computer Design I Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 339 - Remote Sensing Credits: 3

Course Sequencing

A typical first year sequence for all computer science majors is given below:

Semester I

- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- MAT 211 - Calculus I Credits: 4 *
- Three general education courses Credits: 9

Semester II

- CSC 111 - Computer Science II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Two general education courses Credits: 6

Note:

*Students unable to begin with MAT 211 - Calculus I may be required to take MAT 175 - Precalculus Credits: 3.

Students who wish to design a personalized concentration may do so with the help of their advisor. The advisor will then submit the request to the department for approval. The student's course of study must be approved by the department in writing.

The department maintains a suggested sequence for scheduling the courses required in the core and by the various pre-approved concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list will be available to students during scheduling.

Computer Science, Related Discipline Concentration, B.S.

The computer science program is designed to enable the student to gain knowledge of computer science and to apply this knowledge to an application area. Students will be proficient in developing computer software to solve problems in a number of contexts.

The computer science B.S. degree program and its concentrations are accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>, placing Shippensburg University among 30 Pennsylvania colleges and universities that have accredited ABET programs and one of 10 that include computer science programs.

Core Requirements (47 crs.)

Mathematics

- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3

Computer Science

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- CMPE 220 - Computer Organization Credits: 4
- CSC 310 - Design and Analysis of Algorithms Credits: 4
- CMPE 320 - Operating Systems Credits: 4
- CSC 371 - Database Management Systems Credits: 4
- CSC 498 - Senior Research Methods Credits: 2
- CSC 499 - Senior Research and Development Credits: 2
- SWE 200 - Design Patterns Credits: 4

Two Semester Science Sequence

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

OR

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

OR

- PHY 123 - Physics I Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3

Related Discipline Concentration

- 2 CSC/SWE/CMPE/ELEC Electives at the 300 level or above
- Major/Minor in other discipline

*No electives can overlap with your other major/minor

Course Sequencing

A typical first year sequence for all computer science majors is given below:

Semester I

- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- MAT 211 - Calculus I Credits: 4 *
- Three general education courses Credits: 9

Semester II

- CSC 111 - Computer Science II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Two general education courses Credits: 6

Note:

*Students unable to begin with MAT 211 - Calculus I may be required to take MAT 175 - Precalculus Credits: 3.

Students who wish to design a personalized concentration may do so with the help of their advisor. The advisor will then submit the request to the department for approval. The student's course of study must be approved by the department in writing.

The department maintains a suggested sequence for scheduling the courses required in the core and by the various pre-approved concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list will be available to students during scheduling.

Criminal Justice, B.S.

(60 crs.)

Required Core (21 crs.)

- CRJ 100 - Introduction to Criminal Justice Credits: 3
- CRJ 211 - Criminal Law and Procedure Credits: 3
- CRJ 221 - Policing a Democracy Credits: 3
- CRJ 241 - Survey of Corrections Credits: 3
- CRJ 309 - Theories of Crime and Crime Control Credits: 3
- CRJ 310 - Research Methods Credits: 3
- CRJ 452 - Race, Ethnicity, and Crime Credits: 3

Criminal Justice Electives (21 crs.)

- CRJ 321 - Criminal Investigation Credits: 3
- CRJ 326 - Victimology: The Victim and the Law Credits: 3
- CRJ 336 - Introduction to Forensic Science Credits: 3
- CRJ 342 - Crime Prevention Credits: 3
- CRJ 345 - Organization & Management of CRJ Agencies Credits: 3
- CRJ 351 - Juvenile Justice Credits: 3
- CRJ 356 - Organized Crime Credits: 3
- CRJ 363 - Intimate Partner Violence Credits: 3
- CRJ 365 - White Collar Crime Credits: 3
- CRJ 370 - Mock Trial Credits: 3
- CRJ 390 - Selected Topics in Criminal Justice Credits: 3
- CRJ 393 - Selected Topics in Criminal Justice Credits: 3
- CRJ 396 - Selected Topics in Criminal Justice Credits: 3
- CRJ 397 - Selected Topics in Criminal Justice Credits: 3
- CRJ 411 - Terrorism Credits: 3
- CRJ 433 - Evidence Law Credits: 3
- CRJ 440 - Community Corrections Credits: 3
- CRJ 456 - Forensic Science: Evidence Analysis Credits: 3
- CRJ 461 - Social Construction of Homicide Credits: 3
- CRJ 463 - Comparative Criminal Justice Credits: 3
- CRJ 464 - Popular Culture, Crime and Justice Credits: 3
- CRJ 466 - Women and Criminal Justice Credits: 3
- CRJ 471 - Internship in Criminal Justice I Credits: 3
- CRJ 472 - Internship in Criminal Justice II Credits: 3
- CRJ 473 - Internship in Criminal Justice III Credits: 3
- CRJ 474 - Internship in Criminal Justice IV Credits: 3
- CRJ 490 - Selected Topics in Criminal Justice Credits: 3
- CRJ 491 - Selected Topics in Criminal Justice Credits: 3

Note:

CRJ 471, CRJ 472, CRJ 473, CRJ 474 Each 3 credit Internship = 120 hours of work

Capstone Course (3 crs.)

- CRJ 454 - Policy, Professionalism, and Ethics Credits: 3

Interdisciplinary Courses (15 crs.)

Students must complete five courses, 200-level or above. Criminal Justice or Military Science courses will not fulfill this requirement.

Required General Education Courses (9 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PSY 101 - General Psychology Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Early Childhood/Elementary Education: PK-4, B.S.Ed.

Minimum of 120 credit hours required

Required Courses

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3
OR
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- MAT 110 - Fundamentals of Mathematics I Credits: 3
- MAT 111 - Fundamentals of Mathematics II Credits: 3
- PSY 101 - General Psychology Credits: 3

Choose one:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Biology (3 crs.)

Choose one:

- BIO 100 - Basic Biology Credits: 3
- BIO 142 - Introduction to Ecology Credits: 3
- BIO 150 - Human Biology Credits: 3
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 208 - Field Biology Credits: 3
- BIO 242 - Ecology Credits: 3

Physical Sciences (3 crs.)

Choose one:

- PHY 108 - Astronomy Credits: 3
- PHY 110 - Physics for Society Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1 and

- PHY 121 - Introductory Physics I - Lecture Credits: 3
or
- PHY 205 - Intermediate Physics I Credits: 3
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- CHM 121 - Chemical Bonding Credits: 3

Earth Sciences (3 crs.)

Choose one:

- ESS 108 - Conservation of Natural Resources Credits: 3
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3
- BIO 145 - Environmental Biology Credits: 3

***Note:**

One course in either biology, physical sciences, or earth sciences must be a lab course. BIO 142, BIO 162 , BIO 208, BIO 242, CHM 105, ESS 110, ESS 111, ESS 210, PHY 121, PHY 205.

Fine Arts (6 crs.)

(Choose 2 from different disciplines)

Discipline 1

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Discipline 2

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3
- THE 121 - Introduction to the Theatre Credits: 3

Political, Geographic and Economic (6 crs.)

(Choose 2 from different disciplines)

Discipline1

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3

Discipline 2

- GEO 101 - World Geography Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Literature Elective (3 crs.)

Choose one:

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Professional Core (60 crs.)

- ECH 210 - The Early Childhood Profession Credits: 3
- ECH 220 - Developmental Science: Physical, Motor, & Health Credits: 3
- ECH 260 - Developmental Science: Cognitive & Language Credits: 3
- ECH 320 - Developmental Science: Social & Emotional Basis for Guiding Children's Behavior Credits: 3
- ECH 333 - Social Studies Methods for PK-4th Grade Credits: 3
- ECH 343 - Mathematics Methods I for PreKindergarten & Kindergarten Credits: 3
- ECH 370 - Assessing Young Children Credits: 3
- ECH 373 - Science and Technology Methods in PK-4 Credits: 3
- ECH 393 - Mathematics Methods II, Grades 2-4 Credits: 2
- ECH 394 - Technology Instruction for Early Childhood Classrooms Credits: 1
- ECH 415 - Professional Practicum in PK-4 Credits: 3
- ECH 440 - Building Family and Community Partnerships Credits: 3
- ECH 453 - Integrated Curriculum Pre K-4 Credits: 3
- ECH 480 - Early Childhood Professional Seminar Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3
- RDG 363 - Reading and Writing in PK-4 Credits: 3
- RDG 383 - English Language Learners in PK-4 Credits: 2
- RDG 443 - Reading Measures and Interventions in PK-4 Credits: 4

Student Teaching Semester

- ECH 489 - Early Childhood Student Teaching Credits: 1-12

Earth and Space Science, B.S.Ed.

Major (24 crs.)

Required (12 crs.)

- ESS 210 - Physical Geology Credits: 3
- ESS 212 - Historical Geology Credits: 3
- ESS 355 - Meteorology Credits: 3
- ESS 220 - Oceanography Credits: 3

Electives in Earth Science (12 crs.)

Selected with advisement

- ESS 108 - Conservation of Natural Resources Credits: 3
- ESS 214 - Geology of National Parks Credits: 3
- ESS 404 - Applied Meteorology and Climatology Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 203 - Climatology Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 397 - Introduction to Research Credits: 1-3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3

Allied Fields (36 crs.)

Certification in earth science, general science and environmental education requires the following courses:

Biology (9 Hours by Advisement)

- BIO 145 - Environmental Biology Credits: 3
- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 208 - Field Biology Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 419 - Ornithology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Chemistry (8 Hours for General Science)

- CHM 121 - Chemical Bonding Credits: 3

- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Physics (11 Hours for General Science)

- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

Math (8+ Hours by Advisement)

- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4

Professional Education Requirements (33 crs.)

Required Courses

- EDU 440 - Teaching of Science in Secondary Schools Credits: 3
- EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115) and 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250).

Economics, Business Concentration, B.S.

This concentration combines a solid background in economics with a significant exposure to important business-related analytical and conceptual skills. By completing the business minor students will gain an appreciation for managerial decision making and develop an awareness of how business skills are applied.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Business Concentration

Required Mathematics/Statistics (9-12 crs.)

- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3 or
- MAT 211 - Calculus I Credits: 4
- MAT 117 - Applied Statistics Credits: 3 or
- MAT 217 - Statistics I Credits: 4
- SCM 200 - Statistical Applications in Business Credits: 3

Note:

MAT 140A or MAT 140B not required if math placement test level is 5 or 6.

Required Business Courses (18 crs.)

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- Three credits from either a finance or accounting course
- Three additional John L. Grove College of Business credits

Note:

SCM 200 requires MIS 142 as a prerequisite.

Students will have completed the required 18 credits for the business minor

Economics, Mathematics Concentration, B.S.

This concentration would be especially well-suited for students preparing for graduate study in economics, which has become increasingly focused upon mathematics and statistical analysis.

Students are strongly encouraged to take ECO 484 Mathematical Economics and ECO 485 Econometrics as economics electives.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Mathematics Concentration

Required Math/Statistics Courses (21-23 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 217 - Statistics I Credits: 4

Plus three additional mathematics courses from among the following.

Other mathematics courses at the 200-level or above may be substituted, with advisement. At least two of these additional courses must be at the 300-level or above. Students will have completed the required 21 credits for the mathematics minor.

- MAT 213 - Calculus III Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 317 - Statistics II Credits: 3
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 322 - Differential Equations Credits: 3
- MAT 425 - Advanced Algebraic Structures Credits: 3

Economics, Political Science Concentration, B.S.

This combination will be appropriate for students planning to pursue careers in government, business, law, or international relations. While combining some aspects of a traditional political economy approach, this concentration will also heighten students' knowledge of the institutional and legal dimensions of major public policy debates.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3

- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Political Science Concentration

Required Math/Statistics Courses (10-12 crs.)

- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3 or
- MAT 211 - Calculus I Credits: 4
- MAT 117 - Applied Statistics Credits: 3 or
- MAT 217 - Statistics I Credits: 4

Note:

MAT 140A or MAT 140B not required if math placement test level is 5 or 6.

Required Political Science Courses (18 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 201 - Foundations of Political Science: Concepts and Critical Analysis Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 302 - Public Policy Analysis Credits: 3
- PLS - Plus six additional political science credits three of which must be at the 300 level or higher

Note:

To fulfill the requirements for the minor in Political Science, students will have to complete PLS 141 and one additional course.

Economics, Public Administration Concentration, B.S.

This sequence of courses would prepare students for careers in the public sector at either the local, state, or federal level, as well as for graduate studies. Economics strongly complements the policy and institutional focus of public administration.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Public Administration Concentration

Required Math/Statistics Sequence (10-12 crs.)

- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3 or
- MAT 211 - Calculus I Credits: 4

- MAT 117 - Applied Statistics Credits: 3 or
- MAT 217 - Statistics I Credits: 4

Note:

MAT 140A or MAT 140B not required if math placement test level is 5 or 6.

Required Public Administration Courses (18 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 371 - Public Management Credits: 3 or
- PLS 373 - Public Financial Administration Credits: 3

Plus three additional Public Administrative credits from among the following:

- PLS 231 - State and Local Government Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 374 - Public Service Ethics Credits: 3
- Plus three additional political science or public administrative credits to fulfill the requirements for the minor

Economics, Social Science Concentration, B.S.

Intended for students pursuing a broad based approach to understanding contemporary social issues, the social science concentration would be similar to traditional liberal arts or B.A. degree in economics. Students are encouraged to consider studying a foreign language as a purposeful use of some of their free elective credits.

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3

- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Social Science Concentration

Required Mathematics Sequence (10-12 crs.)

- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3 or
- MAT 175 - Precalculus Credits: 3
- MAT 181 - Applied Calculus Credits: 3 or
- MAT 211 - Calculus I Credits: 4
- MAT 117 - Applied Statistics Credits: 3 or
- MAT 217 - Statistics I Credits: 4

Note:

MAT 140A or MAT 140B not required if math placement test level is 5 or 6.

Allied Fields (18 crs.)

Students concentrating in the social sciences must take the following courses and credits in the appropriate allied fields.

Political Science

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS - Political Science elective at the 300 level or higher with advisement

Sociology or Anthropology

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3 or
- ANT 111 - Cultural Anthropology Credits: 3

- Plus a 300 level elective in either disciplines selected with advisement

Geography, History, or Philosophy

- Two courses from one of these disciplines inclusive of a 300 level elective selected with advisement. Note: HIS 105 and HIS 106 do not fulfill this requirement.

Electrical Engineering, B.S.

The Bachelor of Science in Electrical Engineering (EE) program provides a balance between theory and practice, and is designed to meet national accreditation requirements. Ship's EE program prepares students for careers in a broad array of electrical engineering fields including:

- Semiconductor and circuit design
- Mixed-signal embedded systems
- Industrial controls
- Communications system engineering

Students will learn about the impact of engineering solutions in a global, economic, environmental, and social context. Graduates will have an ability to use techniques, skills, and modern engineering tools necessary for engineering practice, and will engage in life-long learning to continue developing their skills and knowledge of the practice.

Degree Requirements

Math Cognate Courses (22 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 322 - Differential Equations Credits: 3
- MAT 375 - Probability and Statistics for Engineers Credits: 4

Physics Courses (20 crs.)

- PHY 123 - Physics I Laboratory Credits: 1
and
- PHY 205 - Intermediate Physics I Credits: 3
OR
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 125 - Physics II Laboratory Credits: 1
and
- PHY 206 - Intermediate Physics II Credits: 3
OR
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 311 - Quantum I Credits: 4

- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 355 - Electronics Credits: 4

Engineering Core (12 crs.)

- ENGR 100 - Engineering Seminar I Credits: 1
- ENGR 110 - Modeling and Simulation Credits: 3
- ENGR 120 - Programming for Engineers Credits: 3
- ENGR 200 - Engineering Seminar II Credits: 1
- ENGR 300 - Engineering Seminar III Credits: 1
- ENGR 310 - Statistical Process Control Credits: 3

Computer Engineering Courses (14 crs.)

Student can choose either CMPE 498 or CMPE 499

- CMPE 220 - Computer Organization Credits: 4
- CMPE 322 - Microcontrollers & Interfaces Credits: 4
- CMPE 420 - Digital and Reconfigurable Computing Credits: 4
- CMPE 498 - Engineering Research Methods Credits: 2 or
- CMPE 499 - Engineering Design & Development Credits: 2

Electrical Engineering Courses (12 crs.)

- ELEC 210 - Signals and Systems Credits: 4
- ELEC 300 - Foundations of Electronic Systems Credits: 4
- ELEC 360 - Communications Systems Credits: 4

Electives (4 crs.)

CMPE or ELEC courses, 300 level or above, or Internship

Elementary/Middle Level Education: Grades 4-8, English/Language Arts Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies

- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Area

Language Arts (30 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- ENG 190 - General Education Special Topics Credits: 3 or
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3 or
- ENG 250 - Introduction to Literature Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 426 - Teaching Adolescent Literature Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 334 - Classroom Based Literacy Assessment Credits: 3
- RDG 340 - Seminar in Literacy Tutoring Credits: 3
- TCH 303 - Books and Materials for Children Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Cognate Areas

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Fine Arts (6 crs.) (Select two from different disciplines)

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meets general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (42 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- RDG 329 - Reading in the Content Areas Credits: 3
- TCH 251 - Elements of Middle Level Instruction Credits: 3
- TCH 322 - Teaching Middle Level Language Arts Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (15 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Math and Language Arts Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Mathematics (20 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 333 - Geometry Credits: 3

English/Language Arts (21 crs.)

- ENG 190 - General Education Special Topics Credits: 3 or
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3 or
- ENG 250 - Introduction to Literature Credits: 3

- ENG 420 - Special Topics in Writing Credits: 3
- ENG 426 - Teaching Adolescent Literature Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 334 - Classroom Based Literacy Assessment Credits: 3
- RDG 340 - Seminar in Literacy Tutoring Credits: 3

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3

Note:

ENG 190, ENG 248, ENG 250, ENG 114 , ENG 115 meet general education requirements

Cognate Areas

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3

- ECO 101 - Principles of Macroeconomics Credits: 3 or

- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Writing/Fluency Competencies (3 crs.)

- HCS 100 - Introduction to Human Communication Credits: 3

Note:

HCS 100 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- RDG 329 - Reading in the Content Areas Credits: 3
- TCH 322 - Teaching Middle Level Language Arts Credits: 3
- TCH 342 - Teaching Middle Level Mathematics Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Math and Science Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Mathematics (20 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3
- MAT 211 - Calculus I Credits: 4

- MAT 225 - Discrete Mathematics Credits: 4
- MAT 333 - Geometry Credits: 3

Note:

MAT 110 , MAT 111 meet general education requirements

Science (22-23 crs.)

- BIO 100 - Basic Biology Credits: 3 or
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- CHM 105 - An Observational Approach Credits: 3
- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- BIO 142 - Introduction to Ecology Credits: 3 or
- BIO 145 - Environmental Biology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Cognate Areas

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3

- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 399 - Independent Study Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 342 - Teaching Middle Level Mathematics Credits: 3
- TCH 366 - Teaching Science at the Middle Level Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Math and Social Studies Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Mathematics (20 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 333 - Geometry Credits: 3

Note:

MAT 110, MAT 111 meet general education requirements

Social Studies (21 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- GEO 101 - World Geography Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Choose One:

- GEO 305 - Geography of Europe Credits: 3
- GEO 308 - Geography of Latin America Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- GEO 415 - Regional Geographic Studies Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Choose One:

- ECO 345 - The Economics of Growth and Development Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 312 - The American Presidency Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3

Note:

GEO 101, ECO 101, HIS 105, HIS 106 meet general education requirements

Cognate Areas

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, ESS 110 meet general education requirements

Language Arts (12 crs.)

- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3
- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Literature

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3

- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meets general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meet general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 342 - Teaching Middle Level Mathematics Credits: 3
- TCH 348 - Teaching Middle Level Social Studies Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Mathematics Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Area

Mathematics (30 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 333 - Geometry Credits: 3

Choose Two of the Following:

- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 326 - Mathematical Modeling Credits: 3
- MAT 400 - History of Mathematics Credits: 3

Cognate Areas

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meets general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 251 - Elements of Middle Level Instruction Credits: 3
- TCH 342 - Teaching Middle Level Mathematics Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Science and English/Language Arts Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Science (22-23 crs.)

- BIO 100 - Basic Biology Credits: 3 or
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- CHM 105 - An Observational Approach Credits: 3
- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3 and
- PHY 123 - Physics I Laboratory Credits: 1
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- BIO 142 - Introduction to Ecology Credits: 3 or
- BIO 145 - Environmental Biology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

English/Language Arts (21 crs.)

- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3 or
- ENG 250 - Introduction to Literature Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 426 - Teaching Adolescent Literature Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 334 - Classroom Based Literacy Assessment Credits: 3
- RDG 340 - Seminar in Literacy Tutoring Credits: 3
- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3

Note:

ENG 190 , ENG 248 ENG 250 , ENG 114 , ENG 115 meet general education requirements

Cognate Areas

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3
- ECO 101 - Principles of Macroeconomics Credits: 3 or
- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3

- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Note:

MAT 110 , MAT 111 meet general education requirements.

Writing/Fluency Competencies (3 crs.)

- HCS 100 - Introduction to Human Communication Credits: 3

Note:

HCS 100 meets general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3

- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meets general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- RDG 329 - Reading in the Content Areas Credits: 3
- TCH 322 - Teaching Middle Level Language Arts Credits: 3
- TCH 366 - Teaching Science at the Middle Level Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Science and Social Studies Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Areas

Science (22-23 crs.)

- BIO 100 - Basic Biology Credits: 3 or
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

- CHM 105 - An Observational Approach Credits: 3
- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3

- BIO 142 - Introduction to Ecology Credits: 3 or
- BIO 145 - Environmental Biology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Social Studies (21 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- GEO 101 - World Geography Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Choose One:

- GEO 305 - Geography of Europe Credits: 3
- GEO 308 - Geography of Latin America Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- GEO 415 - Regional Geographic Studies Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Choose One:

- ECO 345 - The Economics of Growth and Development Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 312 - The American Presidency Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3

Note:

ECO 101 , GEO 101 , HIS 105 , HIS 106 meet general education requirements

Cognate Areas

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3

- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meet general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 348 - Teaching Middle Level Social Studies Credits: 3
- TCH 366 - Teaching Science at the Middle Level Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Science Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science
- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Science (31 crs.)

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

- BIO 208 - Field Biology Credits: 3 or
- BIO 242 - Ecology Credits: 3

- CHM 105 - An Observational Approach Credits: 3

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
or
- PHY 122 - Introductory Physics II - Lecture Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1

- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3

- ESS 210 - Physical Geology Credits: 3 or
- ESS 220 - Oceanography Credits: 3 or
- ESS 355 - Meteorology Credits: 3 or
- ESS 404 - Applied Meteorology and Climatology Credits: 3

Note:

BIO 161, CHM 105, ESS 110, meet general education requirements

Cognate Areas

Social Studies (12 crs.)

- GEO 101 - World Geography Credits: 3

- ECO 101 - Principles of Macroeconomics Credits: 3 or

- PLS 100 - U.S. Government and Politics Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Note:

GEO 101, ECO 101, PLS 100, HIS 105, HIS 106 meet general education requirements

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Additional Coursework

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Art

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

ART 101 is recommended

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meets general education requirements

Social and Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meets general education requirements

Choose one of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Note:

ANT 111, GEO 140, SOC 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 251 - Elements of Middle Level Instruction Credits: 3
- TCH 366 - Teaching Science at the Middle Level Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Elementary/Middle Level Education: Grades 4-8, Social Studies Concentration, B.S.Ed.

(Minimum of 120 credit hours required)

Option 1: Single Certification

Students choose one area in which they will be certified to teach. Options include:

- Science

- Mathematics
- Social Studies
- English/Language Arts.

Option 2: Double Certifications

Students choose two areas in which they will be certified to teach. One area must be math or science. Options include:

- Science and Mathematics;
- Science and Social Studies;
- Science and English/Language Arts;
- Mathematics and Social Studies; and
- Mathematics and English/Language Arts.

Concentration Area

Social Studies (33 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 345 - The Economics of Growth and Development Credits: 3
- GEO 101 - World Geography Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Choose One:

- GEO 305 - Geography of Europe Credits: 3
- GEO 308 - Geography of Latin America Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- GEO 415 - Regional Geographic Studies Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Choose One:

- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3

Choose One:

- HIS 301 - The West in American History Credits: 3
- HIS 302 - American Business History Credits: 3
- HIS 304 - American Diplomatic History Credits: 3
- HIS 305 - The Civil War Era Credits: 3
- HIS 309 - History of the American Worker Credits: 3
- HIS 314 - History of Jacksonian America Credits: 3
- HIS 318 - History of U.S. Women Credits: 3
- HIS 338 - Colonial America Credits: 3

- HIS 341 - African-American History Credits: 3
- HIS 342 - U.S. Immigration and Ethnicity Credits: 3
- HIS 345 - Military History of the United States Credits: 3
- HIS 402 - Revolutionary America Credits: 3
- HIS 413 - Pennsylvania History Credits: 3

Choose One:

- PLS 311 - The Legislative Process Credits: 3
- PLS 312 - The American Presidency Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3

Note:

ECO 101, GEO 101, GEO 140, HIS 105, HIS 106 meet general education requirements

Cognate Areas

Mathematics (12 crs.)

- MAT 105 - Mathematics for Liberal Studies Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Science (12 crs.)

- BIO 100 - Basic Biology Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- ESS 110 - Introduction to Geology Credits: 3

Note:

BIO 100, CHM 105, ESS 110 meet general education requirements

Language Arts (12 crs.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3 or
- ENG 115 - Advanced Placement Writing Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- RDG 232 - Reading in the Elementary School Credits: 3
- RDG 329 - Reading in the Content Areas Credits: 3

Note:

ENG 114 , ENG 115 , HCS 100 meet general education requirements

Literature (3 crs.)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Note:

ENG 243, ENG 248, ENG 250 meet general education requirements

Fine Arts (6 crs.)

(Select two from different disciplines)

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Note:

ART 101, ART 231, ART 232, ART 274, ART 339 meet general education requirements

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Note:

MUS 110, MUS 121, MUS 261 meet general education requirements

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Note:

THE 121 meet general education requirements

Social and Behavioral Sciences (3 crs.)

- PSY 101 - General Psychology Credits: 3

Note:

PSY 101 meet general education requirements

Professional Core and Student Teaching (39 crs.)

Middle Level Cognitive Development

- TCH 206 - Social Foundations of Middle Level Education Credits: 3

Early Adolescent and Adolescent Learning Theory

- TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Assessments and Interventions

- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 345 - Assessment and Evaluation Strategies Credits: 3

Adaptations and Accommodations for Diverse Learners

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Middle Level Teaching Methods

- TCH 251 - Elements of Middle Level Instruction Credits: 3
- TCH 348 - Teaching Middle Level Social Studies Credits: 3

English Language Learners (ELL)

- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Student Teaching (12 crs.)

- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

English, Literary Studies, B.A.

Students pursuing a B.A. in English-Literary Studies focus intensively on English, American, and Global literatures, becoming proficient in research methods and textual analysis. This degree prepares them to enter into a variety of fields post-graduation, including advanced graduate studies, journalism, publishing, public relations, and law, just to name a few. With an English major, future career possibilities are endless. English majors are currently in high demand due to their communication skills, writing skills, and ability to think critically in regards to problem solving.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

English Major Requirements (42 crs.)

Required Courses (9 crs.)

- ENG 130 - Literary Studies for the English Major and Minor Credits: 3
- ENG 213 - Writing and Research About Literature Credits: 3
- ENG 460 - Senior Seminar Credits: 3

Required Survey Courses (9 crs.)

- ENG 233 - American Literature I Credits: 3
OR
- ENG 236 - British Literature I Credits: 3
- ENG 234 - American Literature II Credits: 3
OR
- ENG 237 - British Literature II Credits: 3
- ENG 239 - Postcolonial Literature Credits: 3
OR
- ENG 240 - Global Literature Credits: 3

Advanced Studies in Literature

Students must take at least 1 course in each category. (Note: students must take 4 additional courses in this section to reach the 24 credit hours required.)

Writing

Complete at least 1 of the following:

- ENG 224 - Introduction to Creative Writing Credits: 3
- ENG 229 - Advanced Composition Credits: 3
- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 307 - Poetry Writing Credits: 3

- ENG 308 - Fiction Writing Credits: 3
- ENG 323 - Reviewing the Arts for Publication Credits: 3
- ENG 335 - Creative Nonfiction Writing Credits: 3
- ENG 341 - Teaching Writing in the Secondary Schools Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 427 - Advanced Poetry Workshop Credits: 3
- ENG 428 - Advanced Fiction Workshop Credits: 3
- ENG 435 - Advanced Creative Nonfiction Credits: 3
- ENG 438 - Technical Professional Writing II Credits: 3

Genres

Complete at least 1 of the following:

- ENG 304 - Literary Criticism Credits: 3
- ENG 333 - Cultural Studies Credits: 3
- ENG 336 - Theories and Approaches: Language, Learning, and Literacy Credits: 3
- ENG 342 - Mythology Credits: 3
- ENG 360 - Popular Genres Credits: 3
- ENG 367 - Studies in Drama Credits: 3
- ENG 368 - Studies in Fiction Credits: 3
- ENG 369 - Studies in Poetry Credits: 3
- ENG 373 - Studies in Creative Nonfiction Credits: 3
- ENG 440 - Special Topics in Genre Credits: 3

History and Movements

Complete at least 1 of the following:

- ENG 318 - Studies in English Renaissance Literature Credits: 3
- ENG 330 - Shakespeare Credits: 3
- ENG 337 - Romanticism Credits: 3
- ENG 344 - Studies in Single Author Credits: 3
- ENG 349 - Victorian Literature Credits: 3
- ENG 363 - Modernism Credits: 3
- ENG 364 - Postmodernism Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 376 - Studies in Medieval Literature Credits: 3
- ENG 377 - The Long 18th Century Credits: 3
- ENG 380 - 19th Century Literature Credits: 3
- ENG 383 - Literature After 1900 Credits: 3
- ENG 430 - Special Topics in Literary History and Movements Credits: 3

Identities

Complete at least 1 of the following:

- ENG 445 - Special Topics in Identities Credits: 3

- ENG 385 - Studies in Postcolonial Literature Credits: 3
- ENG 370 - Queer Studies Credits: 3
- ENG 375 - African-American Literature Credits: 3
- ENG 345 - Women's Literature Credits: 3
- ENG 358 - Ethnic Literature Credits: 3
- ENG 359 - Native American Literature Credits: 3
- ENG 362 - Disability in Literature Credits: 3

English, Writing Concentration, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

English Major Requirements (42 crs.)

Required Courses (9 crs.)

- ENG 130 - Literary Studies for the English Major and Minor Credits: 3
- ENG 213 - Writing and Research About Literature Credits: 3
- ENG 460 - Senior Seminar Credits: 3

Required Survey Courses (9 crs.)

- ENG 233 - American Literature I Credits: 3
OR
- ENG 236 - British Literature I Credits: 3
- ENG 234 - American Literature II Credits: 3
OR
- ENG 237 - British Literature II Credits: 3
- ENG 239 - Postcolonial Literature Credits: 3
OR
- ENG 240 - Global Literature Credits: 3

Writing (12 crs.)

Complete 4 of the following:

- ENG 224 - Introduction to Creative Writing Credits: 3
- ENG 229 - Advanced Composition Credits: 3
- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 307 - Poetry Writing Credits: 3

- ENG 308 - Fiction Writing Credits: 3
- ENG 323 - Reviewing the Arts for Publication Credits: 3
- ENG 335 - Creative Nonfiction Writing Credits: 3
- ENG 341 - Teaching Writing in the Secondary Schools Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 427 - Advanced Poetry Workshop Credits: 3
- ENG 428 - Advanced Fiction Workshop Credits: 3
- ENG 435 - Advanced Creative Nonfiction Credits: 3
- ENG 438 - Technical Professional Writing II Credits: 3

Advanced Studies in Literature (12 crs.)

Complete at least 1 course in each category. (Note: students must take 1 additional course in this section to reach the 12 credit hours required.)

Genres

Complete at least 1 of the following:

- ENG 304 - Literary Criticism Credits: 3
- ENG 333 - Cultural Studies Credits: 3
- ENG 336 - Theories and Approaches: Language, Learning, and Literacy Credits: 3
- ENG 342 - Mythology Credits: 3
- ENG 360 - Popular Genres Credits: 3
- ENG 367 - Studies in Drama Credits: 3
- ENG 368 - Studies in Fiction Credits: 3
- ENG 369 - Studies in Poetry Credits: 3
- ENG 373 - Studies in Creative Nonfiction Credits: 3
- ENG 440 - Special Topics in Genre Credits: 3

History and Movements

Complete at least 1 of the following:

- ENG 318 - Studies in English Renaissance Literature Credits: 3
- ENG 330 - Shakespeare Credits: 3
- ENG 337 - Romanticism Credits: 3
- ENG 344 - Studies in Single Author Credits: 3
- ENG 349 - Victorian Literature Credits: 3
- ENG 363 - Modernism Credits: 3
- ENG 364 - Postmodernism Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 376 - Studies in Medieval Literature Credits: 3
- ENG 377 - The Long 18th Century Credits: 3
- ENG 380 - 19th Century Literature Credits: 3
- ENG 383 - Literature After 1900 Credits: 3
- ENG 435 - Advanced Creative Nonfiction Credits: 3

Identities

Complete at least 1 of the following:

- ENG 345 - Women's Literature Credits: 3
- ENG 358 - Ethnic Literature Credits: 3
- ENG 359 - Native American Literature Credits: 3
- ENG 362 - Disability in Literature Credits: 3
- ENG 370 - Queer Studies Credits: 3
- ENG 375 - African-American Literature Credits: 3
- ENG 385 - Studies in Postcolonial Literature Credits: 3
- ENG 445 - Special Topics in Identities Credits: 3

English with Secondary Certification, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

English Major Requirements (39 crs.)

Students receiving certification must take one course in world literature (ENG 240 or ENG 385).

Required Courses (15 crs.)

- ENG 130 - Literary Studies for the English Major and Minor Credits: 3
- ENG 213 - Writing and Research About Literature Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3
- ENG 426 - Teaching Adolescent Literature Credits: 3
- ENG 460 - Senior Seminar Credits: 3

Required Survey Courses (9 crs.)

- ENG 233 - American Literature I Credits: 3
- OR
- ENG 236 - British Literature I Credits: 3
- ENG 234 - American Literature II Credits: 3
- OR
- ENG 237 - British Literature II Credits: 3
- ENG 239 - Postcolonial Literature Credits: 3
- OR
- ENG 240 - Global Literature Credits: 3

Advanced Studies in Literature (15 crs.)

Complete at least 1 course in each category. (Note: students must take 1 additional course in this section to reach the 15 credit hours required.)

Writing

Complete at least 1 of the following:

- ENG 224 - Introduction to Creative Writing Credits: 3
- ENG 229 - Advanced Composition Credits: 3
- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 307 - Poetry Writing Credits: 3
- ENG 308 - Fiction Writing Credits: 3
- ENG 323 - Reviewing the Arts for Publication Credits: 3
- ENG 335 - Creative Nonfiction Writing Credits: 3
- ENG 341 - Teaching Writing in the Secondary Schools Credits: 3
- ENG 420 - Special Topics in Writing Credits: 3
- ENG 427 - Advanced Poetry Workshop Credits: 3
- ENG 428 - Advanced Fiction Workshop Credits: 3
- ENG 435 - Advanced Creative Nonfiction Credits: 3
- ENG 438 - Technical Professional Writing II Credits: 3

Genres

Complete at least 1 of the following:

- ENG 304 - Literary Criticism Credits: 3
- ENG 333 - Cultural Studies Credits: 3
- ENG 336 - Theories and Approaches: Language, Learning, and Literacy Credits: 3
- ENG 342 - Mythology Credits: 3
- ENG 360 - Popular Genres Credits: 3
- ENG 367 - Studies in Drama Credits: 3
- ENG 368 - Studies in Fiction Credits: 3
- ENG 369 - Studies in Poetry Credits: 3
- ENG 373 - Studies in Creative Nonfiction Credits: 3
- ENG 440 - Special Topics in Genre Credits: 3

History and Movements

Complete at least 1 of the following:

- ENG 318 - Studies in English Renaissance Literature Credits: 3
- ENG 330 - Shakespeare Credits: 3
- ENG 337 - Romanticism Credits: 3
- ENG 344 - Studies in Single Author Credits: 3
- ENG 349 - Victorian Literature Credits: 3
- ENG 363 - Modernism Credits: 3
- ENG 364 - Postmodernism Credits: 3
- ENG 366 - History and Structure of the English Language Credits: 3

- ENG 376 - Studies in Medieval Literature Credits: 3
- ENG 377 - The Long 18th Century Credits: 3
- ENG 380 - 19th Century Literature Credits: 3
- ENG 383 - Literature After 1900 Credits: 3
- ENG 430 - Special Topics in Literary History and Movements Credits: 3

Identities

- ENG 345 - Women's Literature Credits: 3
- ENG 358 - Ethnic Literature Credits: 3
- ENG 359 - Native American Literature Credits: 3
- ENG 362 - Disability in Literature Credits: 3
- ENG 370 - Queer Studies Credits: 3
- ENG 375 - African-American Literature Credits: 3
- ENG 385 - Studies in Postcolonial Literature Credits: 3
- ENG 445 - Special Topics in Identities Credits: 3

Required General Education Course

- PSY 101 - General Psychology Credits: 3

Professional Education Requirements (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 290 - Introduction to English/Language Arts Education Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EDU 422 - Methods of Teaching English in Secondary Schools Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

Students seeking certification in secondary education must also complete 2 math courses (except MAT 185).

Environmental Education Certification

Shippensburg University offers an approved program in environmental education. The program may be taken by elementary education majors as an academic sequence or by secondary education majors in biology or geography/earth science. Secondary students in other fields may enroll in the program with the permission of their department chair.

The environmental education program at Shippensburg is a somewhat structured program, but it also allows for much diversity in the selection of courses for the completion of the requirements for certification. Certification allows the teacher to instruct any subject matter that is labeled as environmental education in any grade from kindergarten through the 12th grade.

To receive the certification a student must complete a minimum of 24 credits from the courses described below. The only course which is required of all students is EDU 410 - Environmental Education Practicum Credits: 3.

The practicum is offered during fall semester of odd numbered years and summers during even numbered years.

The additional 21 credits may be selected in a variety of ways. Among the 21 credits, a minimum of 12 credits must be selected from core courses and 9 credits must be selected from courses outside of the student's major field of study. These 21 credits must be selected from a minimum of three departments of the university and include a statistics course.

24 crs.

Required Course

- EDU 410 - Environmental Education Practicum Credits: 3

Core Courses (12 crs. minimum)

The student must select a minimum of one course from each of the four categories (A-D) below. Additional courses may be counted toward Related Electives.

Category A

- BIO 142 - Introduction to Ecology Credits: 3
- BIO 242 - Ecology Credits: 3

Category B

- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Category C

- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3

Category D

- BIO 145 - Environmental Biology Credits: 3
- ESS 108 - Conservation of Natural Resources Credits: 3

Related Electives

Any remaining credits must be selected from the courses listed below. It is recommended students take as broad a base of courses as possible if they have a strength in one of the science areas. If an area of strength is not evident, it is recommended that the remaining electives be used to establish one.

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 121 - Physical Anthropology Credits: 3
- BIO 205 - Marine Biology Credits: 3
- BIO 220 - Microbiology Credits: 4
- BIO 245 - Marine Ecology Credits: 3
- BIO 444 - Conservation Biology Credits: 3
- BIO 362 - Invertebrate Zoology Credits: 3
- BIO 363 - Vertebrate Zoology Credits: 3
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3
- ECO 310 - Public Finance Credits: 3
- ECO 340 - Introduction to Regional Economics Credits: 3
- ECO 345 - The Economics of Growth and Development Credits: 3
- ESS 220 - Oceanography Credits: 3
- ESS 355 - Meteorology Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- GEO 103 - Geography of the United States and Canada Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- GEO 203 - Climatology Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 371 - Public Management Credits: 3
- MAT 117 - Applied Statistics Credits: 3

Note:

BIO 205, BIO 245, BIO 446 are offered at the Marine Science Consortium, Wallops Island, Virginia.

A student should normally indicate interest in receiving the certification early in his/her undergraduate studies. This interest should be communicated to his/her advisor or department chair so a suitable program can be planned which will allow the student to complete the requirements within a normal four-year program. Students and advisors are urged to consult the catalog for any prerequisites for courses above the 100 levels.

Exercise Science, B.S.

Transfer students, both internal and external, are selected for admission based on the following criteria:

- Academic proficiency in college or university course work, including a 2.75 QPA.
- Completion of 15 credits, including a C or better in BIO 161, BIO 162 or BIO 237
- Selection is competitive and students will be selected from those who fulfill the above requirements.

Exercise Science Requirements (47-53 crs.)

- ESC 244 - Mechanical Analysis of Sports Skills Credits: 3
- ESC 250 - Introduction to Kinesiology Credits: 3
- ESC 321 - Exercise Physiology I Credits: 4
- ESC 333 - Biomechanics Credits: 4
- ESC 340 - Prevention and Care of Athletic Injuries Credits: 3
- ESC 336 - Motor Behavior Credits: 3
- ESC 350 - Nutrition for Sport & Fitness Credits: 3
- ESC 352 - Psychology of Physical Activity Credits: 3
- ESC 420 - Cardiac Rehab and Special Populations Credits: 4
- ESC 421 - Exercise Physiology II Credits: 4
- ESC 422 - Exercise Testing and Prescription Credits: 3
- ESC 424 - Internship Credits: 6-12
- Electives: Credits: 6-12 (Depending on Internship)

Required General Education Courses

Students must complete the following courses as part of their general education requirements:

- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- CHM 105 - An Observational Approach Credits: 3
OR
- CHM 121 - Chemical Bonding Credits: 3 *and*
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- MAT 117 - Applied Statistics Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1
- PSY 101 - General Psychology Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3
OR
- WST 100 - Introduction to Women's and Gender Studies Credits: 3

Please Note:

Students taking CHM 121 will need to complete CHM 125 as an elective choice. Students taking PHY 121 will need to complete PHY 123 as an elective choice.

Note:

All students are required to acquire certification by attending an American Red Cross (ARC) or American Heart Association (AHA) or National Safety Council (NSC) workshop at the students' expense. All students doing an internship must hold current certifications (at the students' expense): First aid, CPR certification, child abuse; criminal record, TB test, and proof of insurance liability.

Students are required to achieve a grade of C or above in all Exercise Science courses.

All students are required to take one certification examination at the student's expense. This examination must be completed before the student's diploma may be released. These include:

1. American College of Sports Medicine Certified Health Fitness Specialist exam (ACSM-HFS), or
2. American College of Sports Medicine Certified Personal Trainer exam (ACSM-CPT), or
3. National Strength and Conditioning Association Certified Personal Trainer (NSCA-CPT) exam, or
4. National Strength and Conditioning Association Certified Strength and Conditioning Specialist (NSCA-CSCS) exam.

Finance, B.S.B.A.

Finance is the study and practice of making money-denominated decisions. Individuals, business corporations, and government agencies located worldwide are all concerned with securing, managing, and investing funds efficiently; i.e., they must practice sound financial decision making. As a discipline, finance can be classified into six areas: corporate financial management, investments, financial institutions and markets, banking and insurance, personal financial planning, and real estate investment and valuation. The finance program at Shippensburg University offers a full range of courses in these areas. Our program is unique in the emphasis placed on the application of finance concepts. In addition to two applied courses in market, company, and security analysis, the finance major can apply for admission to the Investment Management Program class. In this class students utilize their accumulated knowledge and skills in the management of a real-money investment portfolio.

By the beginning of the sophomore year, a student majoring in finance will be expected to have access to a personal computer which is compatible with the hardware and software used in the finance program. Our computer labs, though well-equipped, are utilized by a large percentage of students from the college of business. Due to this high demand, a personal computer is invaluable to fulfilling the major finance course requirements.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3

- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (12 crs.)

- FIN 312 - Investments Credits: 3
- FIN 313 - Advanced Financial Management Credits: 3
- FIN 314 - Financial Institutions Credits: 3
- FIN 333 - Applied Company and Security Analysis Credits: 3

Electives (6 crs.)

(Two courses from the following 3-credit courses)

- FIN 320 - Risk Management and Insurance Credits: 3
- FIN 322 - Estate Planning Credits: 3
- FIN 324 - Retirement Planning and Employee Benefits Credits: 3
- FIN 340 - Principles of Real Estate Credits: 3
- FIN 393 - Selected Topics in Finance Credits: 1-3
- FIN 405 - Real Estate Appraisal and Investment Analysis Credits: 3
- FIN 414 - Bank Management Credits: 3
- FIN 421 - Personal Financial Planning Credits: 3
- FIN 425 - Global Financial Management Credits: 3
- FIN 434 - Investment Management Program Credits: 1-3
- FIN 435 - Investment Management Program Credits: 1-3

- FIN 442 - Derivatives Markets Credits: 3
- FIN 490 - Selected Topics in Finance Credits: 1-3

Finance Career Opportunities

Students develop a wide range of analytical skills with both theoretical and real problems and can, therefore, choose a career within a full spectrum of jobs: corporate financial analyst (revenue and capital budget), financial planner, security analyst, portfolio manager or analyst, pension fund manager, security broker or dealer, banking industry analyst, mortgage analyst, corporate risk manager, or consultant on mergers and acquisitions.

Shippensburg University graduates who majored in finance have obtained responsible positions in major corporations, profit and non-profit, and positions in a variety of major and regional banks and other financial institutions.

For those students with a concentration in real estate, career opportunities are available in a wide array of firms. For example, a graduate may take a position with a real estate development firm, a financial institution or real estate investment firm, a real estate brokerage firm, a real estate management firm, or an appraisal firm. There are also a wide variety of job opportunities in the non-profit or governmental sector for a student with an expertise in real estate.

Finance, Personal Financial Planning Concentration, B.S.B.A.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3

- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Personal Financial Planning Concentration

Personal financial planning is the process of managing financial resources to achieve individual goals. It is a six-step process-determine current financial conditions, develop financial goals, identify alternative courses of action, evaluate alternatives, create and implement a financial plan, and evaluate and revise the plan. The basic elements of personal financial plan include cash flow/budgeting analysis, insurance needs, employee benefits, education funding requirements, investment decision, analysis of debt, portfolio analysis, retirement planning, forecasting retirement benefits and costs, income tax planning, and estate planning.

Required (21 crs.)

- FIN 312 - Investments Credits: 3
- FIN 320 - Risk Management and Insurance Credits: 3
- FIN 421 - Personal Financial Planning Credits: 3
- FIN 322 - Estate Planning Credits: 3
- FIN 324 - Retirement Planning and Employee Benefits Credits: 3
- FIN 333 - Applied Company and Security Analysis Credits: 3
- ACC 306 - Tax Accounting Credits: 3

Personal Financial Planning Career Opportunities

The field of financial planning is experiencing substantial growth. The public's need for professional financial advice has been increasing drastically due to the changes in demographics and financial regulation. *U.S. News and World Report* lists personal financial planning as one of the 20 hot jobs for the 21st century. With a specialty in personal financial planning, you can choose a career within a full array of jobs. Typically, you can be a self-employed financial advisor or work for depository and non-depository financial institutions such as banks, saving institutions, credit unions, brokerage firms, investment companies, and insurance agencies. Alternative options include accounting firms, law offices, and human resource and employee benefit departments, among others. Current salaries are highly competitive and the current average income for experienced financial planners depends upon the specific career option

selected and the geographic region. U.S. Department of Labor reports the median annual earnings of personal financial advisors was \$56,680.

French with Secondary Certification, B.A.

All courses required for the French major are taught in French. Courses numbered below French 200 do not count for the major. Professional Education courses offered by other departments are taught in English. This program is nationally recognized by ACTFL/NCATE.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Required (30 crs.)

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 211 - Intermediate French Grammar Credits: 3
- FRN 300 - Advanced French Conversation Credits: 3
- FRN 308 - Diction et Comprehension Credits: 3
- FRN 309 - French Grammar Credits: 3
- FRN 316 - Composition and Stylistics Credits: 3
- FRN 330 - Masterpieces of French Literature Credits: 3
- FRN 331 - Masterpieces of Francophone Literature Credits: 3
- FRN 340 - Genres Littéraires Credits: 3

French Electives (6 crs.)

One of the two electives must be a 400 level course.

- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3
- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- FRN 411 - Theory and Practice of Translation Credits: 3
- FRN 490 - Selected Topics in French Credits: 3

Note:

French majors and minors are strongly urged to take history, political science, and geography courses that deal with French-speaking countries.

Required Professional Education Courses (30 crs.)

If planning to teach French

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- TCH 251 - Elements of Middle Level Instruction Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EDU 426 - Methods of Teaching Foreign Languages Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185). If any exceptions are made, they must be approved by the Teacher Education Office. Other requirements for teacher certification are available from the Department of Modern Languages.

Dual Certification French and Another Field

Students planning to teach will find it to their advantage to work for dual certification in two modern languages, a modern language and English, or a modern language and another field. To achieve dual certification a student must have the approval of both departments involved, complete the normal requirements for a major in the primary area of interest and a 30-hour sequence in the secondary area of specialization, plus appropriate courses in the methodology and student teaching in both areas.

French, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

(36 crs.)

All courses required for the French major are taught in French. Courses numbered below French 200 do not count for the major.

Required French (30 crs.)

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 211 - Intermediate French Grammar Credits: 3
- FRN 300 - Advanced French Conversation Credits: 3
- FRN 308 - Diction et Comprehension Credits: 3
- FRN 309 - French Grammar Credits: 3
- FRN 316 - Composition and Stylistics Credits: 3
- FRN 330 - Masterpieces of French Literature Credits: 3
- FRN 331 - Masterpieces of Francophone Literature Credits: 3

- FRN 340 - Genres Littéraires Credits: 3

French Electives (6 crs.)

One of the two electives must be a 400 level course.

- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3
- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- FRN 411 - Theory and Practice of Translation Credits: 3
- FRN 490 - Selected Topics in French Credits: 3

Note:

French majors and minors are strongly urged to take history, political science, and geography courses that deal with French-speaking countries.

General Science Certification

Students completing the requirements leading to certification as a secondary school teacher may elect to satisfy the requirements for additional certification in General Science by completing the following requirements:

Biology (9 crs.)

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 145 - Environmental Biology Credits: 3
- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Chemistry (8 crs.)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Physics (9 crs.)

- PHY 108 - Astronomy Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 122 - Introductory Physics II - Lecture Credits: 3

Mathematics (8 crs.)

- MAT 117 - Applied Statistics Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4

Computer Science (3 crs.)

- CSC 103 - Overview of Computer Science Credits: 3
- CSC 180 - Microcomputer Basic Credits: 3
- EDU 420 - Microcomputers in the Classroom Credits: 3

Earth-Space Science (3 crs.)

- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3
- ESS 212 - Historical Geology Credits: 3
- ESS 220 - Oceanography Credits: 3
- ESS 355 - Meteorology Credits: 3

Geoenvironmental Studies, B.S.

Geography-Earth Science (42 crs.)

Required Core Courses (15 crs.)

- ESS 210 - Physical Geology Credits: 3
OR
- ESS 110 - Introduction to Geology Credits: 3
AND
- ESS 212 - Historical Geology Credits: 3 *or*
- ESS 214 - Geology of National Parks Credits: 3 *or*
- GEO 306 - Geomorphology Credits: 3
- ESS 355 - Meteorology Credits: 3
OR
- ESS 111 - Introduction to the Atmosphere Credits: 3
AND
- ESS 404 - Applied Meteorology and Climatology Credits: 3 *or*
- GEO 203 - Climatology Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 391 - Geography Seminar Credits: 3

Geography Electives (6 crs. min.)

- GEO 230 - Economic Geography Credits: 3

- GEO 244 - Land Use Credits: 3
- GEO 305 - Geography of Europe Credits: 3
- GEO 308 - Geography of Latin America Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- GEO 320 - Historical Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Note:

* Regional geography courses may also be counted as electives by advisement.

Geoenvironmental Complex System Electives (9 crs. min.)

- ESS 404 - Applied Meteorology and Climatology Credits: 3
- GEO 405 - Environmental Conservation and Management in PA Credits: 3
- ESS 410 - Sedimentary Geology and Paleoenvironments Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- ESS 451 - Coastal Environmental Oceanography Credits: 3
- ESS 490 - Selected Topics in Earth Science Credits: 1-3
- GEO 301 - Introduction to Biogeography Credits: 3
- GEO 306 - Geomorphology Credits: 3
- GEO 402 - Medical Geography Credits: 3
- GEO 404 - Groundwater and Hydrogeology Credits: 3
- GEO 421 - Environmental Law Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- GEO 446 - Water Resources Management Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3
- GEO 490 - Selected Topics in Geography Credits: 1-3
- GEO 491 - Selected Topics in Geography Credits: 3

Technique Course Electives (6 crs. min.)

- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3
- GEO 463 - Applied Geophysical Imaging Credits: 3

Geoenvironmental Electives (3 crs. min.)

Any 200-400 level course listed in the above categories not previously taken may be used as a Geoenvironmental elective.

- GEO 203 - Climatology Credits: 3
- GEO 306 - Geomorphology Credits: 3
- GEO 397 - Introduction to Research Credits: 1-3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3
- GEO 490 - Selected Topics in Geography Credits: 1-3
- ESS 212 - Historical Geology Credits: 3
- ESS 214 - Geology of National Parks Credits: 3
- ESS 220 - Oceanography Credits: 3
- Marine Science Consortium Course

Internship Requirement:

Internship - 2.0 overall and major average required, junior status (60 cr.), must be taken before applying for an internship.

- GEO 360 - Internship in Geography I Credits: 3

Allied Fields (22+ crs.)

Biology (9-11 Credits by Advisement)

At least one course must be taken at or above 200 level

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 145 - Environmental Biology Credits: 3
- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 242 - Ecology Credits: 3
- BIO 442 - Aquatic Ecology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Note:

BIO 162, BIO 145, BIO 242, and BIO 448 are strongly recommended. If student has a special interest in zoology or botany, they should follow sequential courses in that area, i.e., field zoology, field botany and plant taxonomy.

Chemistry/Physics (7-8 Credits by Advisement)

- CHM 105 - An Observational Approach Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3

- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- PHY 121 - Introductory Physics I - Lecture Credits: 3
- PHY 123 - Physics I Laboratory Credits: 1

Computer Science (3-4 Credits by Advisement)

- CSC 103 - Overview of Computer Science Credits: 3
- CSC 104 - Programming in Python Credits: 3
- CSC 106 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 180 - Microcomputer Basic Credits: 3
- CSC 191 - General Education Special Topics Credits: 3
- MIS 142 - Business Computer Systems Credits: 3

Mathematics (3-4 credits by advisement)

- MAT 117 - Applied Statistics Credits: 3
- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4

Geography, Comprehensive Social Studies, B.S.Ed.

Required Courses in Geography (12 crs.)

- GEO 101 - World Geography Credits: 3
- ESS 110 - Introduction to Geology Credits: 3 or
- ESS 111 - Introduction to the Atmosphere Credits: 3
- GEO 230 - Economic Geography Credits: 3
- GEO 140 - Cultural Geography Credits: 3

Elective Courses in Geography (12 crs.)

Students majoring or concentrating in geography will select with advisement a minimum of four elective courses in geography. Electives should be chosen in the areas of specialization which either may serve a future teaching purpose or may establish a basis for future graduate study.

Required Courses in Allied Social Studies (33 crs.)

Economics (6 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3

History (9 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 202 - Recent History of the United States Credits: 3

Mathematics (3 crs.)

- MAT 117 - Applied Statistics Credits: 3

Political Science (Government) (9 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 141 - World Politics Credits: 3
- PLS XXX - Political Science course by advisement

Psychology (3 crs.)

- PSY 101 - General Psychology Credits: 3

Cognate Field: (3 crs.)

One 200 level or above courses from one of the following areas: history, political science, or economics

Required Professional Courses (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 412 - Teaching Social Studies in Secondary Schools I Credits: 3
- EDU 413 - Teaching of Social Studies II Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 1 additional math courses (except MAT 185)

Required Field Experience

See advisor

Geography, Geographic Information Systems Concentration, B.S.

Geography, B.S.

Land Use and Geographic Information Systems (GIS) concentrations. A 12-credit Geographic Information Systems (GIS) Certificate Program is also offered.

Geography (15 crs.)

Core courses required for all concentrations-Land Use and GIS.

Core courses (required):

- GEO 105 - Physical Geography Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 230 - Economic Geography Credits: 3

- GEO 322 - Urban Geography Credits: 3 or
- GEO 244 - Land Use Credits: 3

- GEO 391 - Geography Seminar Credits: 3

Geographic Information Systems Concentration (24 crs.)

Required

- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 360 - Internship in Geography I Credits: 3
At least 3 credits of internship required

Select one:

- GEO 244 - Land Use Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3

Note:

GEO 244 or GEO 322 if not taken in in Geography core.

Select two:

- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3
- GEO 463 - Applied Geophysical Imaging Credits: 3
- GEO 400-level Geography elective

Allied Courses (25 + crs.)

Select two:

- PHL 332 - Ethical Issues and Computer Technology Credits: 3
- PLS 231 - State and Local Government Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 431 - Pennsylvania Local Government Credits: 3
- SOC 220 - Social Stratification Credits: 3
- SOC 346 - City and Community Credits: 3
- SOC 363 - Population Problems Credits: 3

12+ crs.

- ART 217 - Computer Design I Credits: 3
- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 106 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- MIS 142 - Business Computer Systems Credits: 3
- MIS 240 - Introduction to Programming Concepts Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3
- MIS 355 - Database Applications Credits: 3
- CSCxxx by advisement

7+ crs.

- MAT 117 - Applied Statistics Credits: 3
- MAT 140A - College Algebra Credits: 4 or
- MAT 140B - College Algebra Credits: 3
- MAT 175 - Precalculus Credits: 3
- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4

Required:

- ENG 238 - Technical/Professional Writing I Credits: 3

Geography, Land Use Concentration, B.S.

Geography, B.S.

Land Use and Geographic Information Systems (GIS) concentrations. A 12-credit Geographic Information Systems (GIS) Certificate Program is also offered.

Geography (15 crs.)

Core courses required for all concentrations-Land Use and GIS.

Core courses (required):

- GEO 105 - Physical Geography Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 230 - Economic Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3 or
- GEO 244 - Land Use Credits: 3
- GEO 391 - Geography Seminar Credits: 3

Land Use Concentration (21 crs.)

Required

- GEO 444 - Environmental Land-Use Planning Credits: 3
- GEO 360 - Internship in Geography I Credits: 3
At least 3 credits of internship required

Select five of the following:

- ESS 214 - Geology of National Parks Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 320 - Historical Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3
- GEO 339 - Remote Sensing Credits: 3

Note: GEO 244 or GEO 322 if not taken in in Geography core.

Allied Courses (15 crs.)

Political Science (6 crs.)

- PLS 231 - State and Local Government Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 431 - Pennsylvania Local Government Credits: 3
- PLS XXX - Political Science course by advisement

Math-Computer Science (6 crs.)

Required:

- MAT 117 - Applied Statistics Credits: 3

Select one:

- CSC 103 - Overview of Computer Science Credits: 3
- CSC 180 - Microcomputer Basic Credits: 3
- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1

Psychology (3 crs.)

- PSY 105 - Research Design and Statistics for the Behavioral Sciences I Credits: 3 or
- GEO 441 - Quantitative Methods Credits: 3

History, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

History-Field of Specialization (36 crs.)

Required (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

Free Electives in History (6 crs.)

Only one course at the 200 level, and the rest at 300 level or above.

Portfolio Requirement:

For assessment and career development purposes, all B.A. and B.S.Ed. majors are required to assemble and submit a portfolio documenting their academic growth and their major accomplishments.

History, Comprehensive Social Studies, B.S.Ed.

A 3.0 QPA will be required for entrance into the B.S.Ed. program and for matriculation to professional standing. The requirements for the B.S.Ed. include the completion of specific social studies, general education, and professional education courses. Where appropriate, these courses may also be used to fulfill general education categories.

Required (57 crs.)

History (30 crs.)

Required (12 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3

Restricted Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

Free Electives (6 crs.)

- Only one course at the 200 level, and the rest at 300 level or above.

Required Allied Social Studies (27 crs.)

Political, Economic and Geographic Science (6 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- GEO 101 - World Geography Credits: 3

Social and Behavior Science (6 crs.)

- PSY 101 - General Psychology Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Social Studies Certification Requirements (15 crs.)

- GEO 103 - Geography of the United States and Canada Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Political Science Elective (3 cr.)

- PLS 141 - World Politics Credits: 3 or
- PLS 200 or 300 level

Note:

PLS 200 or 300 level: suggested courses are PLS 231, PLS 251, PLS 300

Social Science Electives (6 cr. - Choose Two)

- ANT 111 - Cultural Anthropology Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- INT 200 - Introduction to International Studies Credits: 3
- GEO 200 or 300 level
- Any PHL course

Specific General Education Courses for Certification (12+ crs.)

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185). The courses may also simultaneously count toward the fulfillment of general education requirements.

Required Professional Education Courses (33 crs.)

Required Course

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3

- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EDU 412 - Teaching Social Studies in Secondary Schools I Credits: 3
- EDU 413 - Teaching of Social Studies II Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

TCH 207 must be completed before EDU 412 and EDU 413

EDU 412 and EDU 413 must be taken simultaneously. A cumulative GPA of 3.0 is required to enroll in EDU 412 and EDU 413.

Required Field Experience

Required: 50 Level I hours and PRAXIS I exam by the time one attains 75-90 credits. See B.S.Ed. advisor.

PRAXIS I & II are required for teacher certification.

History, Public History Concentration, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

42 crs.

Required (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

Public History Methods (6 crs.)

Required

- HIS 319 - Introduction to Public History Credits: 3

Select one: 3 crs.

- HIS 390 - Selected Topics in History Credits: 3
- HIS 413 - Pennsylvania History Credits: 3
- HIS 430 - U.S. Cultural History Credits: 3
- HIS 433 - Oral History Credits: 3
- HIS 460 - Archives and Public History Credits: 3
- HIS 490 - Selected Topics in History Credits: 1-3

Required Internship (6 crs.)

- HIS 387 - History Internship Credits: 3
- HIS 389 - History Internship Credits: 3
- HIS 391 - History Internship Credits: 3-6

Portfolio Requirement:

For assessment and career development purposes, all B.A. and B.S.Ed. majors are required to assemble and submit a portfolio documenting their academic growth and their major accomplishments.

Human Communication Studies, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Required Courses (15 crs.)

- HCS 200 - Human Communication Theory Credits: 3
- HCS 210 - Public Speaking Credits: 3
- HCS 360 - Research Methods in Communication Credits: 3
- HCS 370 - Rhetorical Criticism Credits: 3
- HCS 400 - Senior Seminar Credits: 3

Major Electives (21 crs.)

Students must take at least one course from each category (Rhetoric & Symbolism; Organizational Communication; Cultural Perspectives; and Interpersonal Communication) as well as an additional three classes from the course offerings and internship options below.

Rhetoric and Symbolism

- HCS 325 - The Rhetoric of African-American Struggle and Progress Credits: 3
- HCS 345 - Environmental Communication Credits: 3
- HCS 352 - Argumentation & Debate Credits: 3
- HCS 356 - Persuasion Credits: 3
- HCS 363 - Political Rhetoric Credits: 3
- HCS 365 - Language and Meaning Credits: 3
- HCS 375 - Special Topics in Rhetoric and Symbolism Credits: 3

Organizational Communication

- HCS 230 - Small Group Communication Credits: 3
- HCS 260 - Computer-Mediated Communication Credits: 3
- HCS 350 - Theories of Organizational Communication Credits: 3
- HCS 351 - Special Topics Organizational Communication Credits: 3
- HCS 372 - Communication for Training and Instruction Credits: 3
- HCS 381 - Professional Communication and Multi-media Presentation Credits: 3

Cultural Perspectives

- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HCS 310 - African-American Communication Credits: 3
- HCS 315 - Asian-American Communication Credits: 3
- HCS 330 - Special Topics in Cultural Perspectives Credits: 3
- HCS 335 - Popular Culture and Gender Construction Credits: 3
- HCS 340 - Gender and Communication Credits: 3
- HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3

Interpersonal Communication

- HCS 220 - Nonverbal Communication Credits: 3
- HCS 225 - Communication and Sport Credits: 3
- HCS 250 - Interpersonal Communication Credits: 3
- HCS 265 - Interviewing Credits: 3
- HCS 333 - Communicating Identity Credits: 3
- HCS 349 - Special Topics in Interpersonal Communication Credits: 3
- HCS 385 - Resolving Conflict through Communication Credits: 3
- HCS 430 - Advanced Interpersonal Communication Credits: 3

Internships

(Department Permission Required. Six credits of Internship may apply to major; three credits to Free Electives)

- HCS 390 - Internship I Credits: 3
- HCS 391 - Internship II Credits: 3

- HCS 392 - Internship III Credits: 3

Interdisciplinary Arts, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Foundation Courses

(which will also satisfy a General Education Category B (Humanities) requirement)

- IAP 111 - Introduction to Interdisciplinary Arts Credits: 3 (which will also satisfy a General Education Category B (Humanities) requirement)

One of the Following Courses:

(which will also satisfy a General Education Category B: Literature requirement)

- ENG 243 - The Art of the Film Credits: 3
- ENG 250 - Introduction to Literature Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3

Three of the Following Courses:

(One of these (except COM 111) will satisfy the General Education Category B: Humanities requirement, and the remaining two can be counted either as electives or in the primary or secondary concentrations of the curriculum track.)

- ART 101 - Art Appreciation Credits: 3
- COM 111 - Introduction to Mass Communication Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- THE 121 - Introduction to the Theatre Credits: 3

Curriculum Track (42 crs.)

Interdisciplinary Arts majors choose a primary concentration consisting of 6 courses (18 crs.) and two secondary concentrations of 4 courses (each 12 crs.). The primary concentration and at least one of the secondary concentrations must be in the arts, although one of the secondary concentrations can be in a discipline outside of the arts.

An IA major wishing to concentrate in musical theatre, for example, might choose theatre as a primary concentration and music and dance as secondary concentrations; a student interested in art therapy might choose art as a primary concentration and psychology as one of the secondary concentrations; a student whose interest is in graphic fiction might combine courses in art, computer design, and creative writing; while a student interested in arts management could combine course work in two of the arts with courses in marketing and business. One of the most attractive features of the IA major is its flexibility, and the opportunity it offers students to design a curriculum suited to their personal interests and career goals. It also enables students to earn minors in their fields of concentration.

In the curriculum track, majors are also required to take one course in each of the following areas: A. History and Culture, B. Theory and Criticism, C. Arts Praxis, and D. Professional Skills. A list of the many courses offered by arts departments that satisfy this requirement is provided to majors, and with permission of the program director, courses in other colleges or departments, special topics courses, internships, or individualized instruction may also satisfy these category requirements.

Senior Capstone (6 crs.)

- IAP 449 - Interdisciplinary Arts Senior Thesis Credits: 3
- IAP 451 - Interdisciplinary Arts Showcase Credits: 3 or
- IAP 452 - Interdisciplinary Arts Internship Credits: 3 or
- IAP 453 - Interdisciplinary Arts Internship Credits: 3

International Studies, B.A.

Required courses INT 200 - Introduction to International Studies Credits: 3 and INT 300 - International Studies Seminar Credits: 3 introduce and reinforce knowledge of globalization and intercultural relations. Majors also are required to study abroad or engage in an off-campus internship that develops intercultural competency and international understanding.

Students must elect one Global Perspectives concentration (12 crs.) in:

1. Comparative & Global Cultures
2. Global Political Relations *or*
3. Global Business & Economics.

Global Perspectives courses explore globalization's impacts on the cultures, economies, and political systems of the world that cause international interdependency and tensions.

Students also must elect one Area Studies concentration (12 crs.) and related foreign language (9 crs.) in:

1. African & Middle Eastern Studies,
2. Asian Studies,
3. European Studies *or*
4. Latin American & Caribbean Studies.

Area Studies and Foreign Language courses promote intercultural and linguistic competency essential to successful cross-cultural personal and professional relationships.

Majors must take a minimum of 21 credit hours of major courses, including INT 200 and INT 300, at Shippensburg. Students declaring dual majors may double-count a maximum of 12 credit hours of courses between the first major and courses fulfilling International Studies Global Perspectives, Area Studies and Foreign Language requirements. Courses fulfilling general education requirements of both majors may be double-counted without restriction.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

39 crs.

Required Courses (6 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- INT 300 - International Studies Seminar Credits: 3

Note:

*HON 399 - Honors: Independent Study Credits: 3 may serve as a substitute for INT 300 with an appropriate international topic, interdisciplinary research project, and permission of the director.

Foreign Language Requirement (9 crs.)

Majors taking languages offered through Shippensburg University must complete 9 credit hours at the 200-level and higher. Students who study a language not offered through Shippensburg University--such as Korean, Russian or Swahili--are required to earn a total of 9 credit hours at the 100-level or higher. Language credits must be earned through Shippensburg University or with permission of the director another accredited institution of higher learning in the U.S. or abroad. Students are strongly encouraged to strengthen their qualifications for international employment by completing a modern language certificate (12 crs.) or minor (18 crs.).

Study Abroad or Internship Requirement

Majors are required to study abroad or engage in an off-campus internship. The study abroad or internship experience must satisfy a minimum of 3 credit hours of the major's general education or course requirements. Students studying abroad at an approved program may take a maximum of 18 credit hours of major courses. Majors studying abroad to fulfill special academic needs may obtain exemptions from the minimum or maximum credit hour requirement with prior approval of the Director of International Studies.

General Education Requirements (12 crs.)

All majors must complete the following general education courses:

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- ANT 111 - Cultural Anthropology Credits: 3 or
- GEO 140 - Cultural Geography Credits: 3

Comparative and Global Culture and Global Political Relations

Majors with concentrations in Comparative and Global Culture and Global Political Relations must take these two Category D courses:

- GEO 101 - World Geography Credits: 3
- PLS 141 - World Politics Credits: 3

Business and Economics Concentration

Majors with the Business and Economics Concentration must choose Category D courses from each of the following two choices:

- ECO 101 - Principles of Macroeconomics Credits: 3 or
- ECO 102 - Principles of Microeconomics Credits: 3 or
- ECO 113 - Principles of Economics Credits: 4

- GEO 101 - World Geography Credits: 3 or
- PLS 141 - World Politics Credits: 3

Global Perspectives Concentration (12 crs.)

Students must choose one Global Perspectives Concentration. 6 credit hours should be at the 300-level or higher. Courses must be in at least 2 disciplines.

Comparative and Global Cultures Concentration

- ANT 105 - Great Discoveries in Archaeology Credits: 3
- ANT 211 - Comparative Cultures Credits: 3
- ANT 220 - Anthropology for International Studies Credits: 3
- ANT 305 - Food, Drink and Culture Credits: 3
- ANT 310 - Magic, Science and Religion Credits: 3
- ANT 312 - Comparative Marriage and Family Credits: 3
- ANT 320 - Comparative Gender Roles Credits: 3
- ANT 350 - Medical Anthropology Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 233 - Art History III Credits: 3
- ENG 239 - Postcolonial Literature Credits: 3
- ENG 240 - Global Literature Credits: 3
- ENG 385 - Studies in Postcolonial Literature Credits: 3
- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HIS 407 - Women in Comparative Perspective Credits: 3
- INT 190 - General Education Special Topics Credits: 3
- INT 280 - Selected Topics in International Studies: Comparative & Global Cultures Credits: 3-6
- INT 380 - Selected Topics in International Studies Comparative & Global Cultures Credits: 3-6
- INT 390 - International Studies Internship - Comparative & Global Cultures Credits: 3-6
- MUS 261 - World Music Credits: 3
- PHL 295 - Comparative Religions Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3
- SOC 265 - Global Society Credits: 3
- SOC 421 - Impact of International Migration Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Global Political Relations Concentration

- CRJ 411 - Terrorism Credits: 3
- CRJ 463 - Comparative Criminal Justice Credits: 3
- HIS 304 - American Diplomatic History Credits: 3
- HIS 345 - Military History of the United States Credits: 3
- HIS 351 - World History since 1945 Credits: 3
- HIS 359 - History of Western Political Thought, 1500-1800 Credits: 3
- INT 281 - Selected Topics in International Studies: Global Political Relations Credits: 3-6
- INT 381 - Selected Topics in International Studies Global Political Relations Credits: 3-6
- INT 391 - International Studies Internship - Global Political Relations Credits: 3-6
- PHL 230 - The Ethics of War and Terrorism Credits: 3
- PLS 251 - Introduction to Comparative Politics Credits: 3
- PLS 341 - International Law and Organization Credits: 3
- PLS 343 - Global Economic and Political Conflict Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 349 - Applied Diplomacy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 394 - Selected Topics in International Politics Credits: 3
- SOC 365 - Elites in Society Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Global Business and Economics Concentration

- ECO 321 - International Economics Credits: 3
- ECO 345 - The Economics of Growth and Development Credits: 3
- FIN 425 - Global Financial Management Credits: 3
- GEO 230 - Economic Geography Credits: 3
- INT 282 - Selected Topics in International Studies Global Business & Economics Credits: 3-6
- INT 382 - Selected Topics in International Studies Global Business & Economics Credits: 3-6
- INT 392 - International Studies Internship - Global Business & Economics Credits: 3-6
- MGT 349 - International Human Resource Management Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 470 - International Management Credits: 3
- MKT 360 - International Marketing Credits: 3
- SCM 420 - Global Logistics Systems Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Note:

**Students taking FIN 425, MGT 349, and MKT 360 are required to elect a Business Minor-18 crs. in order to meet required prerequisites.

Area Studies Concentration (12 crs)

Students must choose one Area Studies concentration. 6 credit hours should be at the 300-level or higher. Courses must be in at least two disciplines.

** Requires an appropriate topic and an Exception Form signed by Director of International Studies for approval.*

African and Middle Eastern Studies Concentration

Arabic, French or another African or Middle Eastern language is required to fulfill the language requirement. Study abroad in Africa or the Middle East is highly recommended.

- * ENG 385 - Studies in Postcolonial Literature Credits: 3
- FRN 150 - French Civilization Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 331 - Masterpieces of Francophone Literature Credits: 3
- * GEO 415 - Regional Geographic Studies Credits: 3
- * GEO 450 - Geography-Geology Field Studies Credits: 1-3
- HIS 339 - The Central Islamic Lands, 500-1700 Credits: 3
- HIS 344 - History of the Modern Middle East Credits: 3
- HIS 376 - History of Africa South of the Sahara Credits: 3
- INT 283 - Selected Topics in International Studies Africa & Middle East Studies Credits: 3-6
- INT 383 - Selected Topics in International Studies Africa & Middle East Studies Credits: 3-6
- INT 393 - International Studies Internship - African & Middle Eastern Studies Credits: 3-6

Note:

ENG 385, GEO 415 and GEO 450 required approval of the Director

FRN 204 and FRN 331-Only Modern Language courses that are not used to satisfy the B.A. language requirement or International Studies foreign language requirement may be counted toward the Area Studies Concentration requirement. See the course listings for language prerequisites

Asian Studies Concentration

An Asian language is required to fulfill the language requirement. Study abroad in Asia is highly recommended.

- * ENG 385 - Studies in Postcolonial Literature Credits: 3
- GEO 313 - Geography of South and Southeast Asia Credits: 3
- GEO 317 - Geography of East Asia Credits: 3
- * GEO 415 - Regional Geographic Studies Credits: 3
- * GEO 450 - Geography-Geology Field Studies Credits: 1-3
- HCS 315 - Asian-American Communication Credits: 3
- HIS 350 - History of Modern Japan Credits: 3
- HIS 353 - Modern Southeast Asia Credits: 3
- HIS 354 - Traditional China Credits: 3
- HIS 355 - History of Modern China Credits: 3
- HIS 454 - China and the Outside World Credits: 3
- INT 284 - Selected Topics International Studies Asian Studies Credits: 3-6
- INT 384 - Selected Topics in International Studies Asian Studies Credits: 3-6
- INT 394 - International Studies Internship - Asian Studies Credits: 3-6
- PHL 336 - Concepts in Buddhism Credits: 3

Note:

ENG 385, GEO 415 and GEO 450 require approval of the Director

European Studies Concentration

French, German, Spanish or another continental European language is required to fulfill the requirement. Study abroad in Europe is highly recommended.

- ANT 351 - Peoples and Cultures of Europe Credits: 3
- ENG 236 - British Literature I Credits: 3
- ENG 237 - British Literature II Credits: 3
- ENG 318 - Studies in English Renaissance Literature Credits: 3
- * ENG 337 - Romanticism Credits: 3
- ENG 349 - Victorian Literature Credits: 3
- ENG 376 - Studies in Medieval Literature Credits: 3
- * ENG 377 - The Long 18th Century Credits: 3
- * ENG 380 - 19th Century Literature Credits: 3
- FRN 150 - French Civilization Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 320 - French for the Professions Credits: 3
- FRN 330 - Masterpieces of French Literature Credits: 3
- FRN 340 - Genres Littéraires Credits: 3
- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3
- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- GEO 305 - Geography of Europe Credits: 3
- * GEO 415 - Regional Geographic Studies Credits: 3
- * GEO 450 - Geography-Geology Field Studies Credits: 1-3
- GER 150 - German Civilization and Culture Credits: 3
- GER 151 - German Cinema Credits: 3
- GER 204 - Contemporary German Culture Credits: 3
- GER 215 - German for the Professions Credits: 3
- GER 320 - Berlin Credits: 3
- GER 322 - Readings in German Literature Credits: 3
- GER 400 - German Seminar Credits: 3
- HIS 320 - Europe in the Early and High Middle Ages: 300 to 1270 Credits: 3
- HIS 321 - Late Medieval Europe: 1270 to 1517 Credits: 3
- HIS 325 - History of the Tsarist Russia Credits: 3
- HIS 326 - History of the U.S.S.R. Credits: 3
- HIS 330 - History of Modern Germany: 1919 to Present Credits: 3
- HIS 331 - History of Modern France: 1750 to Present Credits: 3
- HIS 332 - English History: 1066 to Present Credits: 3
- HIS 334 - Europe 1715-1815: The Era of the Industrial and French Revolutions Credits: 3
- HIS 337 - History of the Byzantine Empire Credits: 3
- HIS 348 - The History of Ancient Rome Credits: 3
- HIS 356 - History of 19th Century Europe Credits: 3
- HIS 357 - History of Holocaust Credits: 3

- HIS 359 - History of Western Political Thought, 1500-1800 Credits: 3
- HIS 361 - History of 20th Century Europe Credits: 3
- HIS 362 - Europe 1450-1715: The Era of the Renaissance and Reformation Credits: 3
- HIS 423 - Issues in 20th-Century Europe Credits: 3
- INT 285 - Selected Topics in International Studies European Studies Credits: 3-6
- INT 385 - Selected Topics in International Studies European Studies Credits: 3-6
- INT 395 - International Studies Internship - European Studies Credits: 3-6
- MUS 320 - Masterpieces of Music Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 359 - European Political Integration and Identity Credits: 3
- SPN 150 - Spanish Civilization and Culture Credits: 3
- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 330 - Spanish for the Professions Credits: 3
- SPN 343 - Introduction to Literary Studies Credits: 3
- SPN 360 - Masterpieces of Spanish Literature Credits: 3
- SPN 385 - Aspectos De La Civilización Hispana Credits: 3
- SPN 400 - Seminar: Advanced Studies in Spanish Language and Literature Credits: 3

Note:

GEO 415 and GEO 450 require approval of the Director

FRN 204, FRN 320, FRN 330, FRN 340, FRN 380, FRN 392, FRN 400, GER 151, GER 215, GER 320, GER 322, GER 400, SPN 204, SPN 330, SPN 343, SPN 360, SPN 385 , SPN 400-Only Modern Language courses that are not used to satisfy the B.A. language requirement or International Studies foreign language requirement may be counted toward the Area Studies Concentration requirement. See the Course Descriptions for language prerequisites

Latin American and Caribbean Studies Concentration

Spanish, French, or another Latin American or Caribbean language is required to fulfill the language requirement. Study abroad in Latin America or the Caribbean is highly recommended.

- ANT 360 - Aztec and Maya Archaeology Credits: 1-3
- GEO 308 - Geography of Latin America Credits: 3
- * GEO 415 - Regional Geographic Studies Credits: 3
- * GEO 450 - Geography-Geology Field Studies Credits: 1-3
- HIS 349 - History of Latin America Credits: 3
- HIS 360 - History of Mexico Credits: 3
- HIS 366 - History of Brazil Credits: 3
- INT 286 - Selected Topics in International Studies Latin American & Caribbean Studies Credits: 3-6
- INT 386 - Selected Topics in International Studies Latin American & Caribbean Studies Credits: 3-6
- INT 396 - International Studies Internship - Latin American & Caribbean Studies Credits: 3-6
- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 349 - Applied Diplomacy Credits: 3
- SPN 150 - Spanish Civilization and Culture Credits: 3

- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 330 - Spanish for the Professions Credits: 3
- SPN 361 - Masterpieces of Spanish-American Literature Credits: 3
- SPN 385 - Aspectos De La Civilización Hispana Credits: 3
- SPN 400 - Seminar: Advanced Studies in Spanish Language and Literature Credits: 3

Note:

GEO 415 and GEO 450 require approval of the Director

SPN 204, SPN 330, SPN 361, SPN 385, SPN 400 -Only Modern Language courses that are not used to satisfy the B.A. language requirement or International Studies foreign language requirement may be counted toward the Area Studies Concentration requirement. See the Course Descriptions for language prerequisites.

Management Information Systems, B.S.B.A.

Effective information is an integral part of any successful organization. The development and administration of an effective information system requires competency in both technological skills and business knowledge. As such, management information systems professionals utilize tools, techniques, and concepts of various disciplines such as computer science, management science, and organizational behavior. These interdisciplinary tools, combined with an understanding of the basic needs of an organization, enable the information system professionals to apply computer technology to solve a wide range of business problems. Management information systems (MIS) professionals frequently interact with individuals in many functional areas of an organization to analyze information needs and requirements and to serve as a liaison with computer systems personnel.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3

- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (18 crs.)

- MIS 240 - Introduction to Programming Concepts Credits: 3
- MIS 340 - Business Programming Credits: 3
- MIS 344 - Business Systems Analysis and Design Credits: 3
- MIS 355 - Database Applications Credits: 3
- MIS 420 - Telecommunications and Distributed Processing Credits: 3
- MIS 446 - Applied Project Management Credits: 3

Optional Electives

- MIS 242 - Design and Development of User Information Systems Credits: 3
- MIS 399 - Introduction to Corporate Cybersecurity Credits: 3
- MIS 442 - Electronic Commerce and Technology Integration Credits: 3
- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 106 - Computer Science I - Lab Credits: 1

MIS Career Opportunities

Career positions appropriate for an MIS graduate include systems analysts, database administrator, network specialist, web designer, software engineer, programmer/analyst, project manager, and technical trainer. Successful MIS professionals can advance to senior management and executive-level positions such as information systems manager,

chief information officer, and chief executive officer. Those with work experience and considerable expertise may find lucrative opportunities as independent consultants, or may choose to start their own firms.

The Department of Labor predicts that management information systems-related jobs are expected to grow much faster than the average for all occupations between 2008 and 2018. Demand for MIS professionals stays strong in the foreseeable future as organizations continue to adopt and integrate increasingly sophisticated technologies into their business activities. In addition, various studies find MIS graduates among the highest paid college graduates.

Entrepreneurship, B.S.B.A

The Entrepreneurship program is focused on opportunity identification, enhancement, and realization to create value for all stakeholders. The point of view for all entrepreneurship ventures is the "owner," but it has evolved to include companies and organizations of all types and stages. The skills a student learns through an entrepreneurship major are vital for the success of any business--large or small, public or private, corporate or not-for profit, local or global. The major conveys a broad skill-set for business, while it also provides students with customized paths for success in specific business systems including new ventures, franchises, corporate ventures, socially responsible companies, and family-controlled enterprises.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (15 crs.)

- ENT 336 - Product Design & Development Credits: 3
- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 431 - Corporate Entrepreneurship Credits: 3
- ENT 432 - Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3

Electives (3 crs.)

(One course from the following 3-credit courses)

- MGT 340 - Human Resource Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 450 - Negotiation Credits: 3
- MGT 470 - International Management Credits: 3
- MGT 490 - Selected Topics in Management Credits: 1-3
- MGT 498 - Strategy Implementation Credits: 3
- MKT 370 - Services Marketing Credits: 3
- MKT 430 - Marketing Research Credits: 3

Entrepreneurship Career Opportunities

Entrepreneurship is what powers the economy, and students develop the skills and contacts necessary to make ideas real. An entrepreneurship major from Shippensburg University will prepare students for any one of the following career tracks: corporate entrepreneurship, also known as intrapreneurship, where our graduates develop new operations or products for existing corporations; independent entrepreneurship, where our graduates start their own for-profit firms; family business, where our graduates go into the family firm as new or future management; and social entrepreneurship, where our graduates start new or develop existing not-for-profit or community service oriented firms.

More specifically, when company recruiting ads use words like leading-edge or talk about developing new products or markets, they are talking about corporate entrepreneurship. When government and civic organizations talk about becoming more innovative and proactive, they are building on the growing social entrepreneurship movement. As always, if you have an idea of your own, for a product, a service, or just a way of life for yourself, there is no alternative to going independent. For any of these goals, an entrepreneurship major from Shippensburg University can get you where you want to be.

Management, Human Resources Management Concentration, B.S.B.A.

The human resource management concentration covers the fields of personnel management, industrial relations, and training. The program is designed to provide students with a solid understanding of the wide range of opportunities in the field. The courses emphasize both the theoretical aspects and the practical skills needed for success in the field. By careful selection of elective courses, students can design a program to suit their individual career interests.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (12 crs.)

- MGT 340 - Human Resource Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 346 - Human Resource Management Law Credits: 3
- MGT 348 - Compensation Administration Credits: 3

Electives (6 crs.)

(Two courses from the following 3-credit courses)

- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 431 - Corporate Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3
- FIN 324 - Retirement Planning and Employee Benefits Credits: 3
- MGT 349 - International Human Resource Management Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 394 - Leadership and Decision-Making Credits: 3
- MGT 450 - Negotiation Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3

Human Resource Management Career Opportunities

The Department of Labor continues to project a strong demand for entry-level jobs in the human resource management field. Human resource management is among the top paying fields. Graduates of the program are prepared to begin their careers in the human resource management departments of corporations or government agencies as trainees, recruiters, compensation specialists, job analysts, grievance counselors, and arbitration managers. The program provides a solid foundation for graduate study in the fields of personnel, industrial relations, human resource management, and organizational development.

Management, International Management Concentration, B.S.B.A.

Firms, large and small, have the opportunity to participate in worldwide business ventures, whether through exporting, importing, international trade, or by manufacturing or setting up service operations overseas. The firms also face the challenges of competition from foreign companies.

The international management concentration provides students with a better grasp of the opportunities and challenges, and facilitates functioning in an international environment. The program provides exposure to the cultures of various countries, development of competence in at least one foreign language, and training in a broad range of management and business theories and skills relevant to international operations.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (12 crs.)

- MGT 340 - Human Resource Management Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 470 - International Management Credits: 3
- MKT 360 - International Marketing Credits: 3

Electives (6 crs.)

(Two courses from the following 3-credit courses)

- ANT 220 - Anthropology for International Studies Credits: 3
- ECO 321 - International Economics Credits: 3
- FIN 425 - Global Financial Management Credits: 3
- GEO 101 - World Geography Credits: 3
- MGT 349 - International Human Resource Management Credits: 3
- PLS 141 - World Politics Credits: 3

Note:

Only one of ANT 220, GEO 101, or PLS 141 may be counted as a major elective course.

International Management Language Requirement (12 crs.)

Twelve credits in one modern language beyond the beginning level (other than one of the literature courses) shall be elected by the student. All four courses must be taught in the selected language. At least one commercial course (e.g., FRN 320, GER 215, SPN 330) shall be among the four courses selected by the student. Students in International Management must achieve an intermediate level on the ACTFL (American Council on the Teaching of Foreign Languages) Oral Proficiency Interview. The competency examination must be completed no later than the middle of their senior year (105 credits).

International Management Career Opportunities

The program prepares students for job opportunities in government agencies, multinational corporations, or firms of all sizes with international operations. The program also provides a solid foundation for the pursuit of graduate study.

Management, Management Concentration, B.S.B.A.

The Management program provides the student with a broad understanding of a variety of systematic business practices, techniques and philosophies. The program stresses the mastery of key managerial concepts from the

perspective of how they affect the behavior, performance and satisfaction of individuals and how individual performance and satisfaction contribute to organizational efficiency and effectiveness. Special attention is devoted to the necessity of adapting to environmental conditions and the implementation of corporate strategic objectives.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (15 crs.)

- ENT 431 - Corporate Entrepreneurship Credits: 3
- MGT 340 - Human Resource Management Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 394 - Leadership and Decision-Making Credits: 3
- MGT 498 - Strategy Implementation Credits: 3

Electives (3 crs.)

- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 432 - Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 450 - Negotiation Credits: 3
- MGT 470 - International Management Credits: 3
- MGT 490 - Selected Topics in Management Credits: 1-3

Management Career Opportunities

Completion of the management program facilitates employment potential in both manufacturing and service firms. Industrial and retail sales positions, with a career orientation toward sales management, are also likely. The program also provides a solid foundation for graduate study.

Marketing, B.S.B.A.

The marketing program is designed to provide students with the tools necessary to implement marketing strategies and policies. The program provides an optimum balance between theory and practice. Due to the designed flexibility of the program, students have the opportunity to tailor a marketing program of study to best fit their individual career interests.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3

- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (9 crs.)

- MKT 306 - Buyer Behavior Credits: 3
- MKT 430 - Marketing Research Credits: 3
- MKT 495 - Marketing Analysis and Strategy Development Credits: 3

Electives (9 crs.)

Three courses from the following 3 credit courses:

- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3
- MKT 310 - Personal Selling Credits: 3
- MKT 315 - Sales Management Credits: 3
- MKT 325 - Advertising and Promotional Strategy Credits: 3
- MKT 335 - E-Marketing Credits: 3
- MKT 340 - Tourism and Events Planning Credits: 3
- MKT 342 - Business-to-Business Marketing and Analysis Credits: 3
- MKT 352 - Principles of Retailing Credits: 3
- MKT 360 - International Marketing Credits: 3
- MKT 365 - Relationship Marketing Credits: 3
- MKT 370 - Services Marketing Credits: 3
- MKT 380 - Sports Marketing Credits: 3
- MKT 390 - Selected Topics in Marketing Credits: 1-3
- MKT 490 - Selected Topics in Marketing Credits: 1-3

Marketing Career Opportunities

Marketers are in demand as the field of marketing is pervasive in our society. It is a critical function in all organizations. Examples of fields seeking marketing professionals are: e-business, advertising, business-to-business marketing, consulting, international marketing, marketing research, retail management, sales and sales management, supply chain management, and transportation. Shippensburg marketing graduates are sought regularly by employers and they are also well prepared for further pursuit of their educations at top graduate schools across the nation.

Mathematics, Applied Math Concentration, B.S.

The B.S. degree is designed to give the student a broad knowledge of mathematics as well as a firm grasp on the application of mathematics to other disciplines. The most typical applications include computer science, statistics, actuarial science, physical and biological sciences, and teacher certification at the secondary level. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

To complete the degree a student must take all of the core courses and complete either a concentration or a general program of study which includes at least five courses at the 300 level or above of which at least two are at the 400 level along with either a minor, a major, or three allied electives.

Concentrations

Currently there are three pre-approved concentrations: applied math, secondary education certification, and statistics. The concentrations allow for a student to complete either a minor or second major in a related discipline or a series of allied electives to explore how mathematics can be applied to other disciplines.

Allied Electives

In general, allied electives are courses numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE. Other courses will be considered by the department chair on a case-by-case basis. Students not in the Secondary Certification concentration must complete three allied electives, at least one of which must be from disciplines other than MAT. This requirement is waived for students completing a minor or second major.

Required Mathematics (30 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3

- MAT 430 - Complex Analysis Credits: 3 or
- MAT 441 - Real Analysis I Credits: 3

Required Computer Science (3-4 crs.)

- CSC 104 - Programming in Python Credits: 3 or
- CSC 180 - Microcomputer Basic Credits: 3 or
- CSC 110 - Computer Science I - Lecture Credits: 3
and
- CSC 106 - Computer Science I - Lab Credits: 1 or
- CSC 107 - Computer Science I - Lab Credits: 1
(CSC 106 can be taken in place of CSC 107)

Applied Math Concentration (24-27 crs.)

- MAT 322 - Differential Equations Credits: 3
- MAT 326 - Mathematical Modeling Credits: 3

One of

- MAT 410 - Numerical Analysis Credits: 3
- MAT 422 - Partial Differential Equations Credits: 3
- MAT 476 - Probability Credits: 3
- MAT 491 - Topics in Applied Mathematics Credits: 3

Applied Math Elective:

- MAT 3xx/4xx elective
- MAT 4xx elective
- Three Allied Electives **

Note:

**Allied Electives may be replaced by a minor/second major in any discipline

Course Sequencing

The department maintains a suggested sequence for scheduling the required core math courses and the courses required by the various concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list is available in the department office.

A typical first year sequence for all mathematics majors is given below:

Semester I

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4

Semester II

- MAT 212 - Calculus II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Three General Education courses

Mathematics, B.S.

The B.S. degree is designed to give the student a broad knowledge of mathematics as well as a firm grasp on the application of mathematics to other disciplines. The most typical applications include computer science, statistics, actuarial science, physical and biological sciences, and teacher certification at the secondary level. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

To complete the degree a student must take all of the core courses and complete either a concentration or a general program of study which includes at least five courses at the 300 level or above of which at least two are at the 400 level along with either a minor, a major, or three allied electives.

Concentrations

Currently there are three pre-approved concentrations: applied math, secondary education certification, and statistics. The concentrations allow for a student to complete either a minor or second major in a related discipline or a series of allied electives to explore how mathematics can be applied to other disciplines.

Allied Electives

In general, allied electives are courses numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE. Other courses will be considered by the department chair on a case-by-case basis. Students not in the Secondary Certification concentration must complete three allied electives, at least one of which must be from disciplines other than MAT. This requirement is waived for students completing a minor or second major.

Required Mathematics (30 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3
- MAT 430 - Complex Analysis Credits: 3 or
- MAT 441 - Real Analysis I Credits: 3

Required Computer Science (3-4 crs.)

- CSC 104 - Programming in Python Credits: 3 or
- CSC 180 - Microcomputer Basic Credits: 3 or
- CSC 110 - Computer Science I - Lecture Credits: 3
and
- CSC 106 - Computer Science I - Lab Credits: 1 or
- CSC 107 - Computer Science I - Lab Credits: 1
(CSC 106 can be taken in place of CSC 107)

B.S. without concentration (24 - 27 crs.)

- MAT3xx or 4xx elective
- MAT3xx or 4xx elective
- MAT3xx or 4xx elective
- MAT4xx elective
- MAT4xx elective
- Three-Allied-Electives

Three Allied Electives may be replaced by a minor/second major in any discipline.

Course Sequencing

The department maintains a suggested sequence for scheduling the required core math courses and the courses required by the various concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list is available in the department office.

A typical first year sequence for all mathematics majors is given below:

Semester I

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4

Semester II

- MAT 212 - Calculus II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Three General Education courses

Mathematics, Secondary Education Certification, B.S.

The B.S. degree is designed to give the student a broad knowledge of mathematics as well as a firm grasp on the application of mathematics to other disciplines. The most typical applications include computer science, statistics, actuarial science, physical and biological sciences, and teacher certification at the secondary level. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

To complete the degree a student must take all of the core courses and complete either a concentration or a general program of study which includes at least five courses at the 300 level or above of which at least two are at the 400 level along with either a minor, a major, or three allied electives.

Concentrations

Currently there are three pre-approved concentrations: applied math, secondary education certification, and statistics. The concentrations allow for a student to complete either a minor or second major in a related discipline or a series of allied electives to explore how mathematics can be applied to other disciplines.

Allied Electives

In general, allied electives are courses numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE. Other courses will be considered by the department chair on a case-by-case basis. Students not in the Secondary Certification concentration must complete three allied electives, at least one of which must be from disciplines other than MAT. This requirement is waived for students completing a minor or second major.

Required Mathematics (30 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3
- MAT 430 - Complex Analysis Credits: 3 or
- MAT 441 - Real Analysis I Credits: 3

Required Computer Science (3-4 crs.)

- CSC 104 - Programming in Python Credits: 3 or
- CSC 180 - Microcomputer Basic Credits: 3 or

- CSC 110 - Computer Science I - Lecture Credits: 3
and
- CSC 106 - Computer Science I - Lab Credits: 1 CSC 106 can be taken in place of CSC 107 or
- CSC 107 - Computer Science I - Lab Credits: 1

Secondary Education Certification (45 crs.)

- MAT 326 - Mathematical Modeling Credits: 3
- MAT 333 - Geometry Credits: 3
- MAT 400 - History of Mathematics Credits: 3
- MAT 4xx - elective

Professional Sequence

- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 371 - Technology in the Mathematics Classroom Credits: 3
- EDU 434 - Teaching of Mathematics in the Secondary Schools I Credits: 3
- EDU 435 - Teaching of Mathematics in the Secondary Schools II Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115) and 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250).

Course Sequencing

The department maintains a suggested sequence for scheduling the required core math courses and the courses required by the various concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list is available in the department office.

A typical first year sequence for all mathematics majors is given below:

Semester I

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4

Semester II

- MAT 212 - Calculus II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4

- Three General Education courses

Mathematics, Statistics Concentration, B.S.

The B.S. degree is designed to give the student a broad knowledge of mathematics as well as a firm grasp on the application of mathematics to other disciplines. The most typical applications include computer science, statistics, actuarial science, physical and biological sciences, and teacher certification at the secondary level. Students take a significant number of upper level courses outside the mathematics department to strengthen their knowledge in one or more application disciplines.

To complete the degree a student must take all of the core courses and complete either a concentration or a general program of study which includes at least five courses at the 300 level or above of which at least two are at the 400 level along with either a minor, a major, or three allied electives.

Concentrations

Currently there are three pre-approved concentrations: applied math, secondary education certification, and statistics. The concentrations allow for a student to complete either a minor or second major in a related discipline or a series of allied electives to explore how mathematics can be applied to other disciplines.

Allied Electives

In general, allied electives are courses numbered 300 or above from ACC, BIO, CHM, CSC, CMPE, ECO, ESS, FIN, MAT, MIS, PHY, SCM, or SWE. Other courses will be considered by the department chair on a case-by-case basis. Students not in the Secondary Certification concentration must complete three allied electives, at least one of which must be from disciplines other than MAT. This requirement is waived for students completing a minor or second major.

Required Mathematics (30 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3
- MAT 430 - Complex Analysis Credits: 3 or
- MAT 441 - Real Analysis I Credits: 3

Required Computer Science (3-4 crs.)

- CSC 104 - Programming in Python Credits: 3 or
 - CSC 180 - Microcomputer Basic Credits: 3 or
 - CSC 110 - Computer Science I - Lecture Credits: 3
- and

- CSC 106 - Computer Science I - Lab Credits: 1 or can be taken in place of CSC 107 or
- CSC 107 - Computer Science I - Lab Credits: 1

Statistics Concentration (24-27 crs.)

- MAT 317 - Statistics II Credits: 3
- MAT 476 - Probability Credits: 3
- MAT 486 - Mathematical Statistics Credits: 3
- MAT 3xx/4xx Elective
- MAT 3xx/4xx Elective
- Three Allied Electives

Note:

Allied Electives may be replaced by a minor/second major in any discipline

Course Sequencing

The department maintains a suggested sequence for scheduling the required core math courses and the courses required by the various concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list is available in the department office.

A typical first year sequence for all mathematics majors is given below:

Semester I

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4

Semester II

- MAT 212 - Calculus II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Three General Education courses

Physics, Advanced Physics Concentration, B.S.

General Education requirements (36 crs. see note* at the end of the Core Curriculum description)

Physics Core Courses

55 crs.

All degrees require the successful completion of the Physics Core, which consists of the following courses:

Courses in Physics (32 crs.)

- PHY 107 - 1st Year Seminar for Physics Majors Credits: 2
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4
- PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Courses in allied fields (23 hrs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 322 - Differential Equations Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- ENGR 120 - Programming for Engineers Credits: 3

Note:

PHY 221, MAT 211, MAT 212, and CHM 121 satisfy general education requirements as well, for Skills (MAT 211), Category A (MAT 212), and Category C (PHY 221 and CHM 121), leaving a general education required curriculum of: 48 crs.-12 crs. = 36 crs.

Additional courses (29 crs.)

Chemistry (4 crs.)

- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Physics (25 crs.)

- PHY 411 - Quantum II Credits: 3
- PHY 421 - Electricity and Magnetism II Credits: 3
- PHY 431 - Mechanics II Credits: 3
- PHY 397 - Intro to Research Credits: 3
- PHY 398 - Research II Credits: 3
- PHY 3XX/4xx: Four 300- or 400-level Electives

Physics, B.S.

The Physics B.S. offers the following concentrations:

1. *Advanced Physics:* Designed for students planning to go on to graduate school in physics. The concentration provides a solid and rigorous grounding in physics and will prepare the students well for the advanced physics GRE test, as well as graduate school studies.
2. *Computational:* Offers a solid grounding in physics through the physics core, and develops computational skills applicable to all scientific fields. These skills are developed through a computational physics course and courses in computer science. Students following this concentration can also complete a minor in computer science by taking one extra computer science course after fulfilling the concentration requirements. This concentration prepares students well for the job market by offering applicable skills as well as experience through its project or internship requirement.

120 crs.

General Education requirements (36 crs.)

Physics Core (55 crs.)

Additional courses (29 crs.)

Physics electives**9 cr (at least 3 courses at or above 300 level)

General electives

20 hours of general electives including at least 12 hours at the 300 level or higher. A minor in another discipline is strongly encouraged. See note at the end of the Core Curriculum description.

Physics Core Courses

55 crs.

All degrees require the successful completion of the Physics Core, which consists of the following courses:

Courses in Physics (32 crs.)

- PHY 107 - 1st Year Seminar for Physics Majors Credits: 2
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4
- PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Courses in allied fields (23 hrs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 322 - Differential Equations Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- ENGR 120 - Programming for Engineers Credits: 3

Note:

PHY 221, MAT 211, MAT 212, and CHM 121 satisfy general education requirements as well, for Skills (MAT 211), Category A (MAT 212), and Category C (PHY 221 and CHM 121), leaving a general education required curriculum of: 48 crs.-12 crs. = 36 crs.

Physics, B.S.Ed.

The Physics B.S.Ed. program leads to a teaching certification in Physics at the secondary education level.

Degree Requirements. (131 crs.)

General Education requirements (33 crs.)

Note: Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185)

Physics Core (55 crs.)

All degrees require the successful completion of the Physics Core

Additional courses (43 crs.)

Physics (3 crs.)

- PHY 4XX - 400 level Physics elective

Biology (4 crs.)

- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

Earth-Space Sciences (3 crs.)

- ESS 110 - Introduction to Geology Credits: 3 or
- ESS 210 - Physical Geology Credits: 3

Professional Education Requirements (33 crs.)

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- EDU 440 - Teaching of Science in Secondary Schools Credits: 3
- EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3

Note:

See note at the end of the Core Curriculum description. BIO 162 also meets a General Education Category C requirement.

Physics, Computational Physics Concentration, B.S.

General Education requirements (36 crs. see note* at the end of the Core Curriculum description above)

Physics Core Courses

55 crs.

All degrees require the successful completion of the Physics Core, which consists of the following courses:

Courses in Physics (32 crs.)

- PHY 107 - 1st Year Seminar for Physics Majors Credits: 2
- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4
- PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Courses in allied fields (23 hrs.)

- MAT 211 - Calculus I Credits: 4

- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 322 - Differential Equations Credits: 3
- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- ENGR 120 - Programming for Engineers Credits: 3

Note:

PHY 221, MAT 211, MAT 212, and CHM 121 satisfy general education requirements as well, for Skills (MAT 211), Category A (MAT 212), and Category C (PHY 221 and CHM 121), leaving a general education required curriculum of: 48 crs.-12 crs. = 36 crs.

Additional courses (29 crs.)

Math (6 crs.)

- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 410 - Numerical Analysis Credits: 3

Computer Science (12 crs.)

- CSC 111 - Computer Science II Credits: 4

- CMPE 220 - Computer Organization Credits: 4 or
- CSC 371 - Database Management Systems Credits: 4

- CMPE 322 - Microcontrollers & Interfaces Credits: 4

Physics

Two physics courses at 300 or 400 level (7 cr)

- PHY 471 - Computational Physics Credits: 4
- PHY 3XX or 4XX: 300- or 400-level Physics Elective
- PHY 3XX or 4XX: 300- or 400-level Physics Elective

Political Science, B.A

Political Science (39 crs.)

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

General Track Required (21 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 141 - World Politics Credits: 3
- PLS 201 - Foundations of Political Science: Concepts and Critical Analysis Credits: 3
- PLS 202 - Applications in Public Affairs Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 399 - Senior Seminar Credits: 3

Note:

Students must earn a C or better in each required core course.

In addition to the required core, students need to take courses in four applied competency areas. To meet this requirement students need between 9 and 15 credits; the number of credits depends on whether a course counts for more than one applied competency.

Applied Competencies

Applied Competency: Oral Communication (3 crs.)

- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 373 - Public Financial Administration Credits: 3

Applied Competency: Written Communication (3 crs.)

- PLS 231 - State and Local Government Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 312 - The American Presidency Credits: 3
- PLS 321 - Public Opinion and Political Media Credits: 3
- PLS 322 - Interest Groups in American Society Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 325 - African American Politics Credits: 3
- PLS 341 - International Law and Organization Credits: 3
- PLS 351 - European Politics Credits: 3

- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 363 - American Political Thought Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 381 - Principles of Labor Relations Credits: 3

Applied Competency: Problem Solving (3 crs.)

- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 325 - African American Politics Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 343 - Global Economic and Political Conflict Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 362 - Contemporary Political Ideologies Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 374 - Public Service Ethics Credits: 3

Applied Competency: Experiential Learning (6 crs.)

- PLS 251 - Introduction to Comparative Politics Credits: 3
- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 313 - The Judicial Process Credits: 3
- PLS 323 - Campaigns, Elections & Political Parties Credits: 3
- PLS 333 - Applications in State and Local Public Policy Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 359 - European Political Integration and Identity Credits: 3
- PLS 395 - Internship I Credits: 3
- Any Study Abroad course in any discipline.

Departmental Electives (3-9 crs.)

Any Political Science course(s).

A student can count a maximum of six internship credits toward the major. Additional internship credit hours can be used as credits applied toward graduation.

General Education

Students are strongly encouraged to take the following General Education courses:

- MAT 117 - Applied Statistics Credits: 3 (Category A or Required Skills)
- ECO 101 - Principles of Macroeconomics Credits: 3 (Category D) or
- ECO 102 - Principles of Microeconomics Credits: 3 (Category D) or
- ECO 113 - Principles of Economics Credits: 4 (Category D)
- GEO 101 - World Geography Credits: 3 (Category D) or
- GEO 103 - Geography of the United States and Canada Credits: 3 (Category D)
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3 (Category E)

Political Science, International Concentration, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Political Science - International Track (39 crs.)

International Track Required (24 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 141 - World Politics Credits: 3
- PLS 201 - Foundations of Political Science: Concepts and Critical Analysis Credits: 3
- PLS 202 - Applications in Public Affairs Credits: 3
- PLS 251 - Introduction to Comparative Politics Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 341 - International Law and Organization Credits: 3
- PLS 399 - Senior Seminar Credits: 3

Note:

Students must earn a C or better in each required core course.

In addition to the required core, students need to take courses in four applied competency areas. To meet this requirement students need between 9 and 15 credits; the number of credits depends on whether a course counts for more than one applied competency.

Applied Competencies

Applied Competency: Oral Communication (3 crs.)

- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 373 - Public Financial Administration Credits: 3

Applied Competency: Written Communication (3 crs.)

- PLS 231 - State and Local Government Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 312 - The American Presidency Credits: 3
- PLS 321 - Public Opinion and Political Media Credits: 3
- PLS 322 - Interest Groups in American Society Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PLS 325 - African American Politics Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 363 - American Political Thought Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 381 - Principles of Labor Relations Credits: 3

Applied Competency: Problem Solving (3 crs.)

- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 325 - African American Politics Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 343 - Global Economic and Political Conflict Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 362 - Contemporary Political Ideologies Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 374 - Public Service Ethics Credits: 3

Applied Competency: Experiential Learning (6 crs.)

- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 313 - The Judicial Process Credits: 3
- PLS 323 - Campaigns, Elections & Political Parties Credits: 3
- PLS 333 - Applications in State and Local Public Policy Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 359 - European Political Integration and Identity Credits: 3
- PLS 395 - Internship I Credits: 3
- Any Study Abroad course in any discipline.

International Track Electives (12 crs.)

(Note: These courses are also used to satisfy the Applied Competencies.)

- PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3
- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 343 - Global Economic and Political Conflict Credits: 3
- PLS 347 - Applied Diplomacy Credits: 3
- PLS 348 - Applied Diplomacy Credits: 3
- PLS 351 - European Politics Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 359 - European Political Integration and Identity Credits: 3
- PLS 394 - Selected Topics in International Politics Credits: 3

Departmental Electives (0-3 crs.)

Any Political Science course.

A student can count a maximum of six internship credits toward the major. Additional internship credit hours can be used as credits applied toward graduation.

General Education

Students are strongly encouraged to take the following General Education courses:

- MAT 117 - Applied Statistics Credits: 3 (Category A or Core)
- ECO 101 - Principles of Macroeconomics Credits: 3 (Category D) or
- ECO 102 - Principles of Microeconomics Credits: 3 (Category D) or
- ECO 113 - Principles of Economics Credits: 4 (Category D)
- GEO 101 - World Geography Credits: 3 (Category D)

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3 (Category E)

Psychology, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

Core Courses (27 crs.)

Developmental

Choose 1 from the following:

- PSY 265 - Childhood and Adolescence Credits: 3
- PSY 352 - Adulthood and Aging Credits: 3

Social/Personality

Choose from 1 of the following:

- PSY 240 - Psychology of Personality Credits: 3
- PSY 270 - Social Psychology Credits: 3

Abnormal

Choose 1 of the following:

- PSY 330 - Abnormal Psychology Credits: 3
- PSY 355 - Psychology of the Exceptional Child Credits: 3

Neuroscience

Choose 1 of the following:

- PSY 320 - Behavioral Neuroscience Credits: 3
- PSY 323 - Sensation and Perception Credits: 3

Learning/Behavioral

Choose 1 of the following:

- PSY 235 - Conditioning and Learning Credits: 3
- PSY 383 - Children's Understanding of Their Social World Credits: 3

Cognition/S&P

Choose 1 of the following:

- PSY 323 - Sensation and Perception Credits: 3
- PSY 325 - Psychology of Human Cognition Credits: 3

Methods

Complete all 3 of the following:

- PSY 105 - Research Design and Statistics for the Behavioral Sciences I Credits: 3
- PSY 205 - Research Design and Statistics for the Behavioral Sciences II Credits: 3
- PSY 301 - Experimental Psychology Credits: 3

Electives (12 crs.)

Select at least 2 from each category:

Ethical & Social Responsibility in a Diverse World

- PSY 315 - Psychology of Prejudice and the Minority Experience Credits: 3
- PSY 350 - Psychology of Sustainability Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- PSY 410 - Psychology and Women Credits: 3
- PSY 420 - Health Psychology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- PSY 470 - Legal Psychology Credits: 3

Professional Development

- PSY 311 - Applied Behavior Analysis Credits: 3
- PSY 335 - Psychology of Social Influence Credits: 3
- PSY 340 - Introduction to Clinical Psychology Credits: 3
- PSY 361 - Psychology of Group Interaction Credits: 3
- PSY 384 - Psychology of Person-to-Person Interaction Credits: 3
- PSY 432 - The Psychology of Computers and the Internet Credits: 3
- PSY 435 - Psychopharmacology Credits: 3
- PSY 445 - Psychology of Thinking Credits: 3
- PSY 450 - Crisis Intervention Credits: 3
- PSY 475 - Industrial and Organizational Psychology Credits: 3
- PSY 485 - Tests and Measurements Credits: 3

Capstone (3 crs.)

Choose 1 of the following:

- PSY 374 - Advanced Research in Psychology I Credits: 3
- PSY 375 - Advanced Research in Psychology II Credits: 3
- PSY 379 - Capstone Seminar in Psychology Credits: 3
- PSY 385 - Internship in Psychology Credits: 1-4
- PSY 386 - Internship in Psychology Credits: 3
- PSY 389 - Internship in Psychology III Credits: 3
- PSY 440 - History and Systems of Psychology Credits: 3

Public Administration, B.S.

(45 crs)

Required (30 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 202 - Applications in Public Affairs Credits: 3
- PLS 231 - State and Local Government Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 302 - Public Policy Analysis Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 373 - Public Financial Administration Credits: 3

Note:

Students must earn a C or better in each required core course.

Public Administration Electives (6 crs.)

- PLS 307 - Applied Research in Political Science Credits: 1-3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 333 - Applications in State and Local Public Policy Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 374 - Public Service Ethics Credits: 3
- PLS 381 - Principles of Labor Relations Credits: 3
- PLS 389 - Selected Topics in Public Administration Credits: 3
- PLS 395 - Internship I Credits: 3
- PLS 396 - Internship II Credits: 3
- PLS 397 - Internship III Credits: 3-6
- PLS 431 - Pennsylvania Local Government Credits: 3

Note:

Internship - The department strongly encourages students to complete an internship. To qualify for an internship, a student must have a 2.0 overall QPA and a 2.3 QPA in the public administration major. Students must have completed the following courses to be eligible for an internship: PLS 100, PLS 201, PLS 231, PLS 271, PLS 300, and PLS 301. A student can count a maximum of six internship credits toward the major.

Electives (3) - Any Political Science course

Allied Fields (6 crs.) 16 crs. total ---Includes 6 crs. beyond General Education Requirements

Student majoring in public administration must also take the following courses in the allied fields. Three of these courses satisfy General Education requirements.

Economics (6 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3 or
- ECO 113 - Principles of Economics Credits: 4
- ECO - Any Economics course at or above 200 level

Sociology (6 crs.)

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

And an additional sociology course from the following:

- SOC 243 - Minority Groups Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3
- SOC 346 - City and Community Credits: 3
- SOC 351 - Race Relations Credits: 3
- SOC 354 - Social Movements and Social Change Credits: 3
- SOC 363 - Population Problems Credits: 3
- SOC 365 - Elites in Society Credits: 3

Mathematics (4 crs.)

- MAT 117 - Applied Statistics Credits: 3

Social Work, B.S.W.

The baccalaureate social work degree is the first level of professional education for entry into the social work profession. Thus, the goal of our social work program is to build on the liberal arts perspective and integrate the knowledge, values, and skills for competent generalist entry-level practice. The program curriculum is designed around core competencies and practice behaviors.

The program operates as a community. We have a student resource room and student organizations which provide a wide variety of extracurricular opportunities. For example: volunteer work, programs about practice opportunities, social activities, trips to state and national conferences, and networking.

Academic Advisement

Students are encouraged to work with their advisors throughout their educational process. The faculty offer extended advising and support. Regular review of students' progress is completed by the faculty during the professional development review which is conducted each semester.

Career Opportunities

Upon graduation, an entry-level generalist social worker will possess the professional judgment and proficiency to apply differentially, with supervision, the common professional foundation to serve people in systems of various sizes and types. Social work offers many career opportunities in diverse fields such as health, child welfare and domestic violence, aging, developmental disabilities, substance abuse, and behavioral health to name a few. A graduate will have special skills for delivering services to clients, which include the development and provision of resources on client's behalf through organizational and community work. The graduate will be prepared with a breadth and depth of analytical and interactional skills for beginning work with individuals, families, groups, organizations, and communities. The program's objective is to prepare students in these learning areas at a level that maintains accreditation by the Council on Social Work Education (CSWE) and is evaluated by employers and graduate programs as an excellent foundation for both entry-level practice and future career development. This task requires a program and curriculum designed to enable each student to develop the values, knowledge and self-awareness skills as reflected in our stated educational competencies.

Required Courses (55 crs.)

** Students must earn a C or higher in Social Work courses in order for them to count as prerequisites and towards program completion. All courses are 3 credits unless otherwise specified.*

- SWK 102 - Social Work in Social Welfare Credits: 3
- SWK 150 - Human Relations Lab Credits: 3
- SWK 250 - Assessing Individuals in the Social Environment Credits: 3
- SWK 265 - Understanding Diversity for Social Work Practice Credits: 3
- SWK 270 - Social Work Practice with Individuals Credits: 3
- SWK 375 - Social Work Skills for Working with Groups Credits: 3
- SWK 327 - Social Work Practice with Families Credits: 3
- SWK 340 - Assessing Organizations and Communities in Society Credits: 3
- SWK 360 - Research Techniques for Social Workers Credits: 3
- SWK 370 - Social Work Practice with Organizations and Communities Credits: 3
- SWK 420 - Gender Issues for Helping Professionals Credits: 3
- SWK 450 - Social Welfare Policies and Services Credits: 3
- SWK 388 - Preparation for Practicum Credits: 1
- SWK 462 - Seminar in Social Work Methods Credits: 3 **
- SWK 460 - Field Work in Social Work I Credits: 6 **
- SWK 461 - Field Work in Social Work II Credits: 6 **

Note:

**Note: During this course students must apply for professional standing, students who transfer in this course must apply during their first semester. These procedures and criteria are described in the student handbook.*

***Note: Field work in social work and the Seminar in Social Work Methods are taken for 15 credit hours with no additional course work during the last semester in the senior year. Students must have earned a C or better in all required social work courses and full faculty approval before they are eligible for field work and Seminar in Social Work Methods.*

Social Work Electives (3 crs.)

One of the following courses is required:

- SWK 262 - Social Work Elective: Introduction to Child Welfare Practice Credits: 3
- SWK 347 - Special Fields of Social Work: Behavioral Health Credits: 3
- SWK 348 - Special Fields of Social Work: Substance Abuse Credits: 3
- SWK 351 - Social Work Elective: Aging Credits: 3
- SWK 356 - Social Work Elective: Intellectual and Developmental Disabilities Credits: 3
- SWK 357 - Special Fields of Social Work: Health Care Credits: 3
- SWK 358 - Special Fields of Social Work: Schools Credits: 3
- SWK 359 - Social Work Elective: Violence in Interpersonal Relationships Credits: 3
- SWK 383 - Selected Topics in Social Welfare Credits: 1-3
- SWK 490 - Selected Topics in Social Welfare Credits: 1-3

Allied Fields (15-16 crs.)

Students majoring in social work must take the following courses in allied fields which may also meet general education requirements.

- PSY 101 - General Psychology Credits: 3
- BIO 150 - Human Biology Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3
- MAT 117 - Applied Statistics Credits: 3

Sociology, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

(36 crs.)

Required (21 crs.)

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3
- SOC 201 - Sociological Practice Credits: 3
- SOC 220 - Social Stratification Credits: 3
- SOC 380 - Classical Social Theory Credits: 3
- SOC 385 - Introduction to Social Research Credits: 3
- SOC 386 - Data Collection and Analysis Credits: 3
- SOC 415 - Senior Seminar Credits: 3

Note:

Students must earn a C or better in each required core course. Students who receive a D or F in these classes may repeat them in accordance with university policy.

Sociology Electives - 15 crs.

This may include an internship in sociology, which is highly recommended.

Allied Fields

Arts and sciences students majoring in sociology must take the following courses in allied fields. All of these may be taken as general education.

- ANT 111 - Cultural Anthropology Credits: 3
- MAT 117 - Applied Statistics Credits: 3
- ECO - Economics elective
- Sequence in Political Science
- GEO - Geography elective
- PHL - Philosophy elective
- PSY 101 - General Psychology Credits: 3

Free Electives

Free electives are to be taken in appropriate fields with advisement. They may be utilized to pursue various special interest areas in sociology (see below) or to develop the equivalent of a minor or a second concentration. Language or research tools may be alternative recommendations.

Internships in sociology are highly recommended and may be taken for a total of 9 credits of which 6 credits can be applied to the major.

Sociology courses may be grouped into special interest areas to give students more depth in a particular subfield of sociology. Courses taken as part of the general education and allied fields requirements may also reinforce particular interest groupings within sociology. Possible special interest areas and examples of supporting courses follow:

Cross Cultural Anthropology

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 211 - Comparative Cultures Credits: 3
- ANT 312 - Comparative Marriage and Family Credits: 3

- ANT 351 - Peoples and Cultures of Europe Credits: 3

Archaeology

- ANT 150 - Introduction to Archaeology Credits: 3
- ANT 330 - Mammoth Hunters and Moundbuilders Credits: 3
- ANT 360 - Aztec and Maya Archaeology Credits: 1-3

Culture and Social Change

- SOC 370 - Sociology of the Arts Credits: 3
- SOC 375 - Sociology of Media & Culture Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3
- SOC 354 - Social Movements and Social Change Credits: 3

Family and Marriage

- SOC 363 - Population Problems Credits: 3
- SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3
- SOC 344 - Sociology of Death Credits: 3
- SOC 410 - Family and Society Credits: 3

Social Problems

- SOC 244 - Criminology Credits: 3
- SOC 245 - Juvenile Delinquency Credits: 3
- SOC 363 - Population Problems Credits: 3

Gerontology

- SOC 371 - Social Dynamics of Aging Credits: 3
- SOC 320 - Sociology of Disability Credits: 3
- SOC 344 - Sociology of Death Credits: 3
- SOC 369 - Medical Sociology Credits: 3

Human Relations

- SOC 243 - Minority Groups Credits: 3
- SOC 351 - Race Relations Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3

Social Institutions/Organizations

- SOC 220 - Social Stratification Credits: 3
- SOC 365 - Elites in Society Credits: 3

- SOC 410 - Family and Society Credits: 3
- SOC 435 - Gender, Organizations, and Leadership Credits: 3

Note:

Students should refer to the sociology Course Descriptions in the catalog for other courses which may apply to their special interest areas.

Software Engineering, B.S.

Software engineers develop really big software applications. When an application is too big for a few people to build, two things become critical. First, code that works is no longer good enough. Since a lot of people are going to have to work on the software, the quality of the internal design of the software matters. We need good ways to divide the system into pieces so different people can work on it and so that functionality can continue to be added to it. Second, there are specialized tools and team management processes that we use to ensure that the pieces we are building will fit together without losing any functionality. In addition, we need to be able to predict when we will be able to make a quality deliverable to our customer. Students studying software engineering complete a core of computer science courses and specialized courses in project management, software design patterns, large scale architectures, and team product development

Software engineering graduates are sought by organizations that have rigorous demands on their software. This includes military applications, fault tolerant applications like airplane control systems, and applications that are too large to fit on one machine. Also, large software development organizations employ software engineers to coordinate the activities of many software developers. This means that software engineers can work on anything from PC-based applications to real-time embedded control systems to enterprise-wide systems. Since they are well-versed in computer science techniques, software engineers can work in any software development activity.

Engineering (9 crs.)

- ENGR 100 - Engineering Seminar I Credits: 1
- ENGR 120 - Programming for Engineers Credits: 3
- ENGR 200 - Engineering Seminar II Credits: 1
- ENGR 300 - Engineering Seminar III Credits: 1
- ENGR 310 - Statistical Process Control Credits: 3

Software Engineering (20 crs.)

- SWE 200 - Design Patterns Credits: 4
- SWE 300 - Crafting Quality Code Credits: 4
- SWE 400 - Large Scale Architectures Credits: 4
- SWE 415 - Interdisciplinary Development Credits: 4
- SWE 420 - Extreme Programming Credits: 4

Computer Science (16 crs.)

- CSC 106 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 310 - Design and Analysis of Algorithms Credits: 4

- CSC 371 - Database Management Systems Credits: 4
- CSC 431 - Computer Networks Credits: 4

Computer Engineering (8 crs.)

- CMPE 220 - Computer Organization Credits: 4
- CMPE 320 - Operating Systems Credits: 4

Mathematics (16 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 375 - Probability and Statistics for Engineers Credits: 4

Two Semester Science Sequence

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

OR

- CHM 121 - Chemical Bonding Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

OR

- PHY 123 - Physics I Laboratory Credits: 1
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 206 - Intermediate Physics II Credits: 3

Electives

- 300/400 Level CSC/CMPE or SWE Elective

Spanish with Secondary Certification, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

(36 crs.)

All courses required for the Spanish major are taught in Spanish. Courses numbered below Spanish 200 do not count for the major. Professional Education courses offered by other departments are taught in English. This program is nationally recognized by ACTFL/NCATE.

Required Spanish (30 crs.)

- SPN 202 - Intermediate Conversation Credits: 3
OR
- SPN 215 - Intermediate Spanish For Heritage and Native Speakers Credits: 3

- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 211 - Intermediate Contextualized Grammar Credits: 3
- SPN 302 - Advanced Spanish Conversation Credits: 3
- SPN 309 - Spanish Phonetics Credits: 3
- SPN 312 - Advanced Contextualized Grammar Credits: 3
- SPN 313 - Advanced Composition and Stylistics Credits: 3
- SPN 343 - Introduction to Literary Studies Credits: 3
- SPN 360 - Masterpieces of Spanish Literature Credits: 3
- SPN 361 - Masterpieces of Spanish-American Literature Credits: 3

Spanish Electives (6 crs.)

Two additional Spanish courses—at least one at the 300 level or above; at least one at the 400 level

Spanish majors and minors are strongly urged to take history, political science, and geography courses that deal with Spanish-speaking countries.

Required Professional Education Courses (30 crs.)

If planning to teach Spanish

- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- TCH 251 - Elements of Middle Level Instruction Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EDU 426 - Methods of Teaching Foreign Languages Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Note:

* Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115), 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250), and 2 math courses (except MAT 185). If any exceptions are made, they must be approved by the Teacher Education Office. Other requirements for teacher certification are available from the Department of Modern Languages.

Dual Certification Spanish and Another Field

Students planning to teach will find it to their advantage to work for dual certification in two modern languages, a modern language and English, or a modern language and another field. To achieve dual certification a student must have the approval of both departments involved, complete the normal requirements for a major in the primary area of interest and a 30-hour sequence in the secondary area of specialization, plus appropriate courses in the methodology and student teaching in both areas.

Spanish, B.A.

Note:

All students completing a Bachelor of Arts degree are required to attain proficiency in a foreign language. Proficiency may be satisfied by completing a language class at the 103 (intermediate) level or three years of any one foreign language in high school. Students may also meet this requirement through AP or CLEP testing.

(36 crs.)

All courses required for the Spanish major are taught in Spanish. Courses numbered below Spanish 200 do not count for the major.

Required Spanish (30 crs.)

- SPN 202 - Intermediate Conversation Credits: 3
- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 211 - Intermediate Contextualized Grammar Credits: 3
- SPN 302 - Advanced Spanish Conversation Credits: 3
- SPN 309 - Spanish Phonetics Credits: 3
- SPN 312 - Advanced Contextualized Grammar Credits: 3
- SPN 313 - Advanced Composition and Stylistics Credits: 3
- SPN 343 - Introduction to Literary Studies Credits: 3
- SPN 360 - Masterpieces of Spanish Literature Credits: 3
- SPN 361 - Masterpieces of Spanish-American Literature Credits: 3

Spanish Electives (6 crs.)

Two additional Spanish courses—at least one at the 300 level or above; at least one at the 400 level.

Spanish majors and minors are strongly urged to take history, political science, and geography courses that deal with Spanish-speaking countries.

Special Education and Early Childhood Education, B.S.Ed.

Required Courses (15 cr.)

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3

- HCS 100 - Introduction to Human Communication Credits: 3
- MAT 111 - Fundamentals of Mathematics II Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3

Categories of Knowledge

Category A - Rational Thinking

- MAT 110 - Fundamentals of Mathematics I Credits: 3

Category B - Literary Artistic and Cultural Traditionals (9 crs.)

Literature (Select one)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3

Fine Arts (6 crs.)

Choose 2 from different disciplines

Art

(ART 101 is recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Music

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Theatre

- THE 121 - Introduction to the Theatre Credits: 3

Category C - Laboratory Science (9 crs.)

Select one course from each of the 3 categories. One of the 3 courses must have a laboratory component indicated with an asterisk (*).

Biology

- BIO 100 - Basic Biology Credits: 3
- BIO 142 - Introduction to Ecology Credits: 3 *
- BIO 150 - Human Biology Credits: 3
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4 *
- BIO 208 - Field Biology Credits: 3 *
- BIO 242 - Ecology Credits: 3 *

Earth Science

- ESS 108 - Conservation of Natural Resources Credits: 3
- ESS 110 - Introduction to Geology Credits: 3 *
- ESS 111 - Introduction to the Atmosphere Credits: 3 *
- ESS 210 - Physical Geology Credits: 3 *
- BIO 145 - Environmental Biology Credits: 3

Physical Sciences

- PHY 108 - Astronomy Credits: 3
- PHY 110 - Physics for Society Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
and
- PHY 123 - Physics I Laboratory Credits: 1 *
- PHY 205 - Intermediate Physics I Credits: 3 *
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3 *
- CHM 121 - Chemical Bonding Credits: 3

Category D - Political, Geographic and Economic (6 crs.)

(Choose 2 from different disciplines)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- GEO 101 - World Geography Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Category E - Social & Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Choose One of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Professional Core (75 cr.)

- ECH 210 - The Early Childhood Profession Credits: 3
- ECH 280 - Physical, Language and Cognitive Development Credits: 3
- ECH 320 - Developmental Science: Social & Emotional Basis for Guiding Children's Behavior Credits: 3
- ECH 333 - Social Studies Methods for PK-4th Grade Credits: 3
- ECH 370 - Assessing Young Children Credits: 3
- ECH 373 - Science and Technology Methods in PK-4 Credits: 3
- ECH 393 - Mathematics Methods II, Grades 2-4 Credits: 2
- ECH 394 - Technology Instruction for Early Childhood Classrooms Credits: 1
- ECH 415 - Professional Practicum in PK-4 Credits: 3
- ECH 440 - Building Family and Community Partnerships Credits: 3
- ECH 453 - Integrated Curriculum Pre K-4 Credits: 3
- ECH 480 - Early Childhood Professional Seminar Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 280 - Best Practices in Collaboration: Educators, Families, & Related Service Providers Credits: 3
- EEC 320 - Interventions for Students with Communication Impairments Credits: 3
- EEC 325 - Interventions for Students with Social/Emotional and Behavioral Impairments Credits: 3
- EEC 330 - Teaching Students with Exceptionalities in a Standards-Aligned System Credits: 3
- EEC 335 - Interventions for Students with Cognitive and/or Physical Impairments Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 447 - Special Education Processes in a Standards Aligned System Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3
- RDG 363 - Reading and Writing in PK-4 Credits: 3
- RDG 383 - English Language Learners in PK-4 Credits: 2
- RDG 443 - Reading Measures and Interventions in PK-4 Credits: 4

Early Childhood/Special Education Student Teaching (12 crs.)

- ECS 489 - Student Teaching and Professional Practicum Credits: 12

Supply Chain Management, B.S.B.A.

Supply Chain Management involves the strategic integration of diverse business facilities, functions, and activities throughout the supply chain for the purpose of providing goods and services to customers as efficiently as possible. Achieving efficiency in the supply chain is accomplished by developing knowledge of transportation, inventory control, warehousing, material handling, purchasing, production control, and the tools necessary to analyze and coordinate these activities. The concept of total cost analysis (taking all costs into account before making decisions),

and cost trade-offs (letting one or more costs rise to take advantage of greater savings in other costs) is also central to supply chain management. These concepts, once honed, apply to many facets of business and personal decision making.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Required (15 crs.)

- SCM 315 - Strategic Procurement Credits: 3
- SCM 355 - Managing Quality and Continuous Improvement Credits: 3
- SCM 370 - Integrated Supply Chain Systems Credits: 3
- SCM 380 - Data Mining for Supply Chain Management Credits: 3
- SCM 420 - Global Logistics Systems Credits: 3

Electives (3 crs.)

(One course from the following 3-credit courses)

- ACC 312 - Cost Determination and Analysis Credits: 3
- ECO 355 - Environmental Economics Credits: 3
- FIN 320 - Risk Management and Insurance Credits: 3
- FIN 340 - Principles of Real Estate Credits: 3
- FIN 405 - Real Estate Appraisal and Investment Analysis Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- MGT 340 - Human Resource Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 394 - Leadership and Decision-Making Credits: 3
- MGT 450 - Negotiation Credits: 3
- MIS 240 - Introduction to Programming Concepts Credits: 3
- MIS 242 - Design and Development of User Information Systems Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3
- MIS 446 - Applied Project Management Credits: 3
- MKT 310 - Personal Selling Credits: 3
- MKT 342 - Business-to-Business Marketing and Analysis Credits: 3
- MKT 365 - Relationship Marketing Credits: 3
- MKT 370 - Services Marketing Credits: 3
- SCM 390 - Strategic Warehouse Management Credits: 3
- SCM 410 - Distribution Systems in Supply Chains Credits: 3

Supply Chain Management Career Opportunities

Graduates with a Supply Chain Management background can find employment in a wide range of occupational specialties including logistics, warehousing management, transportation management, operations and production management, purchasing, inventory control, and customer service to name but a few. Salaries for recent graduates in supply chain programs, according to several surveys, rank near the top among the various business majors. Supply Chain Management also plays a central role in the global economy. Many job opportunities are available which involve developing and maintaining the international supply chain.

Supply Chain Management, Logistics Management Concentration, B.S.B.A.

Supply Chain Management involves the strategic integration of diverse business facilities, functions, and activities throughout the supply chain for the purpose of providing goods and services to customers as efficiently as possible. Achieving efficiency in the supply chain is accomplished by developing knowledge of transportation, inventory control, warehousing, material handling, purchasing, production control, and the tools necessary to analyze and coordinate these activities. The concept of total cost analysis (taking all costs into account before making decisions), and cost trade-offs (letting one or more costs rise to take advantage of greater savings in other costs) is also central to supply chain management. These concepts, once honed, apply to many facets of business and personal decision making.

B.S.B.A. Core Requirements

All B.S.B.A. majors in the John L. Grove College of Business should satisfactorily complete the 100-/200-level business core courses during their freshman and sophomore years and the 300-400-level business core courses during their junior and senior years, as listed below.

Required Courses in Related Fields

- MAT 140A - College Algebra Credits: 4
- MAT 140B - College Algebra Credits: 3
- MAT 181 - Applied Calculus Credits: 3

Required Courses in the John L. Grove College of Business

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- ACC 201 - Managerial Accounting Credits: 3
Accounting majors must earn a C or better in this course.
- BSL 261 - American Legal Environment Credits: 3
- BSN 101 - Foundations of Business Administration Credits: 2
- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 447 - Business and Society Credits: 3
- MGT 497 - Strategic Management Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MKT 305 - Principles of Marketing Credits: 3
- SCM 200 - Statistical Applications in Business Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3

Note:

- Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT 140A/MAT 140B. In lieu of MAT 140A/MAT 140B, students are required to take an additional free elective.
- Completion of ECO 101 and ECO 102 will satisfy the requirement for ECO 113.
- Completion of MAT 117 taken at Shippensburg University will satisfy the requirement for SCM 200 .
- MGT 447 Satisfies university diversity requirement.

Major Course Requirements

Students should meet with their faculty advisor to plan the sequencing of their major program of study. Students interested in a double major and/or minor shall be required to take the prescribed courses in each respective major and/or minor. Students can double count one course between business majors with the permission of the respective department chair(s). Refer to the index under Double Majors and Minors for further information.

Logistics Management Concentration

Logistics is that part of Supply Chain Management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers' requirements. Logistics activities typically include inbound and outbound transportation management, fleet management, warehousing, materials handling, order fulfillment, logistics network design, inventory management, supply/demand planning, and management of third party logistics services providers. To varying degrees, the logistics function also includes sourcing and procurement, production planning and scheduling, packaging and assembly, and customer service. It is involved in all levels of planning and execution-strategic, operational and tactical. Logistics is an integrating function, which coordinates and optimizes all logistics activities, as well as integrates logistics activities with other functions including marketing, sales manufacturing, finance, and information technology.

Required (12 crs.)

- SCM 370 - Integrated Supply Chain Systems Credits: 3
- SCM 390 - Strategic Warehouse Management Credits: 3
- SCM 410 - Distribution Systems in Supply Chains Credits: 3
- SCM 420 - Global Logistics Systems Credits: 3

Electives (6 crs.)

(Two courses from the following 3-credit courses)

- ACC 312 - Cost Determination and Analysis Credits: 3
- ECO 355 - Environmental Economics Credits: 3
- FIN 320 - Risk Management and Insurance Credits: 3
- FIN 340 - Principles of Real Estate Credits: 3
- FIN 405 - Real Estate Appraisal and Investment Analysis Credits: 3
- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- MGT 340 - Human Resource Management Credits: 3
- MGT 342 - Labor Relations and Collective Bargaining Credits: 3
- MGT 370 - International Business Credits: 3
- MGT 394 - Leadership and Decision-Making Credits: 3

- MGT 450 - Negotiation Credits: 3
- MIS 240 - Introduction to Programming Concepts Credits: 3
- MIS 242 - Design and Development of User Information Systems Credits: 3
- MIS 300 - Information Technology and Business Operations Credits: 3
- MIS 446 - Applied Project Management Credits: 3
- MKT 310 - Personal Selling Credits: 3
- MKT 342 - Business-to-Business Marketing and Analysis Credits: 3
- MKT 365 - Relationship Marketing Credits: 3
- MKT 370 - Services Marketing Credits: 3
- SCM 315 - Strategic Procurement Credits: 3
- SCM 355 - Managing Quality and Continuous Improvement Credits: 3
- SCM 380 - Data Mining for Supply Chain Management Credits: 3

Logistics Career Opportunities

Logistics is the universal thread or pipeline that plans and coordinates the delivery of products and services to customers all over the world. Logistics professionals manage and coordinate activities in this global pipeline to ensure an effective and efficient flow of materials and information from the time a need arises until it is satisfied and beyond. The demand for logistics managers at all levels is excellent. The Collegiate Employment Research Institute reports that logistics is a field with more positions than graduates each year. *The Wall Street Journal* reports that senior logistics management talent is also in short supply. As logistics managers' roles and value have grown, the need for well-educated, talented professionals with a diverse array of skills has emerged. Earning potential for logistics managers is excellent! In addition to receiving outstanding salaries, logistics managers receive a full range of valuable benefits and most are eligible for bonus pay. A recent study by William M. Mercer, Inc., indicates that more than 85 percent of logistics managers can earn incentive pay in addition to their base salary. It is also important to note salaries for logistics managers have risen each of the last five years according to annual surveys conducted by Ohio State University and Cahners Research.

Environmental Education Certification

Shippensburg University offers an approved program in environmental education. The program may be taken by Early Childhood/Elementary Education: PK-4 or Elementary/Middle Level Education: Grades 4-8 as an academic sequence or by secondary education majors in biology or geography/earth science. Secondary students in other fields may enroll in the program with the permission of their department chair.

The environmental education program at Shippensburg is a somewhat structured program, but it also allows for much diversity in the selection of courses for the completion of the requirements for the certification. This certification allows the teacher to teach any subject matter which is labeled as environmental education in any grade from kindergarten through the 12th grade.

To receive the certification a student must complete a minimum of 24 credits from the courses described below. The only course which is required of all students is EDU 410 - Environmental Education Practicum Credits: 3.

The practicum is offered during fall semester of odd numbered years and summers during even numbered years.

The additional 21 credits may be selected in a variety of ways, but a minimum of 12 credits must be selected from a core of courses and nine credits must be selected from courses outside of the student's major field of study. These 21 credits must also be selected from a minimum of three departments of the university and include a statistics course.

24 crs.

Required Course

- EDU 410 - Environmental Education Practicum Credits: 3

Core Courses - 12 crs. minimum

The student must select a minimum of one course from each of the four categories (A-D) below. Additional courses may be counted toward Related Electives.

Category A.

- BIO 142 - Introduction to Ecology Credits: 3
- BIO 242 - Ecology Credits: 3

Category B.

- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Category C.

- ESS 110 - Introduction to Geology Credits: 3
- ESS 111 - Introduction to the Atmosphere Credits: 3
- ESS 210 - Physical Geology Credits: 3

Category D.

- BIO 145 - Environmental Biology Credits: 3
- ESS 108 - Conservation of Natural Resources Credits: 3

Related Electives

Any remaining credits must be selected from the courses listed below. It is recommended students take as broad a base of courses as possible if they have a strength in one of the science areas. If an area of strength is not evident, it is recommended the remaining electives be used to establish one.

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 121 - Physical Anthropology Credits: 3
- BIO 205 - Marine Biology Credits: 3
- BIO 220 - Microbiology Credits: 4
- BIO 245 - Marine Ecology Credits: 3
- BIO 362 - Invertebrate Zoology Credits: 3
- BIO 363 - Vertebrate Zoology Credits: 3
- BIO 444 - Conservation Biology Credits: 3
- CHM 103 - A Cultural Approach Credits: 3

- CHM 105 - An Observational Approach Credits: 3
- ECO 310 - Public Finance Credits: 3
- ECO 340 - Introduction to Regional Economics Credits: 3
- ECO 345 - The Economics of Growth and Development Credits: 3
- ESS 220 - Oceanography Credits: 3
- ESS 355 - Meteorology Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- GEO 103 - Geography of the United States and Canada Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- GEO 203 - Climatology Credits: 3
- GEO 224 - Soils Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 371 - Public Management Credits: 3
- MAT 117 - Applied Statistics Credits: 3

Note:

BIO 205, BIO 245, and BIO 446 are offered at the Marine Science Consortium, Wallops Island, Virginia.

A student should normally indicate interest in receiving the certification early in his/her undergraduate studies. This interest should be communicated to his/her advisor or department chair so a suitable program can be planned which will allow the student to complete the requirements within a normal four-year program. Students and advisors are urged to consult the catalog for any prerequisites for courses above the 100 levels.

Early Childhood/Elementary Education: PK-4, Early Childhood Concentration B.S.Ed.

Required Courses

- ENG 114 - Writing Intensive First-Year Seminar Credits: 3
- HCS 100 - Introduction to Human Communication Credits: 3
- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- MAT 111 - Fundamentals of Mathematics II Credits: 3

Categories of Knowledge

Category A - Rational Thinking (3 crs.)

- MAT 110 - Fundamentals of Mathematics I Credits: 3

Category B - Literary Artistic and Cultural Traditionals (9 crs.)

Literature (Select one)

- ENG 243 - The Art of the Film Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 250 - Introduction to Literature Credits: 3
- Foreign Literature, with advisement

Fine Arts (6 crs.)

(Choose 2 from different disciplines)

Art

(ART 101 recommended)

- ART 101 - Art Appreciation Credits: 3
- ART 231 - Art History I Credits: 3
- ART 232 - Art History II Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 339 - History of American Art Credits: 3

Music (3 crs.)

- MUS 110 - Fundamental Music Skills Credits: 3
- MUS 121 - Introduction to Music Credits: 3
- MUS 261 - World Music Credits: 3

Theatre (3 crs.)

- THE 121 - Introduction to the Theatre Credits: 3

Category C - Laboratory Science (9 crs.)

Select one course from each of the 3 categories. **One** of the 3 courses must have a laboratory component indicated with an asterisk (*).

Biology (3 crs.)

- BIO 100 - Basic Biology Credits: 3
- BIO 142 - Introduction to Ecology Credits: 3 *
- BIO 150 - Human Biology Credits: 3
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4 *
- BIO 208 - Field Biology Credits: 3 *
- BIO 242 - Ecology Credits: 3 *

Earth Science (3 crs.)

- ESS 108 - Conservation of Natural Resources Credits: 3
- ESS 110 - Introduction to Geology Credits: 3 *
- ESS 111 - Introduction to the Atmosphere Credits: 3 *
- ESS 210 - Physical Geology Credits: 3 *
- BIO 145 - Environmental Biology Credits: 3

Physical Sciences (3 crs.)

- PHY 108 - Astronomy Credits: 3
- PHY 110 - Physics for Society Credits: 3
- PHY 121 - Introductory Physics I - Lecture Credits: 3
and
- PHY 123 - Physics I Laboratory Credits: 1 *
- PHY 205 - Intermediate Physics I Credits: 3 *
- CHM 103 - A Cultural Approach Credits: 3
- CHM 105 - An Observational Approach Credits: 3 *
- CHM 121 - Chemical Bonding Credits: 3

Category D - Political, Geographic and Economic (6 crs.)

(Choose 2 from different disciplines)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- GEO 101 - World Geography Credits: 3
- PLS 100 - U.S. Government and Politics Credits: 3

Category E - Social & Behavioral Sciences (6 crs.)

- PSY 101 - General Psychology Credits: 3

Choose One of the following:

- ANT 111 - Cultural Anthropology Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Professional Core (60 crs.)

- ECH 210 - The Early Childhood Profession Credits: 3
- ECH 220 - Developmental Science: Physical, Motor, & Health Credits: 3
- ECH 260 - Developmental Science: Cognitive & Language Credits: 3

- ECH 320 - Developmental Science: Social & Emotional Basis for Guiding Children's Behavior Credits: 3
- ECH 333 - Social Studies Methods for PK-4th Grade Credits: 3
- ECH 343 - Mathematics Methods I for PreKindergarten & Kindergarten Credits: 3
- ECH 370 - Assessing Young Children Credits: 3
- ECH 373 - Science and Technology Methods in PK-4 Credits: 3
- ECH 393 - Mathematics Methods II, Grades 2-4 Credits: 2
- ECH 394 - Technology Instruction for Early Childhood Classrooms Credits: 1
- ECH 415 - Professional Practicum in PK-4 Credits: 3
- ECH 440 - Building Family and Community Partnerships Credits: 3
- ECH 453 - Integrated Curriculum Pre K-4 Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3
- RDG 363 - Reading and Writing in PK-4 Credits: 3
- RDG 383 - English Language Learners in PK-4 Credits: 2
- RDG 443 - Reading Measures and Interventions in PK-4 Credits: 4
- ECH 340 - Preschool and Kindergarten Curriculum Credits: 3
- ECH 410 - Physical, Motor, and Sensory Development in Early Childhood Credits: 3
- ECH 462 - Practicum in Early Childhood Concentration with Administrative Field Experiences Credits: 3
- ECH 470 - Language Development, Literacy, and Play in Early Childhood Education Credits: 3

Electives (Select One):

- SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3

History, European History Concentration, B.A.

Required History Courses (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted History Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

European History Concentration (12 crs.)

Select 12 credits from the following courses:

- HIS 320 - Europe in the Early and High Middle Ages: 300 to 1270 Credits: 3
- HIS 321 - Late Medieval Europe: 1270 to 1517 Credits: 3
- HIS 325 - History of the Tsarist Russia Credits: 3
- HIS 326 - History of the U.S.S.R. Credits: 3
- HIS 330 - History of Modern Germany: 1919 to Present Credits: 3
- HIS 331 - History of Modern France: 1750 to Present Credits: 3
- HIS 332 - English History: 1066 to Present Credits: 3
- HIS 334 - Europe 1715-1815: The Era of the Industrial and French Revolutions Credits: 3
- HIS 337 - History of the Byzantine Empire Credits: 3
- HIS 348 - The History of Ancient Rome Credits: 3
- HIS 356 - History of 19th Century Europe Credits: 3
- HIS 357 - History of Holocaust Credits: 3
- HIS 359 - History of Western Political Thought, 1500-1800 Credits: 3
- HIS 361 - History of 20th Century Europe Credits: 3
- HIS 362 - Europe 1450-1715: The Era of the Renaissance and Reformation Credits: 3
- HIS 386 - History Research Seminar Credits: 3 (with advisement)
- HIS 387 - History Internship Credits: 3 (with advisement)
- HIS 389 - History Internship Credits: 3 (with advisement)
- HIS 390 - Selected Topics in History Credits: 3 (with advisement)
- HIS 391 - History Internship Credits: 3-6 (with advisement)
- HIS 394 - Selected Topics in History Credits: 3 (with advisement)
- HIS 423 - Issues in 20th-Century Europe Credits: 3
- HIS 492 - Selected Topics in History Credits: 3 (with advisement)
- HIS 496 - Selected Topics in History Credits: 3 (with advisement)

History, American History Concentration, B.A.

Required History Courses (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted History Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

American History Concentration (12 crs.)

Select 12 credits from the following courses:

- HIS 301 - The West in American History Credits: 3
- HIS 302 - American Business History Credits: 3
- HIS 304 - American Diplomatic History Credits: 3
- HIS 305 - The Civil War Era Credits: 3
- HIS 307 - Contemporary U. S. History since 1945 Credits: 3
- HIS 309 - History of the American Worker Credits: 3
- HIS 314 - History of Jacksonian America Credits: 3
- HIS 318 - History of U.S. Women Credits: 3
- HIS 319 - Introduction to Public History Credits: 3
- HIS 338 - Colonial America Credits: 3
- HIS 341 - African-American History Credits: 3
- HIS 342 - U.S. Immigration and Ethnicity Credits: 3
- HIS 345 - Military History of the United States Credits: 3
- HIS 352 - The US and Vietnam Credits: 3
- HIS 358 - American Environmental History Credits: 3
- HIS 385 - Selected Topics in History Credits: 3 (with advisement)
- HIS 386 - History Research Seminar Credits: 3 (with advisement)
- HIS 387 - History Internship Credits: 3 (with advisement)
- HIS 388 - Selected Topics in History Credits: 3 (with advisement)
- HIS 389 - History Internship Credits: 3 (with advisement)
- HIS 391 - History Internship Credits: 3-6 (with advisement)
- HIS 394 - Selected Topics in History Credits: 3 (with advisement)
- HIS 402 - Revolutionary America Credits: 3
- HIS 413 - Pennsylvania History Credits: 3
- HIS 428 - Issues in the Gilded Age and Progressive Era Credits: 3
- HIS 430 - U.S. Cultural History Credits: 3
- HIS 433 - Oral History Credits: 3
- HIS 490 - Selected Topics in History Credits: 1-3 (with advisement)
- HIS 496 - Selected Topics in History Credits: 3 (with advisement)

History, Asian & Middle Eastern History Concentration, B.A.

Required History Courses (18 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3
- HIS 203 - Theory and Practice of History Credits: 3
- HIS 397 - Seminar in Comparative History Credits: 3

Restricted History Electives (12 crs.)

- 300-level or above in American History
- 300-level or above in European History
- 300-level or above in Latin American/African/Middle Eastern or Asian History
- 300-level or above in Latin American/African/Middle Eastern or Asian History

Asian & Middle Eastern History Concentration

- HIS 339 - The Central Islamic Lands, 500-1700 Credits: 3
- HIS 344 - History of the Modern Middle East Credits: 3
- HIS 350 - History of Modern Japan Credits: 3
- HIS 353 - Modern Southeast Asia Credits: 3
- HIS 354 - Traditional China Credits: 3
- HIS 355 - History of Modern China Credits: 3
- HIS 382 - Selected Topics in History Credits: 1-3
(with advisement)
- HIS 383 - Selected Topics in History Credits: 1-3 (with advisement)
- HIS 386 - History Research Seminar Credits: 3 (with advisement)
- HIS 387 - History Internship Credits: 3 (with advisement)
- HIS 389 - History Internship Credits: 3 (with advisement)
- HIS 391 - History Internship Credits: 3-6 (with advisement)
- HIS 394 - Selected Topics in History Credits: 3 (with advisement)
- HIS 454 - China and the Outside World Credits: 3
- HIS 482 - Selected Topics in History Credits: 3 (with advisement)
- HIS 483 - Selected Topics in History Credits: 3 (with advisement)
- HIS 496 - Selected Topics in History Credits: 3 (with advisement)
- PHL 336 - Concepts in Buddhism Credits: 3

Mechanical Engineering, B.S.

The Bachelor of Science in mechanical engineering program prepares students for a wide variety of careers including the design and manufacturing of mechanical and, increasingly, electromechanical components and systems. Advances in technology continue to transform mechanical engineering, and we are using this new program as an opportunity to offer a program that prepares students for the modern workforce. The curriculum includes a focus on professional engineering practice, access to the latest Computer Assisted Design (CAD) and Computer Assisted Manufacturing (CAM) tools, with an emphasis on design for manufacturability, materials, modeling, simulation, process control, and rapid prototyping. One important aspect of this program will be a balance between theory and hands-on practice that will prepare students to be effective and practical engineers when they graduate.

Math Requirements (22 crs.)

- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 317 - Statistics II Credits: 3
- MAT 322 - Differential Equations Credits: 3

Science Requirements (20 crs.)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- PHY 123 - Physics I Laboratory Credits: 1

- PHY 125 - Physics II Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 206 - Intermediate Physics II Credits: 3
- PHY 331 - Mechanics I Credits: 4

Engineering Core (12 crs.)

- ENGR 100 - Engineering Seminar I Credits: 1
- ENGR 110 - Modeling and Simulation Credits: 3
- ENGR 120 - Programming for Engineers Credits: 3
- ENGR 200 - Engineering Seminar II Credits: 1
- ENGR 300 - Engineering Seminar III Credits: 1
- ENGR 310 - Statistical Process Control Credits: 3

Mechanical Engineering Requirements (35 crs.)

- CMPE 499 - Engineering Design & Development Credits: 2
- ELEC 230 - Instrumentation Credits: 3
- ELEC 330 - Control Systems Credits: 3
- MECH 200 - Statics Credits: 3
- MECH 210 - Dynamics Credits: 4
- MECH 220 - Fluids Credits: 4
- MECH 300 - Engineering Materials Credits: 4
- MECH 310 - Manufacturing Processes Credits: 4
- MECH 400 - Design Methods Credits: 4
- MECH 410 - Mechanics of Thermodynamics Credits: 4

Computer Science, Computer Science Applications Concentration, B.S.

The computer science program is designed to enable the student to gain knowledge of computer science and to apply this knowledge to an application area. Students will be proficient in developing computer software to solve problems in a number of contexts.

The computer science B.S. degree program and its concentrations are accredited by the Computing Accreditation Commission of ABET, <http://www.abet.org>, placing Shippensburg University among 30 Pennsylvania colleges and universities that have accredited ABET programs and one of 10 that include computer science programs.

Core Requirements (47 crs.)

Mathematics

- MAT 211 - Calculus I Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3

Computer Science

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- CMPE 220 - Computer Organization Credits: 4
- CSC 310 - Design and Analysis of Algorithms Credits: 4
- CMPE 320 - Operating Systems Credits: 4
- CSC 371 - Database Management Systems Credits: 4
- CSC 498 - Senior Research Methods Credits: 2
- CSC 499 - Senior Research and Development Credits: 2
- SWE 200 - Design Patterns Credits: 4

Two Semester Science Sequence

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

OR

- CHM 121 - Chemical Bonding Credits: 3
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

OR

- PHY 123 - Physics I Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 206 - Intermediate Physics II Credits: 3

Computer Science Applications Concentration Requirements (20 crs.)

- CSC 350 - Introduction to Computer Graphics Credits: 4
- CSC 403 - Machine Learning Credits: 4
- CSC 410 - Theoretical Foundations of Computer Science Credits: 4
- CSC 431 - Computer Networks Credits: 4
- CSC 462 - Artificial Intelligence Credits: 4

Course Sequencing

A typical first year sequence for all computer science majors is given below:

Semester I

- CSC 107 - Computer Science I - Lab Credits: 1
- CSC 110 - Computer Science I - Lecture Credits: 3

- MAT 211 - Calculus I Credits: 4 *
- Three general education courses Credits: 9

Semester II

- CSC 111 - Computer Science II Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- Two general education courses Credits: 6

Note:

*Students unable to begin with MAT 211 - Calculus I may be required to take MAT 175 - Precalculus Credits: 3.

Students who wish to design a personalized concentration may do so with the help of their advisor. The advisor will then submit the request to the department for approval. The student's course of study must be approved by the department in writing.

The department maintains a suggested sequence for scheduling the courses required in the core and by the various pre-approved concentrations. To ensure graduating in four years, each student should take the courses in the semesters indicated on the departmental list. The list will be available to students during scheduling.

Mathematics and Special Education Certification, B.S.

Students completing this dual certification program are eligible to teach in both a mathematics classroom and a special education classroom thereby broadening their job prospects and distinguishing them from the general student population. In addition, as a traditional classroom math teacher, graduates would have the training necessary for effectively dealing with classes in which high numbers of students have Individual Education Plans (IEPs).

A serious national shortage of mathematics (grades 7-12) and special education (Pre-K-12) teachers exists; by 2020 this shortage is expected to reach a critical level, especially in mathematics and science. (U.S. Department of Education, March 2015, *Teacher Shortage Areas Nationwide Listing*). Dual certification will cultivate a new creative student audience filling the state-wide deficit of students situated to excel in special education mathematics classrooms further fulfilling the growing workforce needs.

Core Courses (33-34 crs.)

- MAT 185 - First Year Mathematics Seminar Credits: 1
- MAT 211 - Calculus I Credits: 4
- MAT 212 - Calculus II Credits: 4
- MAT 213 - Calculus III Credits: 4
- MAT 217 - Statistics I Credits: 4
- MAT 225 - Discrete Mathematics Credits: 4
- MAT 318 - Elementary Linear Algebra Credits: 3
- MAT 320 - Introduction to Abstract Algebra Credits: 3
- MAT 430 - Complex Analysis Credits: 3
- OR
- MAT 441 - Real Analysis I Credits: 3
- CSC 104 - Programming in Python Credits: 3

OR

- CSC 180 - Microcomputer Basic Credits: 3

OR

- CSC 110 - Computer Science I - Lecture Credits: 3 AND
- CSC 106 - Computer Science I - Lab Credits: 1 or
- CSC 107 - Computer Science I - Lab Credits: 1

Secondary Education Certification (45 crs.)

- MAT 326 - Mathematical Modeling Credits: 3
- MAT 333 - Geometry Credits: 3
- MAT 400 - History of Mathematics Credits: 3

MAT 4XX Elective

- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3
- RDG 413 - Teaching Reading to English Language Learners Credits: 3
- EDU 371 - Technology in the Mathematics Classroom Credits: 3
- EDU 434 - Teaching of Mathematics in the Secondary Schools I Credits: 3
- EDU 435 - Teaching of Mathematics in the Secondary Schools II Credits: 3
- EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Two separate placements - one Math, one Special Education

Note:

Students seeking certification in secondary education must also complete 1 writing course (ENG 114 or ENG 115) and 1 literature course (ENG 190 , ENG 243 , ENG 248 , or ENG 250).

Special Education Courses (21 crs.)

- EEC 280 - Best Practices in Collaboration: Educators, Families, & Related Service Providers Credits: 3
- EEC 320 - Interventions for Students with Communication Impairments Credits: 3
- EEC 325 - Interventions for Students with Social/Emotional and Behavioral Impairments Credits: 3
- EEC 330 - Teaching Students with Exceptionalities in a Standards-Aligned System Credits: 3
- EEC 335 - Interventions for Students with Cognitive and/or Physical Impairments Credits: 3
- EEC 447 - Special Education Processes in a Standards Aligned System Credits: 3

EEC 546 Transition to Adult Life for Students with Disabilities

Sustainability, Environmental Conservation Concentration, B.S.

Sustainability Core (6 crs.)

- ESS 108 - Conservation of Natural Resources Credits: 3
- OR
- BIO 145 - Environmental Biology Credits: 3

- GEO 427 - Sustainability Credits: 3

Concentration Core (12+ crs.)

- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 230 - Economic Geography Credits: 3
- GEO 360 - Internship in Geography I Credits: 3
- GEO 391 - Geography Seminar Credits: 3

Sustainable Systems (9 crs.)

Choose 9 credits from the following:

- ESS 214 - Geology of National Parks Credits: 3
- ESS 404 - Applied Meteorology and Climatology Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- ESS 451 - Coastal Environmental Oceanography Credits: 3
- GEO 405 - Environmental Conservation and Management in PA Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- GEO 446 - Water Resources Management Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3 *Strongly recommended; can only count in one category*

Human Sustainability Electives (6 crs.)

Choose 6 credits from the following:

- GEO 140 - Cultural Geography Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3

Technique Course Electives (9 crs.)

Choose 9 credits from the following:

- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3 *Strongly recommended*
- GEO 450 - Geography-Geology Field Studies Credits: 1-3 *Strongly recommended; can only count in one category*
- GEO 463 - Applied Geophysical Imaging Credits: 3

Biology (3 crs.)

Choose 3 credits from the following:

- BIO 205 - Marine Biology Credits: 3
- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 230 - Botany Credits: 3
- BIO 242 - Ecology Credits: 3 *Strongly recommended*
- BIO 245 - Marine Ecology Credits: 3
- BIO 442 - Aquatic Ecology Credits: 3
- BIO 444 - Conservation Biology Credits: 3

Psychology and Sociology (6 crs.)

Choose 6 credits from the following:

- PSY 350 - Psychology of Sustainability Credits: 3 *Strongly recommended*
- SOC 265 - Global Society Credits: 3
- SOC 346 - City and Community Credits: 3
- SOC 354 - Social Movements and Social Change Credits: 3
- SOC 363 - Population Problems Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Economics and Business (3 crs.)

Choose 3 credits from the following:

- ECO 345 - The Economics of Growth and Development Credits: 3
- ECO 355 - Environmental Economics Credits: 3 *Strongly recommended*
- MGT 447 - Business and Society Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MIS 242 - Design and Development of User Information Systems Credits: 3
SCM 3XX Sustainable Operations Management
- SCM 420 - Global Logistics Systems Credits: 3

English, History, and Communication (6 crs.)

Choose 6 credits from the following:

- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 359 - Native American Literature Credits: 3
- HCS 345 - Environmental Communication Credits: 3 *Strongly recommended*
- HIS 358 - American Environmental History Credits: 3 *Strongly recommended*

Chemistry, Medical Sciences Concentration, B.S.

To enter into this concentration, students must have a GPA of 3.2. Students in this concentration must maintain a GPA of 3.2 or better.

Students that choose this concentration are not eligible for American Chemical Society Certification.

Chemistry Requirements (34 crs.; 37 with General Education)

- CHM 110 - The Chemistry Experience Credits: 1
- CHM 121 - Chemical Bonding Credits: 3 *counts towards General Education Category C requirement*
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3
- CHM 301 - Biochemistry I Credits: 3
- CHM 312 - Chemistry Seminar Credits: 1
- CHM 363 - Physical Chemistry I Credits: 4
- CHM 381 - Intermediate Inorganic Chemistry Credits: 3
- CHM 420 - Biochemistry II Credits: 3
- CHM 496 - Introduction to Research I Credits: 1-3
- CHM 497 - Introduction to Research II Credits: 1-3

Additional Biology Requirements (15 crs.)

- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4
- BIO 260 - Genetics Credits: 4

- BIO 350 - Human Physiology Credits: 4
OR
- BIO 351 - Animal Physiology Credits: 4

- BIO 385 - Cell Biology Credits: 3

Physics Requirements (5 crs.; 8 crs. with General Education)

- PHY 123 - Physics I Laboratory Credits: 1
- PHY 125 - Physics II Laboratory Credits: 1
- PHY 205 - Intermediate Physics I Credits: 3 *counts towards General Education Category C requirement*
- PHY 206 - Intermediate Physics II Credits: 3

Restricted Electives (4 crs.)

Choose 1 or 2 courses, with advisement

- BIO 220 - Microbiology Credits: 4
- BIO 375 - Histology Credits: 3
- BIO 408 - Principles of Virology Credits: 3
- BIO 418 - Molecular Biology Credits: 3

- BIO 461 - Techniques in Biotechnology Credits: 3
- CHM 364 - Physical Chemistry II Credits: 4
- CHM 371 - Analytical Chemistry Credits: 4
- CHM 421 - Biochemistry Laboratory Credits: 1

Free Electives (11 crs.)

Students must complete 11 credits of free electives. Recommended free electives include the following:

- BIO 409 - Immunology Credits: 3
- CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1
- CHM 481 - Advanced Inorganic Chemistry Credits: 4
- CHM 490 - Selected Topics in Chemistry Credits: 1-3
- CSC 110 - Computer Science I - Lecture Credits: 3
- SOC 369 - Medical Sociology Credits: 3

Economics, Data Science Concentration, B.S.

The B.S. in Economics and Data Science concentration provides students the foundation to employ the appropriate statistical techniques to help answer a wide variety of questions confronted by decision makers. According to CNBC.com, "With more and more companies using big data, the demand for [those]...who know how to manage the tsunami of information, spot patterns within it and draw conclusions and insights-is nearing a frenzy."

Economics B.S.

The Bachelor of Science degree is anchored by a strong core of required economics, mathematics, and statistics courses that provide a solid foundation of analytical and quantitative reasoning. Flexibility comes from selecting one of six concentrations to complement the economics foundation courses. Each concentration has been designed to meet the specific and interests of students focused upon a variety of career or professional options. By partnering with other disciplines, our students are assured of gaining insights from cross-disciplinary studies.

Course Requirements

Required Economics (27 crs.)

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3
- ECO 270 - Intermediate Macroeconomic Theory Credits: 3
- ECO 280 - Managerial Economics Credits: 3
- ECO - Economics Electives at the 300-level or higher

Note:

Students taking ECO 113 - Principles of Economics Credits: 4 should not take ECO 101 or ECO 102. Only six hours of Principles credits will count toward the 27 required credit hours in Economics.

Concentration Requirements

Students may choose from pre-approved concentrations or seek departmental approval for a concentration of their own design. The decision regarding one's concentration should be made normally during the sophomore year. The current pre-approved concentrations are: business, data science, mathematics, political science, public administration, and the social sciences. Each of the concentrations (other than social sciences) has been structured to ensure students earn a minor in the complementary discipline.

Required Math (4-7 crs.)

- MAT 140A - College Algebra Credits: 4 *or*
- MAT 140B - College Algebra Credits: 3 *AND*
- MAT 181 - Applied Calculus Credits: 3
- OR
- MAT 211 - Calculus I Credits: 4

Data Science Courses (19-20 crs.)

- CSC 104 - Programming in Python Credits: 3
- OR
- CSC 110 - Computer Science I - Lecture Credits: 3 *and*
- CSC 106 - Computer Science I - Lab Credits: 1
- OR
- MIS 240 - Introduction to Programming Concepts Credits: 3
- ECO 333 - Research and Analysis in Economics Credits: 3
- MAT 217 - Statistics I Credits: 4
- MAT 219 - Data Science I Credits: 3
- MAT 317 - Statistics II Credits: 3
- MAT 319 - Data Science II Credits: 3

Minor

Anthropology Minor

18 crs.

The anthropology minor consists of 18 credits, nine of which are required, and nine of which are electives. A minimum of 6 credits must be from 300-level or above courses. Three credits of internship may count toward fulfillment of the requirements of the minor.

Core Courses (9 crs.)

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 121 - Physical Anthropology Credits: 3
- ANT 105 - Great Discoveries in Archaeology Credits: 3
- OR
- ANT 150 - Introduction to Archaeology Credits: 3

Elective Courses (9 crs.)

- Any three ANT courses for a total of 9 credits; two of the three courses need to be at the 300 level or higher.

Art Minor

21 crs.

Foundation Courses (9 crs.)

- ART 110 - Basic Drawing Credits: 3
- ART 215 - Color and Two-Dimensional Design Credits: 3 Offered in fall only
- ART 218 - Three-Dimensional Design Credits: 3 Offered in spring only

Art History Elective (3 crs.)

- ART 231 - Art History I Credits: 3 Offered in 'even year' fall only
- ART 232 - Art History II Credits: 3 Offered in fall only
- ART 233 - Art History III Credits: 3 Offered in spring only
- ART 339 - History of American Art Credits: 3

Art Electives (9 crs.)

At least 6 credits must be 300/400 level courses.

- ART 210 - Drawing II Credits: 3
- ART 211 - Figure Drawing Credits: 3
- ART 217 - Computer Design I Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- ART 300 - Independent Studio/Ceramics Credits: 3
- ART 301 - Independent Studio/Drawing Credits: 3
- ART 302 - Independent Studio/Enameling Credits: 3
- ART 303 - Independent Studio/Painting Credits: 3
- ART 304 - Independent Studio/Sculpture Credits: 3
- ART 305 - Independent Studio /Computer Design Credits: 3
- ART 306 - Computer Design II Credits: 3 Offered in spring only
- ART 309 - Independent Studio Credits: 3
- ART 319 - Computer Design III Credits: 3 Offered in fall only
- ART 321 - Watercolor I Credits: 3 Offered in spring only
- ART 322 - Watercolor II Credits: 3 Offered in fall only
- ART 326 - Painting I Credits: 3 Offered in fall only
- ART 327 - Painting II Credits: 3 Offered in spring only
- ART 340 - Ceramics Credits: 3
- ART 341 - Advanced Ceramics Credits: 3 Offered in spring only
- ART 356 - Social Structures of Aesthetics, Philosophy and Criticism in the Arts Credits: 3
- ART 370 - Sculpture Credits: 3 Offered in fall only
- ART 393 - Selected Topics in Art Credits: 1-3
- ART 395 - Internship in Art I Credits: 3

- ART 399 - Independent Study Credits: 3
- ART 400 - Contemporary Methods in Art Education Credits: 3
- ART 425 - Computer Design IV Credits: 3 Offered in spring only
- ART 430 - Computer Design V Credits: 3 Offered in fall only
- ART 435 - Computer Design VI Credits: 3 Offered in spring only
- ART 490 - Selected Topics in Art Credits: 1-3

Biochemistry Minor

Required (24/28 crs.)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1 or
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1
- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3 or
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1 or
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3 or
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1
- CHM 301 - Biochemistry I Credits: 3
- CHM 420 - Biochemistry II Credits: 3
- CHM 421 - Biochemistry Laboratory Credits: 1
- CHM 496 - Introduction to Research I Credits: 1-3

Biology Minor

19 crs.

Required (8 crs.)

Students must earn a "C" or higher in BIO 161 and BIO 162 before upper-level biology electives may be taken.

- BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4
- BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

Electives (11 crs.)

Electives are to be selected from courses intended for biology majors. At least two 3 credit-hour courses must be at the 300-level or above. BIO 237 , BIO 238 , seminar, internship, and research cannot be used to meet requirements for the minor.

Business Minor

In order to be admitted to the minor, you must successfully complete the general education prerequisites for the program. The first prerequisite is completion of ECO 113 Principles of Economics, ECO 102 Principles of Microeconomics or ECO 101 Principles of Macroeconomics with a C or better. The second prerequisite is the completion of MAT 140A/MAT 140B College Algebra or MAT 117 (taken at Shippensburg University) with a C or better or a higher level mathematics course or a math placement level of 5 or higher.

The business minor consists of four required core business courses and two business elective courses. The four required courses provide you with a solid fundamental background in business. In addition, these foundation courses will apply directly toward meeting some of the requirements of most MBA programs if you decide to pursue a master's degree in business later. The two elective courses in business allow you to tailor the minor to complement your major and to develop an area of specialization to further enhance future employment opportunities.

Numerous studies have shown a high percentage of students, regardless of major, end up pursuing careers in business or careers that require an understanding of business. No matter what career path you take after graduation, whether self-employed or working for an organization, the business concepts and skills you gain from the business minor will help to expand your opportunities and ensure your success.

18 crs.

Required Core Courses

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
- FIN 311 - Financial Management Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MKT 305 - Principles of Marketing Credits: 3

Elective Business Courses

Two (2) College of Business courses with advisement and completion of prerequisites.

Interested students are encouraged to check out the John L. Grove College of Business website at www.ship.edu/business for more information on the business minor. To apply for the business minor, students should stop by Grove Hall 128 to complete an application.

Chemistry Minor

Required (23-27 crs.)

- CHM 121 - Chemical Bonding Credits: 3
- CHM 123 - Laboratory IA-Chemical Systems Credits: 1 or
- CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

- CHM 122 - Chemical Dynamics Credits: 3
- CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3 or
- CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1
- CHM 221 - Modern Organic Chemistry I Credits: 3
- CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1 or
- CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1
- CHM 222 - Modern Organic Chemistry II Credits: 3
- CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3 or
- CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1
- 7 additional chemistry course credits at the 300 or 400 level

Coaching Minor

The coaching minor prepares coaches to work with athletic teams in youth sports, junior or senior high school sports, or in recreational sports settings.

The coaching minor prepares students to coach after school and to be employed by school districts as a coach. However it does not prepare teachers to teach physical education classes in a school setting. Many Shippensburg University students enroll in the coaching minor to supplement their chosen major. For example, Elementary Education majors who minor in coaching are trained to teach during the day and coach after school. Secondary Education majors also select the coaching minor for the same reason. Biology majors who select the coaching minor have gone on to graduate school to study exercise physiology after graduation from Shippensburg University. Psychology majors with a Coaching minor have gone on to graduate school in sport psychology. Business majors with the coaching minor have gone on to graduate school in sport management and marketing. The coaching minor can be a stepping stone to many career options.

Students are required to achieve a grade of C or better in all Coaching minor courses.

Education majors who student teach during their senior year are encouraged to declare the minor early.

Coaching Requirements - (18 crs.)

Required Courses

- ESC 243 - Physiological Basis of Sport Credits: 3
- ESC 244 - Mechanical Analysis of Sports Skills Credits: 3
- ESC 325 - Sport Psychology Credits: 3
- ESC 340 - Prevention and Care of Athletic Injuries Credits: 3
- ESC 400 - Methods of Coaching Credits: 3

Electives (Select One): (3 crs.)

- ESC 207 - Stress Management Credits: 3
- ESC 213 - Organization and Administration for Fitness and Sport Facilities Credits: 3

- ESC 387 - Theory and Practice of Power and Agility Training Credits: 3
- SOC 275 - Sociology of Sport and Leisure Credits: 3

Communication/Journalism Minor

18 crs.

Required Core Courses (12 crs.)

Students must have Jr standing to take COM 345.

- COM 111 - Introduction to Mass Communication Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 245 - Diversity and the Media Credits: 3
- COM 345 - Communication Law and Ethics Credits: 3

Elective Courses (6 crs.)

Students enrolled in the minor may take any two 200-400 level COM courses with approval of Communication/Journalism faculty advisor.

Note:

The Department of Communication/Journalism does not permit **any** transfer courses to be counted toward fulfillment of minor requirements.

Computer Science Minor

Core Courses (20 crs.)

- CSC 110 - Computer Science I - Lecture Credits: 3
- CSC 107 - Computer Science I - Lab Credits: 1 or
- CSC 106 - Computer Science I - Lab Credits: 1
- CSC 111 - Computer Science II Credits: 4
- SWE 200 - Design Patterns Credits: 4 or
- CMPE 220 - Computer Organization Credits: 4
- 2 electives from CSC, CMPE or SWE at 300 level or higher.

Criminal Justice Minor

A minor in Criminal Justice provides the fundamental exposure necessary to understand the increasing complexity of the criminal justice system. To gain admittance into the Criminal Justice minor, the student must have 2.5 QPA or greater. All Criminal Justice courses must be passed with a grade of C or better. At least one Criminal Justice course

must be taken in a face-to-face format: NO EXCEPTIONS. Non-majors are required to choose from the following courses:

18 crs.

Required

- CRJ 100 - Introduction to Criminal Justice Credits: 3

Complete two of the following courses at the 200 level:

- CRJ 211 - Criminal Law and Procedure Credits: 3
- CRJ 221 - Policing a Democracy Credits: 3
- CRJ 241 - Survey of Corrections Credits: 3

Required 300 level course:

- CRJ 309 - Theories of Crime and Crime Control Credits: 3

**Complete two additional CRJ elective courses at the 300-400 level
(excludes Internships)**

Note:

CRJ 100, CRJ 211, CRJ 221, and CRJ 241 can be offered as summer online course.

Disability Studies Minor

The Disability Studies Minor provides students with a cutting-edge, interdisciplinary body of knowledge and skills geared toward the exploration of the meaning and impact of disability across time, place, and group. As a field akin to Women's and Gender Studies and Ethnic Studies, Disability Studies sees individuals with disabilities as a valuable and integral part of the human community, and it examines the ways in which understandings of disability shape the fundamental aspects of our lives, relationships, and societies. In addition, the program raises awareness of disability issues, knowledge of disability rights and laws, and best practices towards creative toward inclusive and accessible environments and communities. The knowledge and skills gained will prepare students for disability-related careers and advanced study in disability studies, and will enhance and deepen their understanding of the multicultural fabric of contemporary society.

18 crs.

Core Requirements (6 crs.)

To complete the Disability Studies minor, students will take the two core courses (DS 100 and DS 400) and four of the approved electives. Elective coursework must represent at least two academic disciplines (defined by course prefix). At least six credits of the minor coursework must be at the 300 or 400 level. At least 50% of the courses for the minor must be taken at Shippensburg University.

- DS 100 - Introduction to Disability Studies Credits: 3
- DS 400 - Capstone in Disability Studies Credits: 3

Approved Electives (12 crs.)

- ANT 350 - Medical Anthropology Credits: 3
- CRJ 326 - Victimology: The Victim and the Law Credits: 3
- CRJ 363 - Intimate Partner Violence Credits: 3
- CRJ 397 - Selected Topics in Criminal Justice Credits: 3
- DS 391 - Internship in Disability Studies Credits: 3
- EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3
- EEC 445 - Proactive Approaches for Classroom and Behavior Management Credits: 3
- EEC 447 - Special Education Processes in a Standards Aligned System Credits: 3
- EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3
- EEC 490 - Selected Topics in Special Education Credits: 1-3
- ENG 250 - Introduction to Literature Credits: 3
- ENG 362 - Disability in Literature Credits: 3
- GRN 100 - Introduction to Gerontology Credits: 3
- HON 411 - Honors: Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3
- HCS 333 - Communicating Identity Credits: 3
- HCS 335 - Popular Culture and Gender Construction Credits: 3
- HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3
- MGT 340 - Human Resource Management Credits: 3
- MGT 346 - Human Resource Management Law Credits: 3
- PSY 355 - Psychology of the Exceptional Child Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- SWK 265 - Understanding Diversity for Social Work Practice Credits: 3
- SWK 347 - Special Fields of Social Work: Behavioral Health Credits: 3
- SWK 351 - Social Work Elective: Aging Credits: 3
- SWK 356 - Social Work Elective: Intellectual and Developmental Disabilities Credits: 3
- SWK 420 - Gender Issues for Helping Professionals Credits: 3
- SWK 450 - Social Welfare Policies and Services Credits: 3
- SOC 320 - Sociology of Disability Credits: 3
- SOC 369 - Medical Sociology Credits: 3
- SOC 371 - Social Dynamics of Aging Credits: 3
- SOC 445 - Sexuality and Sexual Orientation: A Social Approach Credits: 3
- SPN 150 - Spanish Civilization and Culture Credits: 3
- SPN 490 - Selected Topics in Spanish Credits: 3

Economics Minor

The minor in economics has advantages for both business majors and non-business majors. Minor in economics may be a smart move academically and for your career.

Business Majors -19 crs.

The advantage for business majors is the minor in economics provides a liberal arts component to complement the business degree. Many employers are seeking students who can think about business problems in a broader context.

They are also seeking students with problem solving and analytical abilities. A minor in economics demonstrates breadth, analytical ability, willingness to take challenging courses, and an understanding of the method of a social science. Business majors already take seven credit hours of economics. The economic minor requires only four additional elective courses (two of which must be at the 300/400 level), which can be selected to complement your major.

Core Courses (7 crs.)

Students may substitute ECO 101 and ECO 102 for ECO 113.

- ECO 113 - Principles of Economics Credits: 4
- ECO 280 - Managerial Economics Credits: 3

Electives (12 crs.)

Course selected by advisement.

A minimum of 6 credits must be earned at the 300/400 level

Non-business Majors - 18 crs.

A minor in economics is an excellent complement to many majors. Economics is a relevant major for students preparing for a career in business, law, and many other fields who prefer a liberal arts education. The minor in economics provides some of the same background, but with less depth. With proper advisement, a minor in economics can provide the economics prerequisites for an MBA program or for graduate work in economics. The minor in economics requires students to take ECO 101, ECO 102 and four additional elective courses (two of which must be at the 300/400 level). One of these can be used for general education category D. May students already have a sequence in economics required by their major and can complete a minor by taking only a few additional courses. The minor in economics can be combined with a sequence of courses in business for students who are seeking employment in the business world, but do not want a business major. For example, ACC 200, ACC 201, BSL 261, MIS 142, and SCM 200 are some appropriate courses available to non-business majors at the lower division level for students who have taken the prerequisites. Some upper division business courses may also be available to non-business majors.

Core Courses (6 crs.)

Students may substitute ECO 113 for ECO 101 and ECO 102, but then will need to take an additional elective.

- ECO 101 - Principles of Macroeconomics Credits: 3
- ECO 102 - Principles of Microeconomics Credits: 3

Electives (12 crs.)

Course selected by advisement.

A minimum of 6 credits must be earned at the 300/400 level.

English Minor

18 crs.

Required (3 crs.)

- ENG 130 - Literary Studies for the English Major and Minor Credits: 3

Note:

ENG 130 is a required prerequisite for all English Minors enrolling in 300- or 400- level English courses.

Electives (15 crs.)

Five additional English courses, two of which (6 credits) must be 300- or 400-level. General education courses in English may not be used to fulfill free electives. May include an internship, up to three credits.

Ethnic Studies Minor

Ethnic Studies is a multi-ethnic and interdisciplinary program that offers a broad and intense course of study of the various ethnic groups in the United States. Students are encouraged to develop concepts and theories that help clarify attitudes about people of other ethnicities. Through understanding and appreciating others' cultures, students can gain an understanding of the multiple realities of our complex and culturally diverse society.

18 crs.

To complete a minor in Ethnic Studies, students must take all three core classes and three approved electives. All students are required to take at least six credits of upper level (300/400 level) courses. Two courses must be taken from at least two different disciplines. All courses must be taken at Shippensburg University.

Core Requirements (9 crs.)

- ETH 100 - Introduction to Ethnic Studies Credits: 3
- ETH 101 - Introduction to African-American Studies Credits: 3
- ETH 102 - Introduction to Latino Studies Credits: 3

Approved Electives (9 crs.)

- ANT 111 - Cultural Anthropology Credits: 3
- ANT 341 - North American Indians Credits: 3
- ART 274 - Introduction to Cultural Studio Credits: 3
- COM 245 - Diversity and the Media Credits: 3
- CRJ 411 - Terrorism Credits: 3
- CRJ 452 - Race, Ethnicity, and Crime Credits: 3
- CRJ 464 - Popular Culture, Crime and Justice Credits: 3
- ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3
- ENG 358 - Ethnic Literature Credits: 3
- ENG 375 - African-American Literature Credits: 3
- ETH 390 - Ethnic Studies Internship Credits: 3
- HIS 201 - Early History of the United States Credits: 3
- HIS 202 - Recent History of the United States Credits: 3

- HIS 305 - The Civil War Era Credits: 3
- HIS 341 - African-American History Credits: 3
- HIS 342 - U.S. Immigration and Ethnicity Credits: 3
- HIS 430 - U.S. Cultural History Credits: 3
- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HCS 310 - African-American Communication Credits: 3
- HCS 315 - Asian-American Communication Credits: 3
- MUS 129 - American Popular Music Credits: 3
- PLS 325 - African American Politics Credits: 3
- PSY 315 - Psychology of Prejudice and the Minority Experience Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- SOC 243 - Minority Groups Credits: 3
- SOC 351 - Race Relations Credits: 3
- SOC 421 - Impact of International Migration Credits: 3
- SWK 250 - Assessing Individuals in the Social Environment Credits: 3
- SWK 265 - Understanding Diversity for Social Work Practice Credits: 3

Exercise Science Minor

The Exercise Science minor is designed to provide students with content from a breadth of disciplines in the exercise science field. The minor is ideal for students who are interested in broadening their experience and knowledge base in the study and analysis of principles related to human movement. Students will acquire new information on key domains of the field including exercise physiology, psychological approach to physical activity, acquisition of motor skills, nutrition principles and injury prevention and treatment strategies. Specifically, the minor provides students with an introductory grounding in physiologic principles that help us understand not only how human systems respond to exercise stress, but also how the body changes with chronic exercise stress. Students also benefit from applied learning experiences in all classes. Such opportunities allow students to apply course principles and to develop new skills.

Students are required to achieve a grade of C or above in all Exercise Science minor courses.

Students must have a 2.5 or better overall GPA, C or better in Biology, and C or better in PSY 101 for admission.

Course Requirements (18 crs.)

Prerequisites

- BIO 150 - Human Biology Credits: 3
- PSY 101 - General Psychology Credits: 3

Required

- ESC 243 - Physiological Basis of Sport Credits: 3
- ESC 244 - Mechanical Analysis of Sports Skills Credits: 3
- ESC 250 - Introduction to Kinesiology Credits: 3
- ESC 352 - Psychology of Physical Activity Credits: 3

Two of the three following:

- ESC 336 - Motor Behavior Credits: 3
- ESC 340 - Prevention and Care of Athletic Injuries Credits: 3
- ESC 348 - Group Exercise Techniques & Leadership Credits: 3
- ESC 350 - Nutrition for Sport & Fitness Credits: 3

French Cultural Studies Minor

This minor is interdisciplinary and has less of a focus on language than the standard French minor and more on the culture, taught in English. The minor is to be capped with a summer course in Quebec for culture and language immersion or with the double seminar with service learning in Haiti during the Winter Break.

18 crs.

Required (12 crs.)

12 credits of core courses in French.

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3

Option A (Quebec):

Includes two courses below, one of which is a summer course taught in Quebec, in English.

- FRN 300 - Advanced French Conversation Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3

Option B (Haiti):

Includes two courses below with service learning in Haiti taught over the winter break, taught in English or French.

- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- FRN 490 - Selected Topics in French Credits: 3

Interdisciplinary courses in English (6 crs.)

Two courses are chosen from the list to suit the interests of the students:

- ANT 220 - Anthropology for International Studies Credits: 3
- ART 233 - Art History III Credits: 3
- COM 245 - Diversity and the Media Credits: 3
- ENG 240 - Global Literature Credits: 3
- GEO 103 - Geography of the United States and Canada Credits: 3
- GEO 140 - Cultural Geography Credits: 3
- GEO 305 - Geography of Europe Credits: 3
- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HIS 320 - Europe in the Early and High Middle Ages: 300 to 1270 Credits: 3
- HIS 321 - Late Medieval Europe: 1270 to 1517 Credits: 3
- HIS 331 - History of Modern France: 1750 to Present Credits: 3

- MUS 261 - World Music Credits: 3

French Minor

All courses required for the French minor are taught in French. Courses numbered below French 200 do not count for the minor.

18 crs.

Required (12 crs.)

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 211 - Intermediate French Grammar Credits: 3
- FRN 309 - French Grammar Credits: 3

Electives (6 crs.)

One of the two electives must be a 400 level course.

- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 392 - French Cultural Studies Immersion Credits: 3
- FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3
- FRN 411 - Theory and Practice of Translation Credits: 3
- FRN 490 - Selected Topics in French Credits: 3

Geographic Information Science Minor

18 crs.

Required Core (9 crs.)

- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3

Allied Geo-techniques (6 crs.)

Choose two:

- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3

Geography-Earth Science courses (3 crs.)

Choose one:

- ESS 210 - Physical Geology Credits: 3
- ESS 220 - Oceanography Credits: 3
- GEO 226 - Hydrology Credits: 3
- GEO 230 - Economic Geography Credits: 3
- GEO 244 - Land Use Credits: 3
- GEO 301 - Introduction to Biogeography Credits: 3
- GEO 310 - Transportation Geography Credits: 3
- GEO 322 - Urban Geography Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3

Geography-Earth Science Minor

21 crs.

Required (9 crs.)

- 100 level Geography and/or Earth Science course
- 200-300 level Geography-Earth Science course
- 400 level Geography-Earth Science course

Electives (12 crs.)

- ESS or GEO courses selected by advisement.

German Studies Minor

Not all courses required for the German Studies Minor are taught in German.

18 crs.

Required (12 crs.)

One of the following 100-level German Courses

- GER 150 - German Civilization and Culture Credits: 3
- GER 151 - German Cinema Credits: 3

One of the following 200-level German Courses

- GER 203 - Intermediate German Communication Credits: 3
- GER 204 - Contemporary German Culture Credits: 3

One of the following 300-level German Courses

- GER 309 - German Phonetics Credits: 3
- GER 320 - Berlin Credits: 3

One of the following 300-Level German Grammar or Composition Course

- GER 312 - German Grammar Credits: 3
- GER 313 - Composition and Stylistics Credits: 3

Electives (6 crs.)

Two additional 200- to 400-level German courses not already taken as required courses. OR courses from the list below in agreement with the director of the German Studies Minor and the instructor of the course.

- ANT 351 - Peoples and Cultures of Europe Credits: 3
- EDU 426 - Methods of Teaching Foreign Languages Credits: 3
- GEO 305 - Geography of Europe Credits: 3
- HIS 330 - History of Modern Germany: 1919 to Present Credits: 3
- HIS 357 - History of Holocaust Credits: 3
- PHL 105 - Ethical Theories and Problems Credits: 3

Gerontology Minor

Gerontology is the interdisciplinary study of the aging process, older adults, and issues important to those in later life. Our undergraduate gerontology minor is designed to provide you with the necessary knowledge, skills, and abilities to better serve our rapidly growing older population. Through required course work, electives in your personal area of interest, applied experiences, research opportunities and volunteer activities, you will gain a firm understanding of aging-related issues that can be applied to your major field of study.

Because our older adult population is growing at an astounding rate, it is highly likely you will encounter older people, regardless of your chosen profession. For example, those interested in working with older adults (e.g., psychologists, social workers, physicians, health services professionals), those who want to design products that can be useful to older people (e.g., financial planners, computer software/hardware engineers) or those who are concerned about issues that impact later adulthood (e.g., lawyers, political scientists, sociologists) should all consider enrolling in the gerontology minor. Knowledge about aging can make you a better professional and will signal employers you have what it takes to better serve the needs and interests of this group.

18 crs.

Core Requirements (6 crs.)

To gain a foundation in aging knowledge and service, all students are required to complete the following courses:

- GRN 100 - Introduction to Gerontology Credits: 3
- GRN 301 - Gerontology Internship Credits: 3

Approved Electives (12 crs.)

To fulfill the remainder of the minor requirements, students are encouraged to take elective courses that match their personal and professional areas of interest. These include:

- COM 245 - Diversity and the Media Credits: 3
- DS 100 - Introduction to Disability Studies Credits: 3
- ECO 317 - Health Economics Credits: 3
- ESC 200 - Lifestyle Management Credits: 3
- ESC 250 - Introduction to Kinesiology Credits: 3
- ESC 352 - Psychology of Physical Activity Credits: 3
- GRN 303 - Gerontology Internship II Credits: 3
- GRN 391 - Selected Topics in Gerontology Credits: 1-3
- GRN 491 - Advanced Selected Topics in Gerontology Credits: 1-3
- PSY 352 - Adulthood and Aging Credits: 3
- PSY 420 - Health Psychology Credits: 3
- PSY 435 - Psychopharmacology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- SOC 320 - Sociology of Disability Credits: 3
- SOC 344 - Sociology of Death Credits: 3
- SOC 369 - Medical Sociology Credits: 3
- SOC 371 - Social Dynamics of Aging Credits: 3
- SOC 445 - Sexuality and Sexual Orientation: A Social Approach Credits: 3
- SWK 351 - Social Work Elective: Aging Credits: 3
- SWK 356 - Social Work Elective: Intellectual and Developmental Disabilities Credits: 3
- SWK 357 - Special Fields of Social Work: Health Care Credits: 3
- SWK 383 - Selected Topics in Social Welfare Credits: 1-3
- SWK 420 - Gender Issues for Helping Professionals Credits: 3
- SWK 450 - Social Welfare Policies and Services Credits: 3

Note:

Selected Topics with an aging theme or significant aging content from any department may count towards the gerontology minor. Contact the director for approval.

ESC 352 has a prerequisite of PSY 101 and ESC 250

GRN 391 may be repeated.

History Minor

18 crs.

Required (9 crs.)

- HIS 105 - Historical Foundation of Global Cultures Credits: 3
- HIS 106 - Thinking Historically in a Global Age Credits: 3
- HIS 201 - Early History of the United States Credits: 3 or
- HIS 202 - Recent History of the United States Credits: 3

Electives (9 crs.)

- One course at the 300 level or above in Africa/Asia/Latin America
- One course at the 300 level or above in European History
- One course at the 300 level or above in American History

Human Communication Studies Minor

Required Courses (6 crs.)

- HCS 210 - Public Speaking Credits: 3

Communication Research Core

- HCS 360 - Research Methods in Communication Credits: 3
- HCS 370 - Rhetorical Criticism Credits: 3

Rhetoric and Symbolism

- HCS 345 - Environmental Communication Credits: 3
- HCS 352 - Argumentation & Debate Credits: 3
- HCS 356 - Persuasion Credits: 3
- HCS 363 - Political Rhetoric Credits: 3
- HCS 365 - Language and Meaning Credits: 3
- HCS 375 - Special Topics in Rhetoric and Symbolism Credits: 3

Organizational Communication

- HCS 230 - Small Group Communication Credits: 3
- HCS 260 - Computer-Mediated Communication Credits: 3
- HCS 350 - Theories of Organizational Communication Credits: 3
- HCS 351 - Special Topics Organizational Communication Credits: 3
- HCS 372 - Communication for Training and Instruction Credits: 3
- HCS 381 - Professional Communication and Multi-media Presentation Credits: 3

Cultural Perspectives

- HCS 270 - Intergroup/Intercultural Communication Credits: 3
- HCS 310 - African-American Communication Credits: 3
- HCS 315 - Asian-American Communication Credits: 3
- HCS 330 - Special Topics in Cultural Perspectives Credits: 3
- HCS 335 - Popular Culture and Gender Construction Credits: 3
- HCS 340 - Gender and Communication Credits: 3
- HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3

Interpersonal Communication

- HCS 220 - Nonverbal Communication Credits: 3
- HCS 225 - Communication and Sport Credits: 3
- HCS 250 - Interpersonal Communication Credits: 3
- HCS 265 - Interviewing Credits: 3
- HCS 333 - Communicating Identity Credits: 3
- HCS 349 - Special Topics in Interpersonal Communication Credits: 3
- HCS 385 - Resolving Conflict through Communication Credits: 3
- HCS 430 - Advanced Interpersonal Communication Credits: 3

International Studies Minor

The International Studies minor can be paired with many different majors including those in business, education and science. The minor has required courses (6 crs.) that provide an overview of international studies. Core courses (6 crs.) and elective courses (9 crs.) give students flexibility to pursue their own international interests. Study abroad and foreign language learning are highly encouraged, but not required. Study abroad courses may be applied to a maximum of 15 credit hours of minor requirements. Students must take INT 200 and INT 300 at Shippensburg University.

21 crs.

Required (6 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- INT 300 - International Studies Seminar Credits: 3

Core courses (6 crs.)

- ANT 220 - Anthropology for International Studies Credits: 3
- MGT 370 - International Business Credits: 3
- GEO 101 - World Geography Credits: 3
- PLS 141 - World Politics Credits: 3

Electives (9 crs.)

The remaining three courses may be selected from a wide range of offerings in many departments. Electives need to be in at least two disciplines. Two of the elective courses must be at the 300-level or higher. Courses used to meet the core course requirement cannot double count as minor electives. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

Mathematics Minor

18-21 crs.

The mathematics minor consists of six courses. With two possible exceptions, all six courses must be at or above the 200 level, and at least two of the courses must be at or above the 300 level. The two exceptions are as follows:

- MAT 181 may be taken in place of (but not in addition to) MAT 211 for credit toward the minor; however, doing so may restrict your access to some upper-level math courses; and
- MAT 117 may be taken in place of (but not in addition to) MAT 217 for credit toward the minor.

Music Minor

The Music Minor Program is an 18-credit program that enables students to develop and cultivate their musical knowledge. The courses offered encourage each student to study within their interest yet allow them the opportunity to expand their musical knowledge.

18 crs.

Prerequisite

Introduction to Music (MUS 121) must be taken as a pre-requisite prior to or within the first two semesters of declaring a Music Minor and does not count toward the required 18 credits. MUS 121 also fulfills the university General Education, Category B requirement. Students then proceed through the nine required and nine elective credits to complete the minor.

- MUS 121 - Introduction to Music Credits: 3

Required Courses (9 crs.)

Required courses should be taken in the order as listed.

- MUS 140 - Class Piano, Level I Credits: 3
- MUS 212 - Music Theory I Credits: 3
- MUS 320 - Masterpieces of Music Credits: 3

Elective Courses (9 crs.)

Courses may be chosen from the remaining curricular choices or in consultation with the Department Chair.

Students must take one 300/400 level course as an elective.

Please choose from the following list:

Theory

- MUS 312 - Music Theory II Credits: 3
- MUS 110 - Fundamental Music Skills Credits: 3

History

- MUS 129 - American Popular Music Credits: 3
- MUS 227 - Opera and Music Theatre Credits: 3
- MUS 261 - World Music Credits: 3
- MUS 315 - Music in the United States Credits: 3

Performance Courses

- MUS 150 - Basic Guitar Credits: 3
- MUS 260 - Voice Class, Level I Credits: 3
- MUS 270 - Brass Instrument Class Credits: 3
- MUS 272 - Strings Class Credits: 3
- MUS 340 - Class Piano, Level II Credits: 3
- MUS 380 - Basic Conducting Credits: 3
- MUS 393 - Selected Topics in Music Credits: 1-3
- MUS 490 - Selected Topics in Music Credits: 1-3

Performance

PERFORMING ENSEMBLES: each ensemble is 1 credit, per semester taken. Students may take/retake ensembles as many times as they choose. However, only a maximum of 3 credits will count as an elective towards the Music Minor and graduation.

- MUS 101 - Brass Ensemble Credits: 1
- MUS 103 - Marching Band Credits: 1
- MUS 104 - Concert Band Credits: 1
- MUS 105 - Concert Choir Credits: 1
- MUS 107 - Women's Chorale Credits: 1
- MUS 109 - String Ensemble Credits: 1
- MUS 113 - Jazz Ensemble Credits: 1
- MUS 117 - Madrigal Singers Credits: 1
- MUS 132 - University-Community Orchestra Credits: 1
- MUS 158 - Woodwind Ensemble Credits: 1

Note:

Please contact the Music Department Office for audition/membership information: 717-477-1638

Philosophy Minor

18 crs.

Required Courses

- PHL 248 - History of Ancient and Medieval Philosophy Credits: 3 or
- PHL 249 - History of Modern Philosophy Credits: 3
- PHL 340 - Contemporary Ethics Credits: 3
- PHL 200 level course: except PHL 248 or PHL 249
- PHL 300 level course
- PHL course at any level
- PHL course at any level

Physics Minor

26 crs.

Required Courses

- PHY 221 - Fundamentals of Physics I Credits: 5
- PHY 222 - Fundamentals of Physics II Credits: 5
- PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4
- PHY 311 - Quantum I Credits: 4
- PHY 321 - Electricity and Magnetism I Credits: 4
- PHY 331 - Mechanics I Credits: 4

Note:

If the student declaring the minor has already taken either the PHY 121,PHY 122 sequence or the PHY 205,PHY 206 with their associated labs, the PHY 221,PHY 222 requirement is waived for the minor.

Political Science Minor

18 crs.

Required (9 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 141 - World Politics Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3

Electives (9 crs.)

Students must select courses from the following list. Students must take two courses at the 300-level or above. Students may take either PLS 291 Contemporary Issues or PLS 391 Selected Topics in Political Science as one elective.

- PLS 231 - State and Local Government Credits: 3
- PLS 251 - Introduction to Comparative Politics Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 291 - Contemporary Issues Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PLS 302 - Public Policy Analysis Credits: 3
- PLS 311 - The Legislative Process Credits: 3
- PLS 312 - The American Presidency Credits: 3
- PLS 313 - The Judicial Process Credits: 3
- PLS 321 - Public Opinion and Political Media Credits: 3
- PLS 322 - Interest Groups in American Society Credits: 3
- PLS 323 - Campaigns, Elections & Political Parties Credits: 3
- PLS 324 - Women in American Politics Credits: 3

- PLS 325 - African American Politics Credits: 3
- PLS 331 - Urban Politics & Administration Credits: 3
- PLS 341 - International Law and Organization Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 356 - Politics of Developing Regions Credits: 3
- PLS 357 - Comparative Revolutions Credits: 3
- PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3
- PLS 362 - Contemporary Political Ideologies Credits: 3
- PLS 363 - American Political Thought Credits: 3
- PLS 365 - Constitutional Law: The Federal System Credits: 3
- PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3
- PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3
- PLS 374 - Public Service Ethics Credits: 3
- PLS 391 - Selected Topics in Political Science Credits: 1-3
- PLS 431 - Pennsylvania Local Government Credits: 3
- PLS 490 - Selected Topics in Political Science Credits: 3
- PLS 491 - Selected Topics in Political Science Credits: 3

Psychology Minor

18 crs.

Introductory Course (3 credits)

- PSY 101 - General Psychology Credits: 3

A. Goal: Core Classes (9 credits)

All courses require a grade of C or better.

- PSY 235 - Conditioning and Learning Credits: 3
- PSY 240 - Psychology of Personality Credits: 3
- PSY 265 - Childhood and Adolescence Credits: 3
- PSY 270 - Social Psychology Credits: 3
- PSY 320 - Behavioral Neuroscience Credits: 3
- PSY 323 - Sensation and Perception Credits: 3
- PSY 325 - Psychology of Human Cognition Credits: 3
- PSY 330 - Abnormal Psychology Credits: 3
- PSY 352 - Adulthood and Aging Credits: 3
- PSY 355 - Psychology of the Exceptional Child Credits: 3
- PSY 383 - Children's Understanding of Their Social World Credits: 3

B. Goal: Professional Development (3-6 credits)

- PSY 311 - Applied Behavior Analysis Credits: 3
- PSY 335 - Psychology of Social Influence Credits: 3
- PSY 361 - Psychology of Group Interaction Credits: 3
- PSY 432 - The Psychology of Computers and the Internet Credits: 3

- PSY 435 - Psychopharmacology Credits: 3
- PSY 475 - Industrial and Organizational Psychology Credits: 3
- PSY 485 - Tests and Measurements Credits: 3

C. Goal: Ethical and Social Responsibility in a Diverse World (3-6 credits)

- PSY 315 - Psychology of Prejudice and the Minority Experience Credits: 3
- PSY 350 - Psychology of Sustainability Credits: 3
- PSY 365 - Multicultural Psychology Credits: 3
- PSY 410 - Psychology and Women Credits: 3
- PSY 420 - Health Psychology Credits: 3
- PSY 447 - Multicultural Health Psychology Credits: 3
- PSY 470 - Legal Psychology Credits: 3

Note:

Students must have a total of 9 credits in Goals B & C, with at least one course in each of the areas.

Public Administration Minor

18 crs.

Required (9 crs.)

- PLS 100 - U.S. Government and Politics Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 300 - Advanced American Government and Public Policy Credits: 3

Public Administration Electives (6 crs.)

- PLS 231 - State and Local Government Credits: 3
- PLS 371 - Public Management Credits: 3
- PLS 372 - Public Personnel Administration Credits: 3
- PLS 373 - Public Financial Administration Credits: 3
- PLS 374 - Public Service Ethics Credits: 3

Elective (3 crs.)

Students must select one public administration/political science course to fulfill this requirement.

Sociology Minor

18 crs.

Required (6 crs.)

- SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3
- SOC 380 - Classical Social Theory Credits: 3

Sociology Electives (12 crs.)

SOC courses selected by advisement.

At least 3 credits must be at 300 level or higher.

Spanish Minor

All courses required for the Spanish minor are taught in Spanish. Courses numbered below Spanish 200 do not count for the minor.

18 crs.

Required (12 crs.)

- SPN 202 - Intermediate Conversation Credits: 3
- SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3
- SPN 211 - Intermediate Contextualized Grammar Credits: 3
- SPN 312 - Advanced Contextualized Grammar Credits: 3

Electives (6 crs.)

Two additional Spanish courses at the 300 or 400 level.

At least one at the 400 level.

Technical/Professional Communications Minor

Students completing the Technical/Professional Communications Minor will possess a well-rounded education that will help them become lifelong learners, adaptable to and conversant with changing workplace dynamics.

The minor's flexible interdisciplinary design provides students with a combination of the intellectual capabilities and highly marketable professional skills they need to embark on a successful career. Courses offered include two core courses, in technical writing and computer systems, and a variety of additional courses ranging from computer design to advertising copy writing, from advanced technical writing to web design.

Students completing the Technical/Professional Communications Minor will possess up-to-date knowledge and skills that, combined with their major, can lead to careers as a business analyst, editor, market researcher, technical reporter, web developer, media specialist, ad writer/designer, and publications manager. In addition, these skills are often sought as a technical component in many professional positions that are not primarily technical: grant writer, researcher, and marketing manager, among many others.

18 crs.

Required (6 crs.)

Students must complete 6 credit hours by taking two of the following core courses, one in writing and one in computer systems:

- ENG 238 - Technical/Professional Writing I Credits: 3
- CSC 103 - Overview of Computer Science Credits: 3
OR
- CSC 110 - Computer Science I - Lecture Credits: 3 and
- CSC 107 - Computer Science I - Lab Credits: 1
OR
- MIS 142 - Business Computer Systems Credits: 3

Note:

CSC 110 and CSC 107 for Computer Science Majors Only

Electives (12 crs.)

The remaining 12 credits may be completed by taking any of the following courses (no more than two courses per department can count for minor credit):

- ART 217 - Computer Design I Credits: 3
- ART 306 - Computer Design II Credits: 3
- ART 319 - Computer Design III Credits: 3
- ART 425 - Computer Design IV Credits: 3
- ART 430 - Computer Design V Credits: 3
- ART 435 - Computer Design VI Credits: 3
- COM 112 - Media Writing Credits: 3
- COM 224 - Electronic Media Writing Credits: 3
- COM 285 - News Writing and Reporting Credits: 3
- COM 290 - Advertising Copywriting Credits: 3
- COM 425 - Feature Writing Credits: 3
- CSC 434 - Web Programming Credits: 4
- ENG 323 - Reviewing the Arts for Publication Credits: 3
- ENG 438 - Technical Professional Writing II Credits: 3
- HCS 260 - Computer-Mediated Communication Credits: 3
- HCS 350 - Theories of Organizational Communication Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- PHL 240 - Ethical Issues and the Media Credits: 3

Note:

ART 217 is a pre-requisite to any other courses listed in that department.

CSC 434 for Computer Science majors only

Theatre Minor

The Minor in Theatre enables students to gain a general knowledge of performance and production. Courses provide a grounding in various types and periods of drama, performance skills (acting, scene study), and technical skills (basic drawing, directing, color, and 2D design). The Minor in Theatre is an 18 credit minor. Students proceed through the 15 required and 3 elective credits to complete the minor.

The training available within a theatre curriculum enriches careers in Early Childhood/Elementary Education, Elementary/Middle Level Education, Communication, and English. Students interested in Business, Marketing, or Management may consider the Theatre Minor as an entree to the field of Arts Management

18 crs.

Prerequisite

THE 121 - Introduction to the Theatre Credits: 3 Introduction to Theatre must be taken as a pre-requisite prior to or within the first two semesters of declaring a Theatre Minor and does not count toward the required 18 credits. THE 121 also fulfills the university General Education, Category B requirement.

- THE 121 - Introduction to the Theatre Credits: 3

Required Courses (15 crs.)

One Theatre course must be taken from each of the four category areas. One additional course in the History, Theory and Literature category is also part of the requirement.

Elective Courses (3 crs.)

Elective courses in the Theatre Minor enable you to customize the curriculum according to your individual interest. The remaining 3 credits should be chosen from the curricular choices in Theatre and other departments. Any department outside of Music and Theatre, should be contacted regarding prerequisites and seats available.

Theatre Praxis

- THE 323 - Children's Theatre Credits: 3
- THE 324 - Theatre Practicum Credits: 3
- THE 395 - Theatre Internship Credits: 3
- THE 396 - Theater Internship II Credits: 3

History, Theory, And Literature

- THE 329 - Theatre History Credits: 3
- ENG 330 - Shakespeare Credits: 3
- MUS 227 - Opera and Music Theatre Credits: 3

Design Management And Technical Theatre

- THE 229 - Introduction to Technical Production Credits: 3
- THE 327 - Costumes and Make-Up Credits: 3
- THE 395 - Theatre Internship Credits: 3
- THE 396 - Theater Internship II Credits: 3
- THE 490 - Selected Topics in Theatre Credits: 3
- ART 110 - Basic Drawing Credits: 3
- ART 215 - Color and Two-Dimensional Design Credits: 3
- ART 218 - Three-Dimensional Design Credits: 3
- ENT 433 - Small Business Management Credits: 3
- MKT 325 - Advertising and Promotional Strategy Credits: 3
- MKT 370 - Services Marketing Credits: 3

Performance

- THE 122 - Acting I: Fundamentals of Acting Credits: 3
- THE 222 - Acting II: Scene Study and Analysis Credits: 3
- THE 322 - Voice and Movement for the Stage Credits: 3
- THE 490 - Selected Topics in Theatre Credits: 3
- MUS 260 - Voice Class, Level I Credits: 3

Women's and Gender Studies Minor

Women's and Gender Studies offers an interdisciplinary program that examines the diverse experiences of women in the U.S. and globally, both past and present. Many courses in the program also critically examine the meanings of gender as a culturally constructed category of identity. The core courses and wide range of electives explore the intersections of gender, race, class, ethnicity, and sexuality, as well as the social and cultural institutions that shape women's and men's lives. Courses in WST investigate previously neglected materials, and apply new methodological, critical, and theoretical approaches in order to analyze and explain the role and status of women in society, and the impact of gendered practices within societies and cultures.

Our undergraduate WST minor is designed to provide you with basic groundwork in the field of Women's and Gender Studies; you will gain a combination of skills that can be used in diverse fields and across disciplines. You will gain an increased understanding of human diversity, especially gender diversity, that will help prepare you for our continuously changing global society. Through required coursework, research, electives in your own area of interest, internships, extracurricular activities, and leadership and service opportunities, you will gain knowledge and experience that will complement and enhance your major field of study.

Students with multicultural Women's and Gender Studies experience will have an advantage as potential employees, since employers will increasingly seek applicants with knowledge of both gender issues and cultural diversity. The Women's and Gender Studies minor will help prepare you to work with a wide variety of people and anticipate their changing needs. Graduates of the Women's and Gender Studies minor find opportunities in business administration and management, advertising, health fields, education, journalism, criminology, social work, counseling, psychology, politics, law, and international affairs.

18 crs.

Core Requirements (6 crs.)

- WST 100 - Introduction to Women's and Gender Studies Credits: 3

- WST 300 - Seminar in Women's and Gender Studies Credits: 3

Approved Electives (12 crs.)

- ANT 312 - Comparative Marriage and Family Credits: 3
- ANT 320 - Comparative Gender Roles Credits: 3
- COM 245 - Diversity and the Media Credits: 3
- COM 410 - Women and the Media Credits: 3
- CRJ 326 - Victimology: The Victim and the Law Credits: 3
- CRJ 363 - Intimate Partner Violence Credits: 3
- CRJ 466 - Women and Criminal Justice Credits: 3
- ECO 303 - Labor Economics: Theory and Policy Credits: 3
- ENG 345 - Women's Literature Credits: 3
- ENG 370 - Queer Studies Credits: 3
- HCS 335 - Popular Culture and Gender Construction Credits: 3
- HCS 340 - Gender and Communication Credits: 3
- HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3
- HIS 318 - History of U.S. Women Credits: 3
- HIS 407 - Women in Comparative Perspective Credits: 3
- MAT 400 - History of Mathematics Credits: 3
- PLS 324 - Women in American Politics Credits: 3
- PSY 410 - Psychology and Women Credits: 3
- SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3
- SOC 258 - Women's Roles and Status Credits: 3
- SOC 320 - Sociology of Disability Credits: 3
- SOC 435 - Gender, Organizations, and Leadership Credits: 3
- SOC 445 - Sexuality and Sexual Orientation: A Social Approach Credits: 3
- SWK 265 - Understanding Diversity for Social Work Practice Credits: 3
- SWK 359 - Social Work Elective: Violence in Interpersonal Relationships Credits: 3
- SWK 420 - Gender Issues for Helping Professionals Credits: 3
- WST 200 - Independent Study in Women's and Gender Studies Credits: 3
- WST 390 - Internship in Women's and Gender Studies Credits: 3-6

Note:

To complete the Women's and Gender Studies minor, students will take the two core courses (WST 100 and WST 300) and four of the approved electives. These four electives must come from at least two different disciplines. Two courses may be double-counted toward the student's major and the WST minor. Two elective courses must be at the 300 or 400 level. Five courses must be taken at Shippensburg University.

Additional electives and special topics courses continue to be developed by affiliated Women's and Gender Studies faculty.

Data Science Minor

Required Courses (16-17 crs.)

- CSC 104 - Programming in Python Credits: 3
- OR

- CSC 110 - Computer Science I - Lecture Credits: 3
- OR
- MIS 240 - Introduction to Programming Concepts Credits: 3
- MAT 217 - Statistics I Credits: 4
- MAT 219 - Data Science I Credits: 3
- MAT 317 - Statistics II Credits: 3
- MAT 319 - Data Science II Credits: 3

Discipline-Specific Research Course (2-4 crs.)

Complete 1 of the following:

- BIO 397 - Introduction to Research Credits: 1-3
- BIO 398 - Research II Credits: 1-3
- COM 432 - Public Relations Research and Campaigns Credits: 3
- CSC 499 - Senior Research and Development Credits: 2
- ECO 333 - Research and Analysis in Economics Credits: 3
- ESC 353 - Research Design and Statistics for Exercise Science Credits: 4
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3
- HCS 360 - Research Methods in Communication Credits: 3
- HIS 386 - History Research Seminar Credits: 3
- MKT 430 - Marketing Research Credits: 3
- PLS 301 - Political Science Research Methods Credits: 3
- PSY 301 - Experimental Psychology Credits: 3
- SCM 481 - Decision Models for Supply Chain Management Credits: 3
- SOC 385 - Introduction to Social Research Credits: 3
- SWK 360 - Research Techniques for Social Workers Credits: 3
- SWK 462 - Seminar in Social Work Methods Credits: 3

Entrepreneurship Minor

The Entrepreneurship minor provides students with the same basic business knowledge and skills as the Business Minor, but with a strong emphasis on innovation and problem-solving. Students will be exposed to entrepreneurial thinking, opportunity identification, capital funding, and other aspects of the entrepreneurial process applicable in business start-ups, as well as in existing businesses, governmental organizations, and nonprofits. This minor will prepare students to succeed as innovators and value creators in a rapidly changing world.

The minor is made up of six courses, five of which are required. Three of the five required courses provide an essential background in the fundamental business disciplines most necessary for the entrepreneur -- accounting, finance, and marketing. The two remaining required courses focus on the basics of entrepreneurship and managing small businesses. An elective course allows the student to explore further in entrepreneurship, marketing, or management.

18 (crs.)

Required Courses (15 crs.)

- ACC 200 - Fundamentals of Financial Accounting Credits: 3
- ENT 337 - Issues in Entrepreneurship Credits: 3
- ENT 433 - Small Business Management Credits: 3
- FIN 311 - Financial Management Credits: 3
- MKT 305 - Principles of Marketing Credits: 3

Electives (Select One):

- ENT 336 - Product Design & Development Credits: 3
- MGT 305 - Organizational Behavior Credits: 3
- MGT 370 - International Business Credits: 3
- MKT 370 - Services Marketing Credits: 3

Military Science Minor

The Military Science Minor enhances students' individual leadership skills and prepares them for future leadership opportunities across a broad range of disciplines. This minor can be complete by all students at the University, whether they choose to serve in the military or not. Outcomes and objectives of the Minor Program center around Leadership, the Army Profession, Professional Competence, Adaptability, Teamwork, Lifelong Learning, and Comprehensive Fitness.

For the students that take four years of Military Science, the minor codifies the coursework they are already completing. For the student that does not desire to serve in the Army, the minor is flexible enough to allow students to choose interdisciplinary coursework while still achieving the minor's outcomes and objectives. This path allows the student to pursue a diverse program that incorporates military history, ethics, public administration, and the use of the military as an instrument of national power. While the Military Science classes are taught through a military lens, the components of adaptability, teamwork, comprehensive fitness, leadership, and critical thinking are interdisciplinary and applicable regardless of a student's chosen future career path.

All students that graduate the four-year ROTC program will receive commissions into the United States Army as second lieutenants. Clearly the program benefits these students through their military career. Students that choose to take the minor but not the commission into the Army not only learn similar skills, but codify for future employers their academic endeavors that relate to a plethora of state and federal agencies.

18-20 (crs.)

Required Courses (8 crs.)

- MIL 131 - Military Science I (2 crs.) Credits: 2
- MIL 132 - Military Science I Credits: 2
- MIL 231 - Military Science II Credits: 2
- MIL 232 - Military Science II Credits: 2

Electives (Select One) (2-3 crs.)

- MIL 331 - Military Science III Credits: 2 *
- MIL 332 - Military Science III Credits: 2 *
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 342 - American Foreign Policy Credits: 3

Electives (Select One): (3 crs.)

- HIS 345 - Military History of the United States Credits: 3
- HIS 352 - The US and Vietnam Credits: 3
- MIL 350 - Military Science IV Credits: 3 *
- MIL 351 - Military Science IV Credits: 3 *
- PHL 230 - The Ethics of War and Terrorism Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 371 - Public Management Credits: 3

Electives (Select Two) (5-6 crs.)

Remaining credits can be selected from any of the above required courses not fulfilling a prior area.

- HIS 342 - U.S. Immigration and Ethnicity Credits: 3
- HIS 352 - The US and Vietnam Credits: 3
- MIL 331 - Military Science III Credits: 2 *
- MIL 332 - Military Science III Credits: 2 *
- MIL 350 - Military Science IV Credits: 3 *
- MIL 351 - Military Science IV Credits: 3 *
- PHL 230 - The Ethics of War and Terrorism Credits: 3
- PLS 271 - Introduction to Public Administration Credits: 3
- PLS 342 - American Foreign Policy Credits: 3
- PLS 358 - European Political Economy and Security Credits: 3
- PLS 371 - Public Management Credits: 3

Note:

* Students that do not intend to contract with the US Army may only take these courses with Departmental Approval.

Two elective courses, for a total of 6 credits, must be at the 300 or 400 level.

Reading Minor

18 (crs.)

- RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3
- RDG 330 - Content Area Reading in the Primary Grades Credits: 3
- RDG 334 - Classroom Based Literacy Assessment Credits: 3
- RDG 340 - Seminar in Literacy Tutoring Credits: 3
- RDG 345 - Teaching Language Arts in PreK-4 Classroom Credits: 3
- RDG 350 - Text Accessibility and Comprehension in the PK-4 Classroom Credits: 3

Sustainability Minor

Sustainability Core (6 crs.)

- ESS 108 - Conservation of Natural Resources Credits: 3
- OR
- BIO 145 - Environmental Biology Credits: 3
- GEO 427 - Sustainability Credits: 3

Sustainable Systems (3 crs.)

Choose 3 credits from the following:

- ESS 214 - Geology of National Parks Credits: 3
- ESS 404 - Applied Meteorology and Climatology Credits: 3
- ESS 413 - Mineral and Rock Resources Credits: 3
- ESS 442 - Environmental Geology Credits: 3
- ESS 451 - Coastal Environmental Oceanography Credits: 3
- GEO 405 - Environmental Conservation and Management in PA Credits: 3
- GEO 444 - Environmental Land-Use Planning Credits: 3
- GEO 446 - Water Resources Management Credits: 3
- GEO 450 - Geography-Geology Field Studies Credits: 1-3

Biology (3 crs.)

Choose 3 credits from the following:

- BIO 205 - Marine Biology Credits: 3
- BIO 208 - Field Biology Credits: 3
- BIO 210 - Field Zoology Credits: 3
- BIO 230 - Botany Credits: 3
- BIO 242 - Ecology Credits: 3 *strongly recommended*
- BIO 245 - Marine Ecology Credits: 3
- BIO 442 - Aquatic Ecology Credits: 3
- BIO 444 - Conservation Biology Credits: 3

Psychology & Sociology (3 crs.)

Choose 3 credits from the following:

- PSY 350 - Psychology of Sustainability Credits: 3 *strongly recommended*
- SOC 265 - Global Society Credits: 3
- SOC 346 - City and Community Credits: 3
- SOC 354 - Social Movements and Social Change Credits: 3
- SOC 363 - Population Problems Credits: 3
- SOC 440 - Global Leadership for Global Society Credits: 3

Economics & Business (3 crs.)

Choose 3 credits from the following:

- ECO 345 - The Economics of Growth and Development Credits: 3
- ECO 355 - Environmental Economics Credits: 3 *strongly recommended*
- GEO 230 - Economic Geography Credits: 3
- MGT 447 - Business and Society Credits: 3
- MIS 142 - Business Computer Systems Credits: 3
- MIS 242 - Design and Development of User Information Systems Credits: 3
- SCM 330 - Supply Chain and Operations Management Credits: 3
- SCM 420 - Global Logistics Systems Credits: 3

English, History, & Communication (3 crs.)

Choose 3 credits from the following:

- ENG 238 - Technical/Professional Writing I Credits: 3
- ENG 359 - Native American Literature Credits: 3
- HCS 345 - Environmental Communication Credits: 3 *strongly recommended*
- HIS 358 - American Environmental History Credits: 3 *strongly recommended*

Certificate

African & Middle Eastern Studies Certificate

Required (3 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- Or an approved substitute

Electives (9 crs.)

The remaining three courses must concentrate on one world area (Africa & Middle East, Asia, Europe, or Latin America). Two of the elective courses must be at the 300-level or higher. No courses may be double-counted between a Certificate and the International Studies major or minor, or a second Certificate in another world area. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

INT 200 - Introduction to International Studies Credits: 3 majors and minors, and students adding a Certificate in a second world area must consult with the Director of International Studies to choose an appropriate substitute course and complete an Exception Form.

Asian Studies Certificate

Required (3 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- Or an approved substitute

Electives (9 crs.)

The remaining three courses must concentrate on one world area (Africa & Middle East, Asia, Europe, or Latin America). Two of the elective courses must be at the 300-level or higher. No courses may be double-counted between a Certificate and the International Studies major or minor, or a second Certificate in another world area. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

INT 200 - Introduction to International Studies Credits: 3 majors and minors, and students adding a Certificate in a second world area must consult with the Director of International Studies to choose an appropriate substitute course and complete an Exception Form.

Ethnic Studies Certificate

To complete the certificate in Ethnic Studies, students must take Introduction to Ethnic Studies (ETH 100) and three of the approved electives. These three electives must be from at least two separate disciplines. Two courses can be double counted toward the student's major at the 300 or 400 level. All four courses must be taken at Shippensburg University.

12 crs.

Required

- ETH 100 - Introduction to Ethnic Studies Credits: 3

European Studies Certificate

Required (3 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- Or an approved substitute

Electives (9 crs.)

The remaining three courses must concentrate on one world area (Africa & Middle East, Asia, Europe, or Latin America). Two of the elective courses must be at the 300-level or higher. No courses may be double-counted between a Certificate and the International Studies major or minor, or a second Certificate in another world area. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

INT 200 - Introduction to International Studies Credits: 3 majors and minors, and students adding a Certificate in a second world area must consult with the Director of International Studies to choose an appropriate substitute course and complete an Exception Form.

French Certificate

12 crs.

Select four courses from the major. Courses selected by advisement.

Translation In French Certificate

In order to be admitted directly to the Translation in French certificate program at Shippensburg University, students need to have reached the Advanced Low proficiency level in French according to ACTFL guidelines. Students who have not scored at that level will need appropriate training in the areas of language, literature and culture and to this effect complete the core courses in French (24 credits). Once admitted in the Translation in French certificate program, students complete 12 credits in French. In parallel, students also need to complete a minimum of 18 credits in a subject area specialty outside of French to demonstrate deeper knowledge of one or more disciplines outside the linguistics area.

Language/Culture Core (24 crs)

These courses provide students with the linguistic and cultural tools to enable them to successfully function as a mediator between two cultures

Required French (24 crs.)

- FRN 202 - Intermediate Conversation Through the Media Credits: 3
- FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3
- FRN 211 - Intermediate French Grammar Credits: 3
- FRN 300 - Advanced French Conversation Credits: 3
- FRN 308 - Diction et Comprehension Credits: 3
- FRN 309 - French Grammar Credits: 3
- FRN 316 - Composition and Stylistics Credits: 3

- FRN 330 - Masterpieces of French Literature Credits: 3
OR
- FRN 331 - Masterpieces of Francophone Literature Credits: 3
OR
- FRN 340 - Genres Littéraires Credits: 3

Translation Specialization Courses: (12 crs.)

- FRN 320 - French for the Professions Credits: 3
- FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3
- FRN 411 - Theory and Practice of Translation Credits: 3
- Special Topics/Internship Focused on Translation (300 or 400 level)

Geographic Information Systems (GIS) Certificate

12 crs.

Required

- GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3
- GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3

Select Two:

- GEO 339 - Remote Sensing Credits: 3
- GEO 352 - Cartography Credits: 3
- GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3
- GEO 425 - Image Processing Credits: 3
- GEO 440 - Field Techniques Credits: 3
- GEO 441 - Quantitative Methods Credits: 3
- GEO 463 - Applied Geophysical Imaging Credits: 3

German Certificate

12 crs.

Select four courses from the minor. Courses selected by advisement.

Graphic Design Certificate

Required Courses (18 crs.)

- ART 217 - Computer Design I Credits: 3
- ART 306 - Computer Design II Credits: 3 offered in spring only
- ART 319 - Computer Design III Credits: 3 offered in fall only
- ART 425 - Computer Design IV Credits: 3 offered in spring only
- ART 430 - Computer Design V Credits: 3 offered in fall only
- ART 435 - Computer Design VI Credits: 3 offered in spring only

Latin American Studies Certificate

Required (3 crs.)

- INT 200 - Introduction to International Studies Credits: 3
- Or an approved substitute

Electives (9 crs.)

The remaining three courses must concentrate on one world area (Africa & Middle East, Asia, Europe, or Latin America). Two of the elective courses must be at the 300-level or higher. No courses may be double-counted between a Certificate and the International Studies major or minor, or a second Certificate in another world area. A complete list of approved courses is available on the International Studies website www.ship.edu/ism. Study abroad and advanced language study are strongly encouraged and may satisfy elective credit.

INT 200 - Introduction to International Studies Credits: 3 majors and minors, and students adding a Certificate in a second world area must consult with the Director of International Studies to choose an appropriate substitute course and complete an Exception Form.

Nanotechnology Certificate

The nanotechnology certificate offers students the technical expertise and theoretical understanding to manipulate matter at the nanometer length scale. Nanofabrication has applications in many fields including physics, biology, material science and engineering. This certificate is very popular with students in part because of the employment opportunities offered to its graduates.

The certificate requires the completion of one semester at the Penn State Center for Nanotechnology Education and Utilization; since this requirement is satisfied during the summer, enrolling in the concentration should not delay graduation.

Requirements (30 crs.)

Required Courses

- Engineering: Penn State-NSF NMT summer courses (18 crs.)
- PHY 311 - Quantum I Credits: 4
- PHY 325 - Semiconductor Devices Credits: 4
- PHY 450 - Quantum Materials Credits: 4

Spanish Certificate

12 crs.

Select four courses from the major. Courses selected by advisement.

Translation in Spanish Certificate

Students must be a Spanish major to pursue this certificate.

Translation Specialization Courses: (9 crs.)

- SPN 330 - Spanish for the Professions Credits: 3
- SPN 420 - Theory and Practice of Translation Credits: 3
- SPN 425 - Advanced Oral Interpreting Credits: 3

Note:

Subject Area Specialty Courses: Because translation today requires that translators specialize in one or more areas, we ask that students in the Translation Specialization Program bring together their linguistic skills in Spanish and the knowledge and skills they developed in the other disciplines taught at Shippensburg University. Students can either select a single subject area (that of their major/minor is acceptable, provided that they are not completing a Spanish major/minor) or a combination of relevant courses approved by the Translation Specialization Coordinator.

Possible specialties include, but are not limited to the following: Accounting, Communication/Journalism, Biology, Business, Chemistry, Computer Science, Criminal Justice, Earth Science, Economics, Finance, Geography, Geology, International Studies, Management Information Systems, Marketing, Mathematics, Physics, Political Science, Public Relations.

Women's and Gender Studies Certificate

Students can earn a Certificate in Women's and Gender Studies by completing the two core courses (WST 100 and WST 300) and two of the approved electives, which must come from two different disciplines. One course may be double-counted toward the student's major and the WST Certificate. Verification of the WST Certificate will appear on the student's transcript. Three courses must be taken at Shippensburg University.

Power, Agility, and Group Exercise (PAGE) Certificate

Exercise Science Majors in PAGE Certificate (10 crs.)

- ESC 321 - Exercise Physiology I Credits: 4
- ESC 348 - Group Exercise Techniques & Leadership Credits: 3
- ESC 387 - Theory and Practice of Power and Agility Training Credits: 3

Non-Exercise Science Majors in PAGE Certificate (9 crs.)

- ESC 243 - Physiological Basis of Sport Credits: 3
- ESC 348 - Group Exercise Techniques & Leadership Credits: 3
- ESC 387 - Theory and Practice of Power and Agility Training Credits: 3

Victimology and Victim Services Certificate

12 (crs.)

Required Courses (6 crs.)

- CRJ 326 - Victimology: The Victim and the Law Credits: 3
- CRJ 469 - Victim Treatment and Services Credits: 3

Electives at 300 or 400 level (Select Two) (6 crs.)

Please note these courses have the following 'required core' prerequisites: CRJ 309 & 310 .

- CRJ 342 - Crime Prevention Credits: 3
- CRJ 363 - Intimate Partner Violence Credits: 3
- CRJ 381 - Mental Health in the Criminal Justice System Credits: 3
- CRJ 398 - Selected Topics in Criminal Justice Credits: 3 *
- CRJ 461 - Social Construction of Homicide Credits: 3
- CRJ 466 - Women and Criminal Justice Credits: 3
- CRJ 471 - Internship in Criminal Justice I Credits: 3 *

Note:

* Courses require departmental approval.

Other Programs

ROTC Program

Program Requirements

Basic Program

- MIL 131 - Military Science I (2 crs.) Credits: 2
- MIL 132 - Military Science I Credits: 2
- MIL 231 - Military Science II Credits: 2
- MIL 232 - Military Science II Credits: 2
- or
- Prior Military Service up to 4 or more crs
- or
- Leaders Training Course

Advanced Program

- MIL 331 - Military Science III Credits: 2
- MIL 332 - Military Science III Credits: 2
- Leadership Development and Assessment Course
- MIL 350 - Military Science IV Credits: 3
- MIL 351 - Military Science IV Credits: 3

Additional Advanced Course Requirements

In addition to the core requirements, cadets must complete a course in military history. Students are also encouraged to better enhance their education in courses such as anthropology, written communication, human behavior, management, and international studies.

Course Descriptions

Course Descriptions

Course descriptions are organized in alphabetical order by subject. Information on courses can be found under appropriate headings in the below sequence.

Dual-Level (400) Courses

Some courses numbered 400 to 499 are open to graduate students and undergraduate students who meet course or program prerequisites. Credits will apply at either the undergraduate or graduate level but not at both. Each student should consult his/her advisor, program director, and/or dean concerning the policy and the appropriateness of the course prior to enrolling in any 400-level courses.

ASP 101 - Introduction to Higher Education Credits: 3

Provides an extended orientation to the academic expectations and demands of higher education. Student Voices lead a systematic exploration of values, beliefs, and skills that assists in becoming successful in academic endeavors. Students learn to connect to the larger campus community. Basic skill development in reading, writing, and critical thinking are stressed.

ASP 102 - Student Voices: Leadership and Community Credits: 3

A systematic exploration of the values, beliefs, and skills that assist in becoming successful in the communities to which one belongs and to society in general. Topics include leadership theory, community identification, career development, and service learning. Self-assessment, diversity, and character development are addressed as subtopics.

ACC 200 - Fundamentals of Financial Accounting Credits: 3

Introduces accounting concepts, principles, and practices followed in the preparation of external financial reports. Alternative accounting treatments and policies relative to asset valuation, liability measurement, and income determination are discussed. Emphasis on interpretation, uses, and limitations of financial reports.

ACC 201 - Managerial Accounting Credits: 3

Introduces accounting concepts for planning, control, motivation, internal reporting, and evaluation. Topics included are product cost determination procedures, analysis of cost behavior, budgeting, costs for decision making and control, and responsibility accounting. Emphasis on the internal decision maker's use of information generated by the accounting system.

Prerequisite(s): ACC 200

ACC 306 - Tax Accounting Credits: 3

Introduces fundamentals of federal taxation as they apply to tax entities including individuals, corporations, and partnerships. Primary emphasis on taxation of individuals with some emphasis on business activities including property transactions. Other tax entities also discussed. Students introduced to tax research and tax planning.

Prerequisite(s): ACC 200 with minimum grade of C and ACC 201 with minimum grade of C

ACC 310 - Intermediate Accounting I Credits: 3

First of three courses involving an intensive study of accounting concepts, theories, and practices relative to external financial reporting. Topics include: processing and reporting financial transactions and information relating to the content and structure of financial statements; concepts and procedures underlying revenue and expense recognition; application of time value of money concepts in an accounting framework; and valuation and accounting for current assets, long-term tangible assets, current liabilities, and long-term liabilities.

Prerequisite(s): ACC 200 with minimum grade of C and ACC 201 with minimum grade of C

ACC 311 - Intermediate Accounting II Credits: 3

Second of three courses involving an intensive study of accounting concepts, theories and practices relative to external financial reporting. Topics include: processing and reporting financial transactions and information relating to the content and structure of financial statements; concepts and procedures underlying revenue and expense recognition; application of time value of money concepts in an accounting framework; and valuation and accounting for liabilities, stockholders' equity, investments, deferred income taxes, compensation, accounting changes, earnings per share, pension and leases.

Prerequisite(s): ACC 310 with minimum grade of C

ACC 312 - Cost Determination and Analysis Credits: 3

Introduces the principles and procedures of cost analysis and control; theories of cost allocation and accumulation; uses of accounting information for planning, control and performance evaluation. Continues development of skills for analyzing complex cost and managerial accounting problems using microcomputer spreadsheet models. Includes process costing, cost allocation, joint costs, transfer pricing, and divisional performance evaluation, statistical applications in cost analysis and capital budgeting. Emphasis throughout on processing of cost information as well as analysis, reporting, and evaluation of the cost data.

Prerequisite(s): ACC 200 with minimum grade of C and ACC 201 with minimum grade of C and SCM 200

ACC 399 - Independent Study in Accounting Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

ACC 401 - Advanced Accounting Credits: 3

Third of three courses involving an intensive study of accounting concepts, theories, and practices relative to external financial reporting. Topics include consolidated financial statements, accounting in the international environment, and governmental accounting. Issues relating to full disclosure and the role of the Securities and Exchange Commission and professional accounting organizations in financial reporting are considered.

Prerequisite(s): ACC 311 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

ACC 404 - Auditing Credits: 3

Introduction to standards and procedures employed by professional accountants in performing audits. The objectives of an audit and the types of examinations necessary for rendering opinions on financial reports and for other specified purposes are considered.

Prerequisite(s): ACC 311 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

ACC 406 - Advanced Tax Accounting Credits: 3

More in-depth coverage of impact of federal income tax on business entities including proprietors, corporations, and partnerships. Primary emphasis is taxation of corporations and flow-through tax entities. Includes expanded coverage of tax research and planning as well as ethical responsibilities in tax practice.

ACC 412 - Advanced Cost Analysis and Control Credits: 3

Considers a range of problems related to accumulation and use of accounting data for decision making by the management of the business enterprise. Analytical costing techniques are developed by integrating cost concepts and information generated by the accounting system with quantitative business methods. Emphasis on relationship of decision theory and the cost accounting function to the management information system. Explicit consideration given to behavioral foundations for planning and control.

Prerequisite(s): ACC 312 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

ACC 418 - Accounting Information and Control Systems Credits: 3

Designed to provide an understanding of the accounting function as a subsystem within the total management information system. Consideration given to the source of data processed by the accounting system and the form in which it is stored in order to support the planning, control, reporting, and evaluation activities of management. Emphasis on relationship of the information needs of management to the classification of data and the design of the accounting system.

Prerequisite(s): ACC 312 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

ACC 490 - Selected Topics in Accounting Credits: 3

Considers contemporary accounting issues affecting society and businesses (private, public, and not-for-profit) in both the national and international spheres.

Prerequisite(s): ACC 311 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

ANT 105 - Great Discoveries in Archaeology Credits: 3

This course introduces students to great archaeological discoveries around the world that have led to an understanding of the human past on Earth. It explores the various tactics employed by peoples worldwide from the distant and recent times that led to the development of the first civilizations. Its primary focus is on comparing and contrasting how archaeology examines the rise and fall of ancient civilizations through examination of such sites as the pyramids of Ancient Egypt, the ziggurats of Sumer in Iraq, Homer's Troy, the Coliseum in Rome, and the sacrificial pyramids of the Classic Maya and Aztec of Central America. Through the study of these great archaeological discoveries, students will enhance their appreciation of ancient cultural diversity.

Category: Cat E - Soc and Behav Sciences

ANT 111 - Cultural Anthropology Credits: 3

Is a study of the nature of humanity. Cuts across the boundaries which separate the sciences from the humanities and embraces both. Deals with basic facts concerning humanity in all of its variations, leading to understanding and appreciation of the significant differences in the behavior of various ethnic groups.

Category: Cat E - Soc and Behav Sciences

ANT 121 - Physical Anthropology Credits: 3

Considers human biology. Topics include genetic, developmental and physiological mechanisms by which human populations adjust to their environment. Included are the study of human origins as seen in the fossil record and the comparative biology of humans and their primate relatives.

Category: Cat C - Bio and Phys Sciences

ANT 150 - Introduction to Archaeology Credits: 3

Introduces archaeological method and theory, while tracing our prehistoric heritage and the processes that led to the evolution of settled villages, agriculture, and eventually civilization. Topics range from early African human origins to the European Stone Age and from Mesopotamia and Egypt to Mexico and the United States.

ANT 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat E - Soc and Behav Sciences

ANT 211 - Comparative Cultures Credits: 3

Is a course in ethnography that studies the wide range and variability of human culture, considers other ways of life, and the continuity of humanity and culture. A number of societies will be studied on the different levels of social organization and on a worldwide basis.

Prerequisite(s): ANT 111 or HON 160

ANT 220 - Anthropology for International Studies Credits: 3

Uses anthropological content and techniques to increase the cross-cultural awareness and effectiveness of students interested in international business, journalism, civil service, or other careers involving cross-cultural contact.

ANT 305 - Food, Drink and Culture Credits: 3

Embark on a global eating and drinking adventure to explore the truth behind the saying "You are what you eat (and drink)." This course dishes out a fresh view of food and beverages from the multiple perspectives of culture, nutrition, ancient history, and communication. This cross-cultural and deep chronological approach to food and drink is essential to understand modern world foodways, including those of the United States.

ANT 310 - Magic, Science and Religion Credits: 3

Provides a cross-cultural framework for the comparison and analysis of supernatural belief systems. Discussion of local nature-based religions as well as major world religions. Also includes a consideration of the relationship between religion and science.

ANT 312 - Comparative Marriage and Family Credits: 3

Deals with various anthropological issues in the field of marriage and family studies, such as: family types, marriage and sex variation including the incest taboo, evolutionary ecology, illegitimacy, dowry deaths, infanticide, experiments in family living, gay and lesbian couples, high-tech fertilization and surrogate motherhood, and gender roles.

Prerequisite(s): ANT 111 or HON 160 or WST 100 or HON 102

ANT 320 - Comparative Gender Roles Credits: 3

Considers gender roles from a cross-cultural perspective and includes material from the United States as well as other cultures. Topics include socialization and gender stratification and the relationship of gender to major social institutions such as the family, religion, and politics.

Prerequisite(s): ANT 111 or HON 160

ANT 330 - Mammoth Hunters and Moundbuilders Credits: 3

Introduces varied archaeological cultures that inhabited this continent for at least the last 15,000 years, if not longer. Topics range from the early Paleo-Indian mammoth hunters to the whale-hunting cultures of the Pacific Northwest, the Pueblo cliff dwellers of the American Southwest, the mound builders of the Eastern Woodlands, and finally to the period of contact with European explorers. Course supplemented with slides, films, and artifacts.

Prerequisite(s): ANT 111 or HON 160

ANT 351 - Peoples and Cultures of Europe Credits: 3

Investigates the cultural diversity of Europe from an anthropological perspective. Northern, central, and southern cultures will be surveyed and selected societies will be investigated with regard to culture history, subsistence, social structure, kinship and marriage, political process, rural-urban linkage, and ritual and religion.

ANT 360 - Aztec and Maya Archaeology Credits: 1-3

Examines archaeological evidence recovered from some of the greatest Pre-Columbian civilizations in the Americas, such as the Olmec, Maya, and Aztec. Addresses factors that led to the rise and fall of the ancient civilizations in the region archaeologists call Mesoamerica. Course supplemented with slides, films, and artifacts.

ANT 390 - Internship I Credits: 3

Contact the department for further information on internships.

ANT 391 - Internship II Credits: 3

Contact the department for further information on internships.

ANT 392 - Internship III Credits: 3

Contact the department for further information on internships.

ANT 393 - Selected Topics in Anthropology Credits: 1

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ANT 394 - Selected Topics in Anthropology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ANT 395 - Selected Topics in Anthropology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ANT 396 - Selected Topics in Anthropology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ANT 399 - Independent Study in Anthropology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ANT 490 - Selected Topics in Anthropology Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

ART 101 - Art Appreciation Credits: 3

Introduction to the visual arts emphasizing major historical artistic movements, the elements of art, and the media of art. Attention given to multicultural and gender contributions in the areas of fine arts, crafts, and the applied arts.

Category: Cat B - Humanities

ART 110 - Basic Drawing Credits: 3

Fundamental course including experiences in drawing from the still-life, the environment, and the human figure. Stresses visual perception, the development of eye-hand coordination, sensitivity to a variety of drawing materials, and an introduction to the basic principles of perspective. Descriptive and expressive approaches to drawing will be explored.

ART 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

ART 210 - Drawing II Credits: 3

Studio course to develop advanced value rendering skills and an increased awareness of the principles of light and shadow. Experimental and contemporary drawing approaches are introduced. A diverse range of media in black-and-white will be explored; color will be included. A portfolio, which represents an investigation of self-expression and experimentation, is an outcome and a requirement.

Prerequisite(s): ART 110

ART 211 - Figure Drawing Credits: 3

Directed at analyzing the human form and its structure. A variety of drawing media and drawing approaches are used to address anatomy, texture, space, and the principles of light and shadow. Exploration of the relationship between the figure and the environment and the development of figurative imagery, which is descriptive and expressive, will be included.

Prerequisite(s): ART 110

ART 215 - Color and Two-Dimensional Design Credits: 3

Laboratory course to provide analyses of the basic elements and principles of visual design. Various media including traditional and contemporary tools, such as the computer, will be explored. Assignments and presentation of a design portfolio is required of each student. (Offered in fall only.)

ART 217 - Computer Design I Credits: 3

Introductory course taught on the Macintosh computer. Basic elements of page layout design including composition, type and typesetting, graphic elements, cropping, text wrapping, photo image control, and the use of a scanning device will be covered along with information about the design industry: creating publications and working with printers and photographers. General usage of the Macintosh operating system will be taught. Emphasis on visual appearance and design of publications.

ART 218 - Three-Dimensional Design Credits: 3

Introduction to working with elements and principles of three-dimensional design. Work with basic concepts of form, shape, mass, color, and texture using a variety of materials: paper, wood, metal, plaster, and clay. (Offered in spring only.)

ART 231 - Art History I Credits: 3

Begins with the prehistoric period and Near Eastern art. Progresses through the Mediterranean cultures of Egypt, Minoan and the Cycladic Islands, Mycenaean, Greek, Etruscan and Roman art. Followed by early Christian, Byzantine and Islamic art. Concludes by examining early Medieval and Romanesque art. (Offered even years, fall only.)

Category: Cat B - Humanities

ART 232 - Art History II Credits: 3

Continues where Art History I concluded. Study of gothic art and introduction to art of India, China, Japan, and the native art of the Americas, Africa, and the South Pacific. The Proto-Renaissance in Italy, 15th and 16th century Italian art, the Renaissance outside of Italy, and Baroque art are studied. Rococo period of the 18th century is the final period discussed here. (Offered in fall only.)

Category: Cat B - Humanities

ART 233 - Art History III Credits: 3

Continues where Art History II concluded. Begins with Romanticism and Neoclassicism in Europe, follows the events leading to Impressionism and beyond in France. Cubism, the destruction of Renaissance space, and the anti-art activities of the Dada artists will lead into abstract expressionism, pop art, minimalism and conceptual art. All the major isms of the 20th century will be addressed. Global influences are reviewed and their impact on major artistic movements discussed. Concludes with contemporary postmodern art. (Offered in spring only.)

Category: Cat B - Humanities

ART 274 - Introduction to Cultural Studio Credits: 3

Introduces a variety of two- and three-dimensional media and techniques through visual art projects developed from the art history of diverse global cultures. Through studio projects, develops awareness for cultural influences in art, will learn a universal visual art vocabulary and develop personal skills in the handling of art materials. (Not open to art majors or art minors. Teacher education majors/art minors may enroll in this course.)

Category: Cat B - Humanities

ART 300 - Independent Studio/Ceramics Credits: 3

For advanced study in a particular art medium. Opportunity to pursue in-depth study using a single art form or combination of art forms that are of personal interest under the direction and guidance of a department faculty member. Student agrees to meet with a regularly scheduled studio art course through arrangement with the instructor. (Prior instructor approval required.) In case the student would schedule more than one independent studio, ART 301 , ART 302 , ART 303 , ART 304 , ART 305 , or ART 309 may be substituted.

ART 303 - Independent Studio/Painting Credits: 3

For advanced study in a particular art medium. Opportunity to pursue in-depth study using a single art form or combination of art forms that are of personal interest under the direction and guidance of a department faculty member. Student agrees to meet with a regularly scheduled studio art course through arrangement with the instructor. (Prior instructor approval required.) In case the student would schedule more than one independent studio, ART 300 , ART 301 , ART 302 , ART 304 , ART 305 , or ART 309 may be substituted.

ART 304 - Independent Studio/Sculpture Credits: 3

For advanced study in a particular art medium. Opportunity to pursue in-depth study using a single art form or combination of art forms that are of personal interest under the direction and guidance of a department faculty member. Student agrees to meet with a regularly scheduled studio art course through arrangement with the instructor. (Prior instructor approval required.) In case the student would schedule more than one independent studio, ART 300 , ART 301 , ART 302 , ART 303 , ART 305 , or ART 309 may be substituted.

ART 305 - Independent Studio /Computer Design Credits: 3

For advanced study in a particular art medium. Opportunity to pursue in-depth study using a single art form or combination of art forms that are of personal interest under the direction and guidance of a department faculty member. Student agrees to meet with a regularly scheduled studio art course through arrangement with the instructor. (Prior instructor approval required.) In case the student would schedule more than one independent studio, ART 300 , ART 301 , ART 302 , ART 303 , ART 304 , or ART 309 may be substituted.

ART 306 - Computer Design II Credits: 3

Second-level course taught on the Macintosh computer. Will learn the art of computer illustration, drawing and rendering techniques, including all aspects of a postscript language illustration program. Also taught in-depth will be type manipulation and how to incorporate an illustration. Use of a color scanning device and a color printer will be covered along with information about the illustration and design industry, the future of the computer, and advanced use of the Macintosh operating system. Emphasis creating visually strong illustrations and designs. (Offered in spring only.)

Prerequisite(s): ART 217

ART 309 - Independent Studio Credits: 3

For advanced study in a particular art medium. Student agrees to meet with a regularly scheduled studio art course through arrangement with the instructor. (Prior instructor approval required.) In case student would schedule more than one independent studio, ART 300 , ART 301 , ART 302 , ART 303 , ART 304 , or ART 305 may be substituted.

ART 319 - Computer Design III Credits: 3

Third-level course taught on the Macintosh computer. Will learn the art of photo manipulation, editing, painting, compositing, and pre-press techniques including all aspects of using a bitmapped software program. Also covered choosing printers, preparing files for output, setting halftone screens, resolutions, traps, chokes, and creating color separations. Elements and principles of design, working between software programs, the use of a color scanning device, video and still camera capturing devices covered along with creating meaningful imagery. Emphasis on creating visually strong computer generated photographs, paintings, and designs.

Prerequisite(s): ART 217

ART 321 - Watercolor I Credits: 3

Fundamental course in watercolor painting designed to introduce the varied materials, tools, and techniques of watercolor painting with special attention to its unique characteristics as a painting medium. Composition and development of personal imagery also discussed. (Prior experience in drawing and working with color is recommended.) (Offered in spring only.)

ART 322 - Watercolor II Credits: 3

Intermediate level that stresses the exploration of watercolor painting media as a means of unique personal expression with increased emphasis on composition and structure. (Offered in fall only.)

Prerequisite(s): ART 321

ART 326 - Painting I Credits: 3

Fundamental course in painting designed to introduce the varied materials, tools and techniques of oil-based or acrylic-based painting media. Composition and development of personal imagery also discussed. (Prior experience in drawing and working with color is recommended.) (Offered in fall only.)

ART 334 - Independent Studio in Art Credits: 3

For advanced study in a particular art medium. Opportunity to pursue in-depth study using a single art form or combination of art forms that are of personal interest under the direction and guidance of a department faculty member. Student agrees to meet with a regularly scheduled studio art course through arrangement with the instructor. (Prior instructor approval required.) In case the student would schedule more than one independent studio, ART 300 , ART 302 , ART 303 , ART 304 , ART 305 , or ART 309 may be substituted.

ART 335 - Independent Studio in Art Credits: 3

For advanced study in a particular art medium. Opportunity to pursue in-depth study using a single art form or combination of art forms that are of personal interest under the direction and guidance of a department faculty member. Student agrees to meet with a regularly scheduled studio art course through arrangement with the instructor. (Prior instructor approval required.) In case the student would schedule more than one independent studio, ART 300 , ART 302 , ART 303 , ART 304 , ART 305 , or ART 309 may be substituted.

ART 337 - Printmaking I Credits: 3

Introductory course in printmaking. Primarily a studio course, students will have an opportunity to make original prints using various traditional and contemporary printmaking processes. Also deals with history of printmaking and some important printmakers. Gives a better grasp of wide range of techniques and means of expression found in what can be a very complex art form.

ART 339 - History of American Art Credits: 3

Chronological study of American art painting, sculpture, and architecture from the Colonial period to the 20th century. (Offered odd years, fall only.)

Category: Cat B - Humanities

ART 340 - Ceramics Credits: 3

Exploration of the potential of clay with emphasis on both hand building and wheel throwing techniques.

ART 341 - Advanced Ceramics Credits: 3

Studio course that further develops knowledge of clay and the various working processes. Emphasis on mastery and refinement of skills and building and/or wheel throwing. Greater attention placed on mixing glazes and clay bodies and on firing techniques. (Offered in spring only.)

Prerequisite(s): ART 340

ART 356 - Social Structures of Aesthetics, Philosophy and Criticism in the Arts Credits: 3

Deals with general questions about art. Topics will be to handle abstract ideas, to discuss rationally, to distinguish between objective and subjective statements, to imagine possibilities, and to recognize necessary conditions within a definition. Criticism deals with responding to a specific work as well as a body of work. Two important functions considered are to interpret the meaning of the work and to demonstrate support judgments about the aesthetic merits of the work. Includes exposure to the arts through attendance at various performances, exhibitions, museums, and field trips. The aim is to explore the philosophical and historical aspects of the arts and how they are valued through art criticism. This knowledge will be applied to the environment of art education.

ART 370 - Sculpture Credits: 3

Is an aesthetic analysis of three-dimensional form utilizing both traditional and contemporary materials and techniques. (Offered in fall only.)

ART 385 - Senior Art Seminar Credits: 3

Requires student to examine the contemporary artists, art movements, and influences that directly impact their work and area of concentration. Emphasis on creating a portfolio of work with a specific focus conceived by the student. These works will be presented in a public exhibition. All stages of exhibition preparation will be addressed: scheduling, publicity materials, developing and creating an exhibition catalog, photographing and presenting works of art for exhibition, staging an exhibition, and the packaging/transporting works of art. Rsum preparation and developing a career portfolio will also be included. (Required of all art majors.)

ART 389 - Selected Topics in Art Credits: 1

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ART 391 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ART 392 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ART 395 - Internship in Art I Credits: 3

Offers a planned program of research, observation, study and work in approved art agencies and institutions for junior and senior art majors. Specific nature of the experience will follow the pattern dictated by the agency/institution. Only 6 crs. of internship credit can count toward the art major. (Prior approval of the Department of Art and the cooperating agency is required.)

ART 396 - Internship in Art II Credits: 3

Offers a planned program of research, observation, study and work in approved art agencies and institutions for junior and senior art majors. Specific nature of the experience will follow the pattern dictated by the agency/institution. Only 6 crs. of internship credit can count toward the art major. (Prior approval of the Department of Art and the cooperating agency is required.)

ART 397 - Internship in Art III Credits: 3

Offers a planned program of research, observation, study and work in approved art agencies and institutions for junior and senior art majors. Specific nature of the experience will follow the pattern dictated by the agency/institution. Only 6 crs. of internship credit can count toward the art major. (Prior approval of the Department of Art and the cooperating agency is required.)

ART 398 - Independent Study in Art Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

ART 399 - Independent Study Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

ART 400 - Contemporary Methods in Art Education Credits: 3

Explores studio materials, art-making processes, and modes of thought from a culturally diverse perspective and current methods regarding studio art instruction in the fields of elementary and secondary education. Exploring their personal artwork, students introduced in role of art teacher as facilitator, guide, and mentor, plus the various instructional strategies and models currently employed for success in the field. Besides exploring a cross section of contemporary art-making processes, students will analyze how they create in order to allow others to understand that process. Students will gain competency in lesson planning, organization, classroom management, and assessment. Student emerges with a clearer understanding of the relationship between ideas, process, critique, and the vital role of the studio teacher. Consists of classroom lecture/presentation and intense studio activity. Includes an early field experience, designing, and implementing a studio art project with elementary-age students at the campus laboratory school. All artworks, projects, and experiences will culminate in critique and evaluation.

Graduate Credit: This course is available for graduate credit.

ART 425 - Computer Design IV Credits: 3

Fourth-level course taught on the Macintosh computer. Learning the art of animation and multimedia production including sound and video editing and compositing. Using page composition and illustration/painting/digital photography techniques learned in Computer Design I, II, and III, students learn to compile text, paintings, and photographs into a composite multimedia program. Using paint and ink effects, information will be enhanced, with sound and video added to it. Elements and principles of design, working between software programs, the use of a color scanning device, video and still camera capturing devices, and CD authoring will be covered. Content includes techniques directed at creating visually strong multimedia productions.

Prerequisite(s): ART 217

Graduate Credit: This course is available for graduate credit.

ART 430 - Computer Design V Credits: 3

Fifth-level course taught on the Macintosh computer. Learning the art of animation and multimedia production including sound and video editing and compositing for web design. Using page composition and illustration/painting/digital photography techniques learned in Computer Design I, II and III, students will learn how to compile text, paintings, and photographs into a composite web program. Using transparency and vector embedding techniques, information will be enhanced with added sound and video. Elements and principles of design, working between software programs, the use of a color scanning device, video and still camera capturing devices, and CD authoring will be covered. Content includes techniques directed at creating visually sound and effective web design.

Graduate Credit: This course is available for graduate credit.

ART 435 - Computer Design VI Credits: 3

Sixth-level course taught on the Macintosh computer. Examines the book as a physical artifact, as the material embodiment of text and visual imaging. Topics include the transitions between hand production and mechanical production, methods of bookmaking, printers and publishers, letter forms and typography, paper, page formats and layouts, illustrations, bindings, and the purpose of the book with special emphasis on the relationships between meaning and physical form and the complex conventions of the book. The art of typographic design, calligraphy, book and portfolio design, papermaking, and bookmaking skills following both traditional and nontraditional techniques are covered. Using page composition and illustration/painting/digital photography techniques learned in Computer Design I, II, and III, students enlarge and enhance their knowledge of typography and how to use it in book design. They will use their computer illustration, painting, and digital photographic skills to add visuals into the composite book. Elements and principles of design, working between software programs, the use of a color scanning device and digital camera capturing devices will be covered. Content includes techniques directed at creating visually and thematically strong and unique artist's portfolios and books.

Prerequisite(s): ART 217

Graduate Credit: This course is available for graduate credit.

ART 485 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 490 - Selected Topics in Art Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 491 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 492 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 493 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 494 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 495 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 496 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 497 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 498 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ART 499 - Selected Topics in Art Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

BIO 100 - Basic Biology Credits: 3

Deals with the principles of biology. Topics include evolution and origins of life, cellular structure and physiology, growth and repair, reproduction and development, control, sources of food energy, inheritance, and human inter-relationship with the biological environment. Not open to biology majors. Three hours of lecture/week. Credit earned in this course is not applicable to credits required of the biology major.

Category: Cat C - Bio and Phys Sciences

BIO 142 - Introduction to Ecology Credits: 3

Explores basic ecological patterns and processes that affect populations, communities, and ecosystems. Laboratory/field sessions emphasize ecological principles and techniques. Recommended for students seeking certification in environmental education whose major is not biology. Two hours lecture and two hours lab/week. Credit earned in this course is not applicable to the credits required of the biology major.

Category: Cat C - Bio and Phys Sciences

BIO 145 - Environmental Biology Credits: 3

Students are made aware of the many problems created by expanding human populations and technological growth and proliferation. Ecological alternatives are suggested. Topics include the shaping of humans by the environment, our relationships with the biotic and abiotic world, water and air pollution, climate change, pesticides, herbicides, contaminants, food additives, the urban environment, and consequences of the expanding human population. Three hours lecture/week. Credit earned in this course is not applicable to the credits required of the biology major.

Category: Cat C - Bio and Phys Sciences

BIO 150 - Human Biology Credits: 3

Introductory course for non-biology majors which involves a study of the structure and function of the human organism. Major diseases and contemporary factors that adversely affect human existence are considered. Three hours lecture/week. Credit earned in this course is not applicable to credits required of the biology major.

Category: Cat C - Bio and Phys Sciences

BIO 161 - Principles of Biology: Cell Structure and Function Credits: 4

Introductory course for majors that examines cell structure and function, genetics, population genetics, and evolution. Three hours lecture and two hours lab/week.

Category: Cat C - Bio and Phys Sciences

BIO 162 - Principles of Biology: Organismal Diversity Credits: 4

Introductory course for majors that examines the diversity of life, plant form and function, animal form and function, and ecology. Three hours lecture and two hours lab/week.

Category: Cat C - Bio and Phys Sciences

BIO 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat C - Bio and Phys Sciences

BIO 191 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat C - Bio and Phys Sciences

BIO 201 - Introduction to Biotechnology Credits: 1

Comprehensive introduction to applications and methods of biotechnology. Topics include microbial, plant, animal, and marine biotechnology. Applications to medicine, forensics, and the environment will be examined. Required for Biotechnology concentration. One hour lecture/week.

Prerequisite(s): BIO 162 with minimum grade of C (may be taken concurrently) and BIO 161 with minimum grade of C (may be taken concurrently) and BIO 260 (may be taken concurrently) and BIO 220 (may be taken concurrently) and CHM 121 (may be taken concurrently) and CHM 122 (may be taken concurrently)

BIO 205 - Marine Biology Credits: 3

Introduction to the marine environment. Includes the physical characteristics of marine ecosystems and the adaptations of organisms that live there. Only at WIMSC during summers. Two periods lecture and two periods lab/week.

Prerequisite(s): BIO 162 with minimum grade of C

BIO 208 - Field Biology Credits: 3

Field/laboratory course designed for biology majors with secondary education certification with focus on identification and ecology of local plants and animals including the study of soil, hydrology, oceanography, and a survey of current assessment technologies like GIS. Two hours lecture and three hours lab/field/week. Requires one weekend field trip. (Offered fall semester and summers as needed.) (Students may not count both BIO208 and BIO 210 towards major requirements).

Prerequisite(s): BIO 162 with minimum grade of C

Category: Cat C - Bio and Phys Sciences

BIO 210 - Field Zoology Credits: 3

Introduction to principles and techniques of field zoological investigation. Field and laboratory studies provide opportunity to learn appropriate procedures for the collection, preservation, and identification of selected groups of local animals. Both lecture and laboratory present the theory and methodology of zoological systematics. Two hours lecture and three hours lab/week. Requires one weekend field trip. (Offered spring semester.) (Students may not count both BIO 208 and BIO210 towards major requirements).

Prerequisite(s): BIO 162 with minimum grade of C

BIO 220 - Microbiology Credits: 4

Deals with the structural characteristics, physiology, and genetics of bacteria as well as principles of immunology and host-parasite relationships. Viruses and fungi are also considered. Laboratory exercises provide experience in the aseptic technique, staining, and evaluating the responses of microorganisms to various environmental changes. Three hours lecture and two hours lab/week.

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

BIO 230 - Botany Credits: 3

This course explores the amazing properties of plant life, emphasizing their role in the environment as well as practical implications for humans. Students will examine plant diversity and learn basic plant morphology, physiology, development, and reproduction as well as plant ecology and evolution. Labs and discussion of primary literature will emphasize topics covered during lectures.

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

BIO 237 - Human Anatomy & Physiology I Credits: 4

A systematic study of the structure and function of the various systems of the human body. Topics included are: the cell, integument, skeletal, musculature, digestive, endocrine, and reproductive systems. Dissections of specimens are required in the laboratory portion of this course. Note: Human Anatomy and Physiology I & II are integral parts of a one-year (two-semester) comprehensive course sequence. Three hours lecture and two hours lab/week. Credit earned in this course is not applicable to the credits required of the biology major.

Category: Cat C - Bio and Phys Sciences

BIO 238 - Human Anatomy & Physiology II Credits: 4

A systematic study of the structure and function of the various systems of the human body. Continuation of Human Anatomy and Physiology I. Topics included are: the nervous system, cardiovascular system, lymphatic system, respiratory system, metabolism, urinary system, fluid and pH balance. Although laboratory exercises will be more experimental in nature than in Human A&P I, some dissection of specimens will be required in the laboratory portion of this course. Note: Human Anatomy and Physiology I & II are integral parts of a one-year (two-semester) comprehensive course sequence. Three hours lecture and two hours lab/week. Credit earned in this course is not applicable to the credits required of the biology major.

Prerequisite(s): BIO 237

BIO 242 - Ecology Credits: 3

Examines the interactions between organisms and their environment and the relationship between ecological processes and patterns of distribution and abundance of organisms. Laboratory/field sessions emphasize ecological principles and techniques. Two hours lecture and three hours lab/week.

Prerequisite(s): BIO 162 with minimum grade of C and Sophomore standing.

BIO 245 - Marine Ecology Credits: 3

Deals with interactions of plants and animals in the unstable coastal environment. The barrier islands of the U.S. East Coast are emphasized. Only at WIMSC during summers.

Prerequisite(s): BIO 162 with minimum grade of C

BIO 260 - Genetics Credits: 4

Introductory course dealing with the principles of heredity and the nature of the gene. The role of genetics in development, behavior, medicine, agriculture, biodiversity and evolution will be addressed as well as the implications and ethical considerations of modern biotechnology. Laboratory work includes genetic analysis in *Drosophila* and other organisms, recombinant DNA technology, and bioinformatics. Three hours lecture and two hours lab/week.

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

BIO 300 - Careers in the Health Professions Credits: 1

This seminar introduces students to the educational preparation, employment responsibilities, and opportunities for many of the health professional fields. Information presented by speakers (practicing health professionals) will assist students in making educated choices regarding careers in the health sciences. Strongly recommended for students in the Biology/Health Professions concentration. One hour/week

BIO 315 - Marine Invertebrates Credits: 3

Survey of invertebrate phyla indigenous to coastal waters. Structural and functional adaptations discussed. Only at WIMSC during summers.

Prerequisite(s): BIO 162 with minimum grade of C

BIO 317 - Parasitology Credits: 3

Phenomenon of parasitism as it is practiced by a variety of organisms. Broad coverage will include the phylogeny, morphology, classification, and life cycles primarily of parasites of medical and veterinary importance; host-parasite relationships; and ecology epidemiology of parasitic diseases. Two hours lecture and two hours lab/week.

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C and BIO 220

BIO 320 - Marine Botany Credits: 3

Is an introduction to the plants of the marine fringe. Near-shore and aquatic plants, both attached and free floating, are discussed. Taught only at WIMSC during summers.

Prerequisite(s): BIO 230

BIO 324 - Pathogenic Microbiology Credits: 3

Considers the role of bacteria and fungi in the diseases of man with emphasis upon the differentiation and culture of microorganisms, types of diseases, immunology, modes of disease transmission, prophylactic, therapeutic and epidemiological aspects. Two hours lecture and two hours lab/week. (Offered spring semester.)

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C and BIO 220

BIO 325 - Medical Botany Credits: 3

Deals with the nature of selected physiologically active secondary plant metabolites and their development for use as medicines. Their mode of action will be covered, along with information on their discovery and history of their medical use. Compounds with activity in the central and peripheral nervous systems and those with pulmonary, renal, and cardiovascular effects will be included. Anti-neoplastic agents, teratogens, and plant toxins will also be studied. Introductory material on plant structure, function, and classification will be included along with the basic principles of pharmacology. Three hours lecture/week.

Prerequisite(s): (BIO 162 with minimum grade of C and BIO 161 with minimum grade of C) and (BIO 350 or BIO 351)

BIO 330 - Animal Behavior Credits: 3

Basic course emphasizing such topics as territoriality, social hierarchy, and communication. The laboratory is a most important part of this course with the opportunity to structure experiments, evaluate results, and report conclusions. Two hours lecture and two hours lab/week. (Offered fall semester, even years.)

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

BIO 331 - Behavior of Marine Organisms Credits: 3

Examines intra- and interspecific behavior with emphasis on adaptive significance that accrues to marine species. Topics include conflict, reproduction, and communication. Only at WIMSC during summers.

Prerequisite(s): 9 hours of biology or psychology

BIO 350 - Human Physiology Credits: 4

Study of the function of the human organ systems and their role in maintaining homeostasis. Three hours lecture and two hours lab/week. (Recommended for pre-health professions and secondary education students. Students may not count both BIO350 and BIO 351 towards major requirements.) (Offered spring semester.)

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

BIO 351 - Animal Physiology Credits: 4

Study of the function of organ systems of animals. Related anatomy is taught as needed. Two hours lecture and three hours lab/week. (Students may not count both BIO350 and BIO351 towards major requirements.) (Offered fall semester.)

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C and Junior standing as Biology major or permission of instructor.

BIO 362 - Invertebrate Zoology Credits: 3

Synopsis of the phylogeny, classification and important adaptive features of major and minor invertebrate phyla. Emphasis on taxonomy and a comparative study of the morphology, composition, and functioning of the animal organ systems or their operational equivalent, as they occurring a broad representation of invertebrate groups, to include patterns of development, reproductive strategies, and life history adaptations.

Prerequisite(s): Requires Upper division standing or permission of instructor.

BIO 363 - Vertebrate Zoology Credits: 3

Explores the diversity, function, and phylogenetic relationships among the vertebrate animals. Two hours lecture and two hours lab/week.

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C or permission of instructor.

BIO 370 - Comparative Vertebrate Anatomy Credits: 4

Introductory course in the structure of vertebrate animals. Laboratory work includes the comparative anatomical study of organ systems using representatives of the various protochordate and chordate classes. Emphasis on the physical evolution of the vertebrate classes using anatomical, embryological, and paleontological evidence. Two hours lecture and three hours lab/week. (Offered spring semester.)

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

BIO 371 - Human Anatomy Credits: 4

Involves a comprehensive, detailed study of the development, growth and functional anatomy of the human body. Enrollment priority is given to students in pre-health professional programs that require human anatomy. Three hours lecture and two hours lab/week.

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

BIO 373 - Developmental Biology Credits: 3

Introductory course in developmental biology. Emphasis will be on the molecules and mechanisms that control gametogenesis and the process of development from a single fertilized egg to an adult organism. Topics that will be highlighted include the role of genetic regulation in development, comparison of genes and processes in different organisms, and the contribution developmental biology makes to our understanding of evolution. Three hours of lecture/week.

Prerequisite(s): BIO 260

BIO 374 - Hematology Credits: 2

Designed to give a basic understanding of the formation, structure, and function of the blood elements. Both normal and abnormal cells are studied as well as the more common blood diseases. Laboratory periods are interspersed with lecture. Two hours lecture/lab/week. (Offered spring semester, even years.)

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C and BIO 220 or permission of instructor.

BIO 375 - Histology Credits: 3

Involves the microscopic examination of vertebrate tissues from morphological and physiological perspectives. Reference made to organ embryogenesis to support understanding of organ form and function. Laboratory work involves extensive examination of microscope slides. Tissue preparation for histological examination is demonstrated. Two hours lecture and two hours lab/week. (Offered spring semester.)

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

BIO 385 - Cell Biology Credits: 3

Examines the structure and function of the cell. Topics include the molecular constituents of cells, information transfer, and the control of cell division. The structure, function, and biogenesis of the plasma membrane, internal membranes, nucleus, cytoskeleton, mitochondria, and

chloroplasts will be addressed. Laboratory work is examination of cell structure and function by molecular and microscopic techniques. Two hours lecture and two hours lab/week.

Prerequisite(s): BIO 260 and CHM 121 and CHM 122

BIO 389 - Research IV Credits: 1-3

Opportunity to do research under the guidance of selected faculty members. Students should register for this course only if they have credit for BIO 396 . Students should obtain approval of the research topic from the selected advisor before registering for this course. [Please note that only 3 credits of research may count as biology credits. Credits in excess of that number count as free electives in the General Education requirement.]

BIO 391 - Biology Internship I Credits: 1-3

Provides opportunity to gain practical experience in chosen career area. [Please note that only 3 credits of internship may count as biology credits. Credits in excess of that number count as free electives in the General Education requirement.]

BIO 392 - Biology Internship II Credits: 1-3

Provides opportunity to gain practical experience in chosen career area. [Please note that only 3 credits of internship may count as biology credits. Credits in excess of that number count as free electives in the General Education requirement.]

BIO 393 - Selected Topics in Biology Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

BIO 394 - Selected Topics in Biology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

BIO 396 - Research III Credits: 1-3

Opportunity to do research under the guidance of selected faculty members. Students should register for this course only if they have credit for BIO 398 . Students should obtain approval of the research topic from the selected advisor before registering for course. Please note that only 3 credits of research may count as Biology credits. Credits in excess of that number count as free electives in the General Education requirement.

BIO 397 - Introduction to Research Credits: 1-3

Opportunity to do research under the guidance of selected faculty members. Students should obtain approval of the research topic from the selected advisor before registering for this course. Available as a pass/fail grade only. [Please note that only 3 credits of research may count as biology credits. Credits in excess of that number count as free electives in the General Education requirement.]

BIO 398 - Research II Credits: 1-3

Opportunity to do research under the guidance of selected faculty members. Students should register for this course only if they have credit for BIO 397 . Students should obtain approval of the research topic from the selected advisor before registering for this course. [Please note that only 3 credits of research may count as biology credits. Credits in excess of that number count as free electives in the General Education requirement.]

BIO 399 - Independent Study in Biology Credits: 1

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

BIO 401 - Coral Reef Ecology Credits: 3

Graduate Credit: This course is available for graduate credit.

BIO 403 - Aquaculture Credits: 3

Graduate Credit: This course is available for graduate credit.

BIO 406 - Mammalogy Credits: 3

Surveys various areas of mammalian biology including mammalian characteristics, evolution, classification, zoogeography, adaptive radiation, reproduction, population dynamics, behavior, physiology, ecology, and economic importance. Laboratory material covers trapping, study of skin preparation, identification of North American mammals, examination of skeletal and external adaptations, plus field and laboratory techniques.

Graduate students are required to complete an additional course project. Includes a weekend field trip. Two hours lecture and two hours lab/week.

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

BIO 408 - Principles of Virology Credits: 3

Covers morphology, replication cycles, and genetics of important bacterial, plant, and animal viruses as well as the use of gene therapy. Special emphasis given to viral pathogens of humans including the pathophysiology, transmission, treatment, and prevention of viral diseases. Newly emerging viral diseases and their impact on society will also be discussed. Graduate students expected to submit a 5-10 page term paper on a virology-related topic approved by the instructor. (Offered fall semester).

Prerequisite(s): BIO 260 and BIO 385 (may be taken concurrently)

Graduate Credit: This course is available for graduate credit.

BIO 409 - Immunology Credits: 3

Introduction to immunology, including immunity, serology, immunochemistry, and immunobiology. Other topics include immunodeficiency diseases, tumor immunology, transplantation immunology, autoimmune diseases, and allergies. Graduate students must complete additional course requirements. Three (3) hours lecture/wk.

Prerequisite(s): BIO 260 and BIO 385 (may be taken concurrently)

Graduate Credit: This course is available for graduate credit.

BIO 412 - Ichthyology Credits: 3

This course surveys the biology of fishes, emphasizing the evolution, systematics, ecology, and conservation of Pennsylvania species. Laboratory and field exercises will include fish sampling, species identification, population estimation, community characterization, and fisheries techniques such as aging fishes and estimating population structure and production. (2h lecture and 2h lab)

Prerequisite(s): (BIO 162 with minimum grade of C and BIO 242 or Graduate standing.

Graduate Credit: This course is available for graduate credit.

BIO 413 - Marine Ichthyology Credits: 3

Study of the internal and external structure of fishes, their systematic and ecological relationships, and their distribution in time and space. Only at WIMSC during summers.

Prerequisite(s): 16 credits of biology or Graduate standing.

Graduate Credit: This course is available for graduate credit.

BIO 417 - Herpetology Credits: 3

Study of amphibians and reptiles including classification, evolution, functional morphology, ecology, and husbandry. Laboratory work includes anatomical study, identification, and field trips. Graduate students must complete additional course requirements. Two hours lecture and two hours lab/week.

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

BIO 418 - Molecular Biology Credits: 3

Examines structure and expression of prokaryotic and eukaryotic genes. Topics include experimental techniques used to clone, express, and analyze DNA sequences; chromosome and gene structure; mechanisms of DNA replication and repair; mechanisms of transcription and translation; the regulation of transcription; RNA processing and post-transcriptional regulation; gene regulation in development; and molecular mechanisms of mutagenesis and cancer. Includes discussion of current literature and use of on-line resources for analysis of DNA sequences. Graduate students must complete additional course requirements.

Prerequisite(s): BIO 260

Graduate Credit: This course is available for graduate credit.

BIO 419 - Ornithology Credits: 3

Study of birds including their taxonomic relationships, anatomy, physiology, ecology and conservation. A major focus of the course is identification of avian species found in Pennsylvania and the eastern US, which will be accomplished via field trips and museum skin study. Laboratory instruction will include methods of avian capture, census techniques, museum skin preparation and field trips. Two Saturday field trips and one weekend field trip are required. Graduate students are required to complete an additional course project. Two hours lecture and two hours lab/week.

Prerequisite(s): BIO 161 with minimum grade of C and BIO 162 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

BIO 425 - Biota of Florida Credits: 2

Seminar/field course deals with the biology of warm temperate and subtropical Florida including vegetation, fauna, geology, history, and economy. Offered spring semester of even-numbered years, it requires a single weekly one hour class meeting plus and intensive 10-day field trip to parks, natural area, and refuges in Florida over spring break. Field trip costs for the student include food, transportation, entrance and camping fees. Graduate students must complete additional course requirements. (Offered spring semester, even years).

Prerequisite(s): Requires junior standing.

Graduate Credit: This course is available for graduate credit.

BIO 430 - Principles of Evolution Credits: 3

Introduction to evolutionary principles, their applications, and the appropriate literature. Major topics include the history of evolutionary concepts, the species and speciation processes, phylogenetic patterns and their reconstruction, classification, biogeography, extinction, and biological nomenclature. Graduate students must complete additional course requirements. Three hours lecture/week. (Offered spring semester).

Prerequisite(s): BIO 162 with minimum grade of C and BIO 161 with minimum grade of C and BIO 260

Graduate Credit: This course is available for graduate credit.

BIO 442 - Aquatic Ecology Credits: 3

Examines the ecology of inland aquatic habitats including streams, springs, lakes, wetlands and estuaries. Lectures explore the physical, chemical, and biological forces shaping aquatic systems, with an emphasis on the ecology and conservation of freshwater organisms and habitats. Field and laboratory work includes sampling techniques, characterization of aquatic habitats, and identification of aquatic organisms. Graduate students enrolled in this class will be required to complete additional course requirements. Two hours lecture and three hours lab/week. (Offered fall semester, even years)

Prerequisite(s): BIO 162 with minimum grade of C or Graduate standing. BIO 242 and one year of chemistry strongly recommended.

Graduate Credit: This course is available for graduate credit.

BIO 444 - Conservation Biology Credits: 3

Applies the principles of population ecology, population genetics, biogeography, animal behavior, and paleobiology to the maintenance of global diversity and natural systems. Research theory is applied to conservation policy and management decisions. Graduate students must complete additional course requirements. Two periods lecture and two periods lab/discussion per week. Includes midweek and weekend field trips. (Offered spring semester, even years).

Prerequisite(s): BIO 242

Graduate Credit: This course is available for graduate credit.

BIO 448 - Field Botany and Plant Taxonomy Credits: 3

Deals with principles of classification and systematics of vascular plants, with emphasis on local plant communities. Field trips and laboratories develop skill in the use of technical and popular identification manuals. Library readings develop familiarity with principles and literature of plant systematics and ecology. Memorization of selected, local species required. Field trips include several local excursions plus a weekend trip to natural areas in Pennsylvania and the Delmarva Peninsula. Graduate students must complete additional course requirements. Two hours lecture and two hours lab/week. (Offered Fall semester)

Prerequisite(s): BIO 162 with minimum grade of C or BIO 100

Graduate Credit: This course is available for graduate credit.

BIO 450 - Endocrinology Credits: 3

Study of the glands of internal secretion and their biochemical and physiological role in development, growth, metabolism, homeostasis, and reproduction of animals. Graduate students must complete additional course requirements. Three hours lecture/week. (Offered fall semester).

Prerequisite(s): BIO 350 or BIO 351

Graduate Credit: This course is available for graduate credit.

BIO 461 - Techniques in Biotechnology Credits: 3

Provides hands-on experience with standard molecular biology and immunological techniques commonly used in industrial and academic laboratories. Methods include immunoblotting methods, ELISA, isolation and analysis of DNA and RNA, protein purification, and gene cloning techniques. Graduate students must complete additional course requirements. One hour lecture and four hours lab/week. (Offered spring semester).

Prerequisite(s): BIO 385 or BIO 418 or CHM 301 (may be taken concurrently)

Graduate Credit: This course is available for graduate credit.

BIO 485 - Biological Microscopy and Imaging Credits: 3

Covers principles and techniques in macrophotography, light microscopy, especially micro-photography and videography, and scanning electron microscopy (SEM). Includes specimen handling and preparation including basic theory and practice in fixation, dehydration, dark room techniques, and computer imaging. Perform basic maintenance and alignment of the SEM. Research project required. Graduate students required to complete additional course requirements. Two hours lecture and two hours lab/week. (Offered spring semester, odd years).

Prerequisite(s): Requires upper division or graduate standing.

Graduate Credit: This course is available for graduate credit.

BIO 491 - Selected Topics in Biology Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by regular courses.

BIO 494 - Field Research Techniques Credits: 3

Overview of methods for investigating biological field problems. Students will learn to use a variety of techniques in field conditions. Collection, analyses, and interpretation of data will be emphasized. Methods applied in current professional literature will be discussed. Graduate students will be required to complete an independent project culminating in a written report. (Offered summers only).

Prerequisite(s): Requires upper division or graduate standing.

Graduate Credit: This course is available for graduate credit.

BIO 495 - Selected Topics in Biology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by regular courses.

Graduate Credit: This course is available for graduate credit.

BIO 496 - Selected Topics in Biology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by regular courses.

Graduate Credit: This course is available for graduate credit.

BIO 497 - Selected Topics in Biology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by regular courses.

Graduate Credit: This course is available for graduate credit.

BIO 498 - Selected Topics in Biology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by regular courses.

Graduate Credit: This course is available for graduate credit.

BIO 499 - Capstone Seminar in Biology Credits: 1

Required senior capstone course. This one-hour seminar will include reading, discussion, and analysis of the primary literature in diverse areas of biology. The course will allow students from the various tracks within biology to share perspectives and apply their knowledge to the analysis and solution of real-world biological problems. Students will lead discussion, write a short paper, present their paper orally, and complete the departmental exit exam. Course topic will vary.

Prerequisite(s): 26 Biology credits in the major and BIO 350 or BIO 351

Graduate Credit: This course is not available for graduate credit.

BSN 101 - Foundations of Business Administration Credits: 2

Foundation course for all majors in the College of Business. Establishes platform for understanding of functional areas in business and how they work in concert for the benefit of the organization. Students will gain meaningful information and tools so that they may make informed choices with respect to their educational experiences and pursuit of a career in business. This course is restricted to declared business majors.

BSN 110 - Introduction to Entrepreneurship Credits: 3

Introduction to Entrepreneurship is designed for freshmen and sophomores who wish to learn about entrepreneurship. It offers an insight into the culture and characteristics of entrepreneurs; the approaches they use to create, identify and evaluate opportunities for new ventures; and the skills that are needed to start and manage new ventures and develop a preliminary business plan.

BSN 408 - Internship in Business Administration I Credits: 1

Planned program requiring 40 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member.

Prerequisite(s): 55 credits, 2.0 or greater QPA in business, major and overall or 30 credits, 3.0 or greater QPA in business, major, and overall.

Graduate Credit: This course is not available for graduate credit.

BSN 409 - Internship in Business Administration I Credits: 2

Planned program requiring 80 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member.

Prerequisite(s): 55 credits, 2.0 or greater QPA in business, major and overall or 30 credits, 3.0 or greater QPA in business, major and overall.

Graduate Credit: This course is not available for graduate credit.

BSN 410 - Internship in Business Administration I Credits: 3

Planned program requiring 120 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member.

Prerequisite(s): 55 credits, 2.0 or greater QPA in business, major and overall or 30 credits, 3.0 or greater QPA in business, major and overall.

Graduate Credit: This course is not available for graduate credit.

BSN 411 - Internship in Business Administration II Credits: 3

Planned program requiring 120 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member.

Prerequisite(s): BSN 410 but, if with same employer, at least 25 percent must be new duties or involve increased responsibility.

Graduate Credit: This course is not available for graduate credit.

BSN 412 - Internship in Business Administration II Credits: 2

Planned program requiring 80 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member.

Prerequisite(s): BIO 409 but, if with same employer, at least 25 percent must be new duties or involve increased responsibility.

Graduate Credit: This course is not available for graduate credit.

BSN 413 - Internship in Business Administration II Credits: 1

Planned program requiring 40 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member.

Prerequisite(s): BSN 408 but, if with same employer, at least 25 percent must be new duties or involve increased responsibility.

Graduate Credit: This course is not available for graduate credit.

BSN 417 - Internship Business Administration I Credits: 4

Planned program requiring 160 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member.

Prerequisite(s): 55 credits, 2.0 or greater QPA in business, major and overall.

Graduate Credit: This course is not available for graduate credit.

BSN 420 - Internship in Business Administration I Credits: 6

Planned program requiring 240 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member. Students are required to submit learning goals; submit a paper related to their job, major, and career field assigned by their supervising faculty; complete a book report on the assigned internship text; and participate in a mid-semester group internship discussion. Also required to give a presentation or conduct interviews with alumni in their chosen major, on their internship. This is a graded internship.

Prerequisite(s): 55 credits, 2.0 or greater QPA in business, major, and overall.

Graduate Credit: This course is not available for graduate credit.

BSN 421 - Internship Business Administration II Credits: 9

Planned program requiring 360 hours or more on a job in business or government. Designed to supplement classroom study in the student's major. Work content must be approved by the department chair and internship director and supervised by a faculty member. Students are required to submit learning goals; submit a paper related to their job, major, and career field assigned by their supervising faculty; complete a book report on the assigned internship text; and participate in a mid-semester group internship discussion. Also required to give a presentation or conduct interviews with alumni in their chosen major, on their internship. This is a graded internship.

Prerequisite(s): 55 credits, 2.0 or greater QPA in business, major, and overall.

Graduate Credit: This course is not available for graduate credit.

BUS 304 - Managerial Communications Credits: 3

Examines the process of communications for management and business and develops an ability to utilize various communications techniques including business letter-writing, report development and presentation, listening, interviewing, conference and meeting leadership, research, preparation of employee communications, and organizational and interpersonal communications. Effective writing skill is emphasized. Open to all majors.

Prerequisite(s): ENG 114 or ENG 115 or HON 106

BUS 305 - Business Information Processing I Credits: 3

Focuses on information processing as it is used in competitive, contemporary business environments and in schools. Specific attention is on the use of design software for the preparation of a wide variety of business documents including, but not limited to, professional quality real estate advertisements and flyers, project proposals, sales brochures, guidebooks, newsletters, and websites. Students will also complete projects using information technology requiring the integration of word processing, spreadsheet, database, and presentation applications in a client-based environment. Combination of lecture/discussion and student projects/presentations.

Prerequisite(s): MIS 142 or permission of instructor.

BUS 306 - Business Information Processing II Credits: 3

This course focuses on tools that utilize the practical and conceptual changing information technology used in education and training. Students will demonstrate the use of smart classroom technologies; setting up webinars; utilize webcasting in teaching and understand and use IT based tools relevant to today's researcher and teacher. Students must master both Macs and PCs; various online systems in the classroom; demonstrate

the ability to publish research and ideas electronically, understand, evaluate and make use of continually emerging innovations in technology and social networking sites.

Prerequisite(s): MIS 142 and BUS 305 or permission of instructor.

BUS 393 - Selected Topics in Business Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

BUS 399 - Independent Study in Business Education Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

BUS 490 - Selected Topics in Business Credits: 2

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

BSL 261 - American Legal Environment Credits: 3

Deals with the nature and classification of the law, the history and framework of our legal system, our courts and court procedures, civil and criminal law, the principles of law applicable to business, and to the individual in these business relationships, i.e., contracts, agency and employer-employee relations, and the government regulation of business. Case studies included.

CHM 103 - A Cultural Approach Credits: 3

Develops an understanding of the relationship between chemistry and our society and illustrates the way a scientist thinks about his science. Coverage will include discussion of elements, atoms, molecules, molecular properties, simple chemical reactions, nuclear energy, and man in his environment. May not be taken by students who are currently taking or who have successfully completed CHM 121 .

Category: Cat C - Bio and Phys Sciences

CHM 105 - An Observational Approach Credits: 3

Develops an appreciation of modern chemistry through an integration of laboratory experimentation with lecture discussion. May be used as preparation for CHM 121 . Two periods lecture, three periods lab/week. May not be taken by students who are currently taking or who have successfully completed CHM 121 .

Category: Cat C - Bio and Phys Sciences

CHM 110 - The Chemistry Experience Credits: 1

This course is intended for entering chemistry majors. The course introduces students to the expectations and skills required of the course of study leading to a B.S. in Chemistry. The course incorporates instruction in chemistry library research and resources, Microsoft Word and Excel, graphing, laboratory safety, writing formal lab reports, scientific writing skills and oral presentation skills. In addition, the course also incorporates discussions and demonstrations of cognitive processing in the context of necessary and appropriate study skills, note taking and reading scientific texts.

CHM 121 - Chemical Bonding Credits: 3

Study of the structure of matter ranging from atoms through molecules to crystalline structures. Three periods lecture/week.

Prerequisite(s): MAT 175 (may be taken concurrently) or MAT 117 (may be taken concurrently) or math placement level of 5 and passage of a chemistry placement exam, which is administered by the Chemistry Department.

Category: Cat C - Bio and Phys Sciences

CHM 122 - Chemical Dynamics Credits: 3

Study of the reactions of ions and molecules using thermodynamics, equilibrium and kinetics. Three periods lecture/week.

Prerequisite(s): CHM 121 with minimum grade of C

CHM 123 - Laboratory IA-Chemical Systems Credits: 1

This course will expose and train students in the fundamentals of bench top chemistry. Students will be trained in a number of laboratory skills, will investigate elementary chemical reactions, and will be instructed how to keep a proper laboratory notebook. The course will meet for three periods of laboratory/week.

Prerequisite(s): CHM 121 (may be taken concurrently)

CHM 124 - Laboratory IIA-Experimental Quantitative Analysis Credits: 3

Deals with techniques of quantitative chemical determinations involving gravimetric and volumetric analysis, enzymatic techniques, and the fundamental application of instruments. Two periods of lecture, three periods of lab per week.

Prerequisite(s): CHM 123 or CHM 125) and CHM 122 (may be taken concurrently)

CHM 125 - Laboratory IB-Stoichiometry and Reactions Credits: 1

Provides investigation of elementary reactions and physical measurements. Three periods/week.

Prerequisite(s): CHM 121 (may be taken concurrently)

CHM 126 - Laboratory IIB-Equilibrium and Instrumentation Credits: 1

Study of equilibrium systems utilizing instrumental methods. Three periods/week.

Prerequisite(s): CHM 123 or CHM 125) and CHM 122 (may be taken concurrently)

CHM 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat C - Bio and Phys Sciences

CHM 221 - Modern Organic Chemistry I Credits: 3

Study of modern organic chemistry including structural theory, methods of structure determination, conformational analysis and other aspects of stereochemistry, reaction mechanisms, and the synthesis and characteristic reactions of hydrocarbons. Three periods of lecture/week.

Prerequisite(s): CHM 122

CHM 222 - Modern Organic Chemistry II Credits: 3

Continuation of Modern Organic Chemistry I and includes reactions and synthesis of the principle classes of organic compounds with an emphasis on application of mechanistic reasoning to the classification of organic reactions, further applications of spectroscopy to structure determination and mechanistic studies, and consideration of examples taken from the physical and life sciences. Three periods of lecture/week.

Prerequisite(s): CHM 221

CHM 223 - Laboratory IIIA-Experimental Organic Techniques Credits: 1

Involves an in-depth study of the basic techniques of isolation, purification and identification of organic compounds. These techniques are applied in examples of common organic synthetic reactions and also in a project involving the isolation, purification and characterization of an over-the-counter pharmaceutical drug or a natural product. Three periods/week.

Prerequisite(s): CHM 124 or CHM 126) and CHM 221 (may be taken concurrently)

CHM 224 - Laboratory IVA-Qualitative Organic Analysis Credits: 3

Involves the identification in the laboratory of unknown polyfunctional compounds by chemical and instrumental analytical techniques. Also involves an in-depth study of the theory of NMR and interpretation of both 1-D and 2-D NMR spectra. Use of the NMR instrument and spectral manipulation will be emphasized. This class will also build on the fundamental organic laboratory techniques learned in CHM 223 by performing various types of organic chemical reactions. Two periods of lecture and three periods of lab/week.

Prerequisite(s): CHM 223 or CHM 225) and CHM 222 (may be taken concurrently)

CHM 225 - Laboratory IIIB-Basic Organic Techniques Credits: 1

Involves application of the basic techniques of isolation, purification, and identification of organic compounds to the various types of synthetic sequences utilized in organic chemistry. Three periods/week.

Prerequisite(s): CHM 124 or CHM 126) and CHM 221 (may be taken concurrently)

CHM 226 - Laboratory IVB-Experimental Organic Studies Credits: 1

Continuation of Laboratory IIIB in which the basic techniques of modern organic chemistry are utilized in the study of organic reactions not previously considered and applied to the identification of principal compound types. Three periods/week.

Prerequisite(s): CHM 223 or CHM 225) and CHM 222 (may be taken concurrently)

CHM 227 - Introduction to Biochemistry Credits: 4

Intended for biology majors who require only 4 semesters of chemistry. Lecture provides an introduction to the study of structure and function of proteins, carbohydrates, lipids, and nucleic acids. Also gives an overview of the metabolic pathways these molecules participate in within living cells. The lab teaches physical skills and techniques of modern experimental biochemistry and encourages students to think critically about data. This course cannot be used as a prerequisite CHM 301 , CHM 420 or CHM 421 . Students may not enroll in this course if already completed or enrolled in CHM 222 .

Prerequisite(s): CHM 221 and CHM 225 and BIO 161

CHM 301 - Biochemistry I Credits: 3

Study of chemistry and metabolism of proteins, carbohydrates, lipids, and nucleic acids and the functions of enzymes, vitamins, and other controlling factors related to cellular metabolism. Principles of kinetics and thermodynamics are applied throughout. Three periods of lecture/week.

Prerequisite(s): CHM 222 and BIO 161

CHM 309 - Chemistry Internship Credits: 1-3

Study of various methods of research and development in a nonacademic environment. Study done in a laboratory and requires prior departmental and dean's approval. Requirements include faculty supervision and a written report.

CHM 310 - Chemistry Internship Credits: 1-3

Study of various methods of research and development in a nonacademic environment. Study done in a laboratory and requires prior departmental and dean's approval. Requirements include faculty supervision and a written report.

CHM 312 - Chemistry Seminar Credits: 1

Study of selected areas of chemical research. Students will attend seminars presented by students and faculty lecturers, participate in discussions of the seminar topics presented, and present one seminar prepared by library research. One period/week.

Prerequisite(s): Requires junior standing.

CHM 313 - Chemistry Seminar Credits: 1

Study of selected areas of chemical research. Students will attend seminars presented by students and faculty lecturers, participate in discussions of the seminar topics presented, and present one seminar prepared by library research. One period/week.

Prerequisite(s): Requires junior standing.

CHM 314 - Chemistry Seminar Credits: 1

Study of selected areas of chemical research. Students will attend seminars presented by students and faculty lecturers, participate in discussions of the seminar topics presented, and present one seminar prepared by library research. One period/week.

Prerequisite(s): Requires junior standing.

CHM 315 - Chemistry Seminar Credits: 1

Study of selected areas of chemical research. Students will attend seminars presented by students and faculty lecturers, participate in discussions of the seminar topics presented, and present one seminar prepared by library research. One period/week.

Prerequisite(s): Requires junior standing.

CHM 324 - Advanced Organic Chemistry Laboratory Credits: 1

Expands on the fundamental laboratory techniques acquired in qualitative organic analysis. Crucial to any career in organic chemistry, students will perform multistep organic synthesis and incorporate NMR and GC-MS analysis techniques in identification of their products. 3 periods lab/week

Prerequisite(s): CHM 222 and CHM 224 or permission of instructor.

CHM 363 - Physical Chemistry I Credits: 4

Study of theoretical chemistry, including quantum chemistry and kinetics with applications to bonding, spectroscopy and thermodynamics. Related physiochemical measurements emphasized in the laboratory. Three periods lecture, three periods lab/week.

Prerequisite(s): A minimum of C or better average in all chemistry (CHM) courses, PHY 205 and MAT 212 with minimum grade of C or permission of instructor.

CHM 364 - Physical Chemistry II Credits: 4

Continuing study of theoretical chemistry including phenomenological thermodynamics, equilibria, and statistical mechanics. Related fundamental physiochemical measurements emphasized in the laboratory. Three periods lecture, three periods lab/week.

Prerequisite(s): CHM 363

CHM 371 - Analytical Chemistry Credits: 4

Presents instrumental analysis including UV-VIS spectrometry, mass spectrometry, gas and high performance liquid chromatography, nuclear methods, atomic absorption, ICP, polarography, potentiometry, X-ray, and NMR techniques. Three periods lecture, three periods lab/week. Graduate students may register without the laboratory for three credit hours.

Prerequisite(s): CHM 363 (may be taken concurrently) or permission of instructor

CHM 381 - Intermediate Inorganic Chemistry Credits: 3

This course will focus on atomic structure, periodic trends, symmetry, group theory, molecular orbital theory, coordination chemistry, and the electronic and properties of d-metal complexes. The course will feature a capstone project that involves an open-ended coordination chemistry laboratory. Three periods lecture/week.

Prerequisite(s): CHM 363 (may be taken concurrently) or permission of instructor

CHM 393 - Selected Topics in Chemistry Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

CHM 399 - Independent Study in Chemistry Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

CHM 420 - Biochemistry II Credits: 3

Extension of CHM 301. Develops to a greater depth the topics of bioorganic chemistry, enzyme kinetics and mechanisms, intermediary metabolism and metabolic controls, and certain selected topics which are necessary for an understanding of modern biochemistry.

Prerequisite(s): CHM 301

Graduate Credit: This course is not available for graduate credit.

CHM 421 - Biochemistry Laboratory Credits: 1

Introduces various laboratory techniques essential to the practice of modern biochemistry including separations, purification, and analytical methods.

Prerequisite(s): CHM 301 (may be taken concurrently)

Graduate Credit: This course is not available for graduate credit.

CHM 481 - Advanced Inorganic Chemistry Credits: 4

This course will focus on solid-state chemistry, acid and base chemistry, oxidation and reduction chemistry, physical techniques of inorganic chemistry, reactions of coordination complexes, d-metal organometallic chemistry, nanotechnology, cluster chemistry, and bioinorganic chemistry. The topics will build upon the material from CHM 381. Three periods lecture and three periods lab/week.

Prerequisite(s): CHM 381

Graduate Credit: This course is available for graduate credit.

CHM 490 - Selected Topics in Chemistry Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

CHM 491 - Selected Topics in Chemistry Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

CHM 496 - Introduction to Research I Credits: 1-3

Includes original investigations in analytical, organic, physical, biochemistry, or inorganic chemistry. A formal, comprehensive research report and a seminar presentation are required upon completion of these experimental studies. A combined total of a minimum of 2 credits in research courses are required for all chemistry majors expecting American Chemical Society accreditation. Course credit is a variable 1-3 credits per semester. To enroll in research students must have a cumulative GPA of 2.8 and maintain a minimum grade of C in all courses during the research semesters. All seniors applying to do research must have completed the Junior Competency Examination. These courses are restricted to undergraduate students.

Graduate Credit: This course is not available for graduate credit.

CHM 497 - Introduction to Research II Credits: 1-3

Includes original investigations in analytical, organic, physical, biochemistry, or inorganic chemistry. A formal, comprehensive research report and a seminar presentation are required upon completion of these experimental studies. A combined total of a minimum of 2 credits in research courses are required for all chemistry majors expecting American Chemical Society accreditation. Course credit is a variable 1-3 credits per semester. To enroll in research students must have a cumulative GPA of 2.8 and maintain a minimum grade of C in all courses during the research semesters. All seniors applying to do research must have completed the Junior Competency Examination. These courses are restricted to undergraduate students.

Graduate Credit: This course is not available for graduate credit.

CHN 101 - Beginner's Chinese Credits: 3

This course is designed for students who have little or no previous exposure to Mandarin Chinese and no experience in learning Mandarin Chinese. It aims at developing listening comprehension and basic language skills in speaking and writing using basic structures in contextual settings such as self, school, family, and hobbies. Students will also learn and master the Pinyin pronunciation system and write Chinese characters. The course will be taught in Mandarin Chinese. English will be used when necessary to provide direction and clarify instructional needs. The course is designed following the *ACTFL National Standards. *American Council on the Teaching of Foreign Languages

Category: Cat B - Humanities

CHN 102 - Beginner's Chinese II Credits: 3

Chinese102 is a continuation of Chinese 101. It aims to expand existing skills in Mandarin Chinese - speaking, listening, reading, and writing. The course assumes that students have successfully completed Chinese 101 or its high school equivalent, or have other previous exposure to Mandarin Chinese at the Novice level. The course adopts the 5 C's of American Council on the Teaching of Foreign Languages (ACTFL)* as a framework focusing on Communication, Cultures, Connections, Comparisons, and Communities. Specifically, the course concentrates on interactive communication, essential basic grammatical structures, and basic vocabulary and usages. Students learn communicative skills regarding college life, scheduling, making appointments, shopping and travel. *American Council on the Teaching of Foreign Languages

Prerequisite(s): CHN 101 or 1 year of Chinese in high school

Category: Cat B - Humanities

CHN 103 - Intermediate Chinese Credits: 3

Chinese 103 is a continuation of CHN 102 . It aims to expand existing skills in Mandarin Chinese ? speaking, listening, reading, and writing. The course assumes that students have successfully completed CHN 102 or its high school equivalent, or have other previous exposure to Mandarin Chinese at the Novice High level. The course adopts the 5 C's of American Council on the Teaching of Foreign Languages (ACTFL)* as a framework focusing on Communication, Cultures, Connections, Comparisons, and Communities. Specifically, the course concentrates on interactive communication, essential grammatical structures, vocabulary and usages. Students learn communicative skills regarding such topics as asking directions, hosting parties, seeing a doctor, renting an apartment, sports and travel. *American Council on the Teaching of Foreign Languages.

Prerequisite(s): CHN 102 or 2 years of Chinese in high school or permission of instructor.

Category: Cat B - Humanities

COM 111 - Introduction to Mass Communication Credits: 3

Studies the structure and functions of the mass media in the United States. Examines from both theoretical and practical viewpoints the nature of the communicator, the nature of the audience, and the nature of the mass communication experience.

COM 112 - Media Writing Credits: 3

Introduces the variety of mass communication mediums students may encounter in their professional careers. Focuses on preparation and presentation of various mass communication formats. Examines message construction, framing and interpretation from the perspective of print and electronic media, public relations, and advertising. Study of grammar, spelling, and Associated Press news style also a focus. A proficiency exam will be given during the semester. Students must pass the proficiency test with a C or better to pass the course.

COM 224 - Electronic Media Writing Credits: 3

Opportunity to write for radio and television including news, commercials, public service announcements, editorials, and radio music scripts. Keyboard skills required.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C

COM 241 - Public Relations Writing Credits: 3

Provides public relations majors with a variety of public relations writing experiences most likely to be encountered in business, government, education, journalism, and community organizations and offers practical exercises in progressive sequence.

Prerequisite(s): COM 112 with minimum grade of C

COM 245 - Diversity and the Media Credits: 3

Focuses on the diverse nature of mass media and the legal and ethical issues raised by race-, class- and gender-related representations of individuals and groups by the media. The course examines media's influence on various populations within the United States as well as globally. The course develops students' critical thinking skills in regard to message framing, message interpretation, and message presentation.

COM 284 - Electronic Media Basic Production Credits: 3

Required Electronic Media Professional Emphasis course. Allows students to learn the key elements of the media production process, as well as the proper use of media production tools and equipment. Provides knowledge and skills necessary to become part of a media production team. Students will learn basic production skills necessary to successfully participate in upper-division production courses, qualify for production-based internships, and assist in student media productions. Prerequisite for COM 451 , and COM 452 .

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C

COM 285 - News Writing and Reporting Credits: 3

Introduces concepts of gatekeeping and agenda-setting in the selection and processing of news and information. Explores different story structures and the various forms of newswriting journalists use in their profession. Explores newswriting and reporting skills needed in interviewing sources and covering speeches and meetings. Provides in- and out-of-class writing experiences. Keyboard skills required.

Prerequisite(s): COM 112 with minimum grade of C

COM 290 - Advertising Copywriting Credits: 3

Emphasis on writing advertising copy and headlines. Also examines design and layout for print and electronic media.

Prerequisite(s): COM 112 with minimum grade of C

COM 293 - Editing Credits: 3

Devoted to the many responsibilities of the copy editor, including copy editing, head writing, and dummyping pages.

Prerequisite(s): COM 285

COM 305 - Sports Journalism Credits: 3

In Sports Journalism, students will first explore the history and role of sports journalism and develop a working knowledge of the cultural, legal and ethical issues related to sports journalism. Second, students will use this knowledge to learn and apply the fundamentals of gathering, organizing, evaluating, and writing information to produce effective sports headlines, summaries and stories for publication in various media formats (print, broadcast and online).

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C and COM 245 with minimum grade of C (may be taken concurrently)

COM 335 - Media Advertising and Sales Credits: 3

Examines sales function of advertising in commercial media including newspapers, magazines, radio, television, and the Internet. Theory and practical application in media advertising, sales, and research are explored. Media competitive advantages and disadvantages as well as sales techniques of each mass medium discussed.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C

COM 345 - Communication Law and Ethics Credits: 3

Familiarizes students with legal and self-imposed regulation of mass communications in the United States. Deals with the essential legal topics, including libel, privacy, obscenity, free press/fair trial, contempt of court, copyright and legal and quasi-legal provisions, and regulatory agencies affecting all mass media. Also focuses on the ethical ramifications associated with such topics and examines institutional pressure, truth-telling, source responsibility social justice, commercialization, conflicting loyalties, violence and censorship.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C and junior standing.

COM 355 - Communication/Journalism Professional Practicum Credits: 3

In this course, students will spend the semester working in one of the five student-run media groups on campus, which are operated through the Communication/Journalism Department: The Slate, SUTV, WSYC, the Cumberland yearbook, or SUPR/PRSSA. Practicum will provide a hands-on, assessed laboratory learning experience for students, affording them the opportunity to learn the inner workings of various media industries and their companion Internet entities. Students will create, publish and/or broadcast professional-quality writing, photography, audio, video, and promotional/informative materials as members of their respective media groups.

Prerequisite(s): Restricted to Communication/Journalism students with junior standing. COM 111 with minimum grade of C and COM 112 with minimum grade of C and at least two other Com courses in the student's chosen sequence (print, PR or electronic media).

COM 360 - Basic Digital Photographic Communication Credits: 3

Introduces principles of photography and teaches basic competencies to produce black and white photographs. Students study history of photography, the techniques of photographic composition, and the basic processes of producing camera images in the darkroom. Assignments designed to teach how creative visual communication is achieved through use of black and white photography. Emphasis on practical technique of processing and printing black and white negatives. Students expected to develop an understanding of the relationship of photography to their professional goals.

COM 362 - Photojournalism Credits: 3

For students who have an understanding of basic photographic equipment and photographic techniques. Examines and explores use of visual communication techniques in print media and websites. Covers history of photojournalism, technical aspects of photojournalism, and modern visual communication production techniques in both traditional and digital formats. Assignments designed to teach how to produce and edit visual elements and combine them with text for both print and web-based publications.

Prerequisite(s): COM 360 or permission of instructor.

COM 375 - Public Affairs Reporting Credits: 3

Provides instruction in methods of gathering and reporting in the mass media information about government and politics, law enforcement agencies and the courts, labor, business and finance, and agriculture.

Prerequisite(s): COM 285

COM 381 - Promotional Publication Design Credits: 3

Offers writers and designers study in print and web-based communication with primary emphasis on desktop publishing (Macintosh) and web-based publishing (DreamWeaver and other web software). Examines practical application of basic contemporary design to printed and web-based materials such as newsletters, booklets, pamphlets, and advertising messages.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C

COM 389 - Internship Communications/Journalism Credits: 3

Internship of three credit hours can be earned for serviced in an approved field. Qualifications include junior or senior class standing; 2.5 or higher QPA overall and 3.0 in the major; completion of at least five courses in the major, including courses necessary for successful work in the internship position; completion of a written analysis of the experience as prescribed by the faculty supervisor; approval of the communication/journalism faculty. Applications must be processed in advance through the Department of Communication/Journalism.

Prerequisite(s): Requires junior standing and departmental permission.

COM 392 - Selected Topics in Communication/Journalism Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires junior standing.

COM 394 - Selected Topics in Communication/Journalism Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires junior standing.

COM 395 - Internship I Credits: 1-6

Internship of three credit hours can be earned for serviced in an approved field. Qualifications include junior or senior class standing; 2.5 or higher QPA overall and 3.0 in the major; completion of at least five courses in the major, including courses necessary for successful work in the internship position; completion of a written analysis of the experience as prescribed by the faculty supervisor; approval of the communication/journalism faculty. Applications must be processed in advance through the Department of Communication/Journalism.

Prerequisite(s): Requires junior standing and departmental permission.

COM 396 - Internship II Credits: 1-6

Internship of three credit hours can be earned for serviced in an approved field. Qualifications include junior or senior class standing; 2.5 or higher QPA overall and 3.0 in the major; completion of at least five courses in the major, including courses necessary for successful work in the internship position; completion of a written analysis of the experience as prescribed by the faculty supervisor; approval of the communication/journalism faculty. Applications must be processed in advance through the Department of Communication/Journalism.

Prerequisite(s): Requires junior standing and departmental permission.

COM 399 - Independent Study in Communication/Journalism Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

COM 410 - Women and the Media Credits: 3

Introduces overview of the many and varied contributions of women in mass media. Through slide lectures, documentary videos, and student research presentations, students explore the lives and work of women media professionals, explore some of the notable historical obstacles to women in this once male-dominated field: sexist attitudes, stereotypes, lack of women in management, and conflicts between job and family. Also examines the ethnic diversity of women in this important professional field. Will explore how women's style and vision differs from their male counterparts.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

COM 424 - Electronic Media Producing and Performance Credits: 3

This course serves as the culminating experience for students in the Electronic Media emphasis and includes a professional project. Develops skills in both production and on-air performance for electronic media, and develops understanding of how each area affects the other. Students will develop news judgment in selecting information to place before an audience, further develop writing skills introduced in Electronic Media Writing, learn production formatting and style, learn the specialized professional language of television production, understand and apply legal and ethical obligations and limits of a television producer. Students will produce a live television program during the course.

Prerequisite(s): COM 224 and COM 284

Graduate Credit: This course is not available for graduate credit.

COM 425 - Feature Writing Credits: 3

Deals with specialized writing for newspapers and magazines and offers instruction and practice in developing ideas for articles, using research methods, and writing for mass audiences. Keyboarding skills required.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

COM 432 - Public Relations Research and Campaigns Credits: 3

Explores the theory and philosophy of promotion as it pertains to public relations. Examines basic quantitative and qualitative research methods (survey, content analysis, focus group, etc.) that can be used effectively to design a campaign plan. Explores the various components of a public relations campaign plan, which students will draw upon to produce a public relations campaign for a corporation or non-profit organization. This plan will be the assessment vehicle for professional performance in the PR emphasis. Not open to graduate students.

Prerequisite(s): COM 201 and COM 241 and COM 355

Graduate Credit: This course is not available for graduate credit.

COM 451 - Electronic Field Production Credits: 3

Designed to develop and train visual essayists--single-camera videographers who link pictures, words, and sound to create electronic stories. Creates, develops, and polishes skills and techniques needed to produce video documentaries, corporate videos, and live event productions. Skills and techniques include telling the visual story without words; writing and shooting long-form TV stories, interviews, and features; learning visual grammar; perfecting video editing; and developing on-camera performance abilities.

Prerequisite(s): COM 224 and COM 284) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

COM 452 - Multimedia Journalism Credits: 3

Focus is preparation for careers as professional multimedia journalists. The course emphasizes development of news judgment, journalistic responsibilities, and journalistic ethics in the digital environment. Students work in classroom and television environments to acquire and improve reporting, writing, and technical skills needed to succeed in the modern television newsroom. Introduces the culture of the broadcast news environment, including meeting deadlines, reporting on numerous digital platforms and working in a team environment both in the field and in the newsroom.

Prerequisite(s): COM 224 and COM 284)

Graduate Credit: This course is available for graduate credit.

COM 460 - Case Studies in Public Relations Credits: 3

Reviews current public relations principles and practices as related to business, governments, institutions, and associations. Examines the application of PR principles and practices in the management of contemporary public issues and problems. Different evaluation criteria applied to graduate/undergraduate students.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

COM 470 - Advanced Digital Photographic Communication Credits: 3

Introduces principles of digital photography and teaches basic competencies to apply standard photo concepts to the realm of digital imaging. Students study history of digital photography, techniques of composition, and basic processes of producing digital photographs from electronic

and traditional camera images. Emphasis on practical technique with electronic equipment (cameras, scanners, photo CDs, and other methods of image acquisition) and the manipulation of images through applications like Adobe Photoshop. Students are expected to develop an understanding of the relationship of digital photography to their professional goals. Different evaluation criteria applied to graduate/undergraduate students.

Prerequisite(s): COM 360 or permission of instructor.

Graduate Credit: This course is available for graduate credit.

COM 476 - Magazine Design Credits: 3

Provides opportunity to examine, discuss, and create periodical publications (magazines) in a variety of specialized formats. Develops skills in understanding and creating periodical publications by focusing on writing and design. Examines a variety of magazines to provide an understanding of content, typography, design, layout, and production. Students learn to create promotional materials necessary to develop audience for periodical publication. Students write and edit several stories for their own publication, which is final course project. Students produce a 32-page magazine as this final project. Graduate students conduct market research analysis and a strategic promotional plan in addition to standard coursework.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

COM 478 - Digital Journalism Credits: 3

This course serves as the culminating experience for students in the Print Media Emphasis, and includes a professional project. Focus on the changing nature of technology and its use in news organizations to gather, analyze, synthesize and disseminate information. Focuses on developing, researching, and writing specialized stories for newspaper and magazine websites. Students learn to approach stories as packages, developing story ideas that can be presented in written, audio, and video formats. Focuses on writing and editing, written narrative, and capturing and editing digital audio and digital video segments, developing accompanying links, and designing a story package to be presented in print and on a website.

Prerequisite(s): COM 285

Graduate Credit: This course is not available for graduate credit.

COM 481 - Digital Media Design Credits: 3

This course primarily deals with digital and interactive design techniques for multiple-platforms with emphasis on web design. It also includes lessons on how to format a web-based publication for mobile and digital pads, how to create basic interactive online advertisements and slideshows; and how to design interactive promotional publications.

Graduate Credit: This course is available for graduate credit.

COM 482 - Internet Communication Credits: 3

Introductory course with fundamental knowledge concerning the construction, use, and importance of worldwide web media for the communications industries. Students construct an actual website concentrating on the usability of web pages and websites while applying skills gained in class to work with real-world clients.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

COM 484 - Electronic Media Programming and Management Credits: 3

Provides students with insights into the programming and management of: local TV and radio stations; local cable TV systems; national TV, radio, and cable TV networks; national DBS, DTH, and wireless cable services; and international Internet program providers. Emphasis on issues involving program creation and development, program scheduling, program distribution, audience evaluation of programs, and the management of station/system/network personnel.

Prerequisite(s): COM 111 with minimum grade of C and COM 112 with minimum grade of C) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

COM 490 - Selected Topics in Communication/Journalism Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires junior standing.

Graduate Credit: This course is available for graduate credit.

COM 491 - Selected Topics in Communication/Journalism Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires junior standing.

Graduate Credit: This course is available for graduate credit.

COM 492 - Selected Topics in Communication/Journalism Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires junior standing.

Graduate Credit: This course is available for graduate credit.

COM 493 - Selected Topics in Communication/Journalism Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires junior standing.

Graduate Credit: This course is available for graduate credit.

COM 494 - Selected Topics in Communication/Journalism Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires junior standing.

Graduate Credit: This course is available for graduate credit.

CMPE 220 - Computer Organization Credits: 4

Introduces organization and architecture of computer systems from the standard von Neumann model to more recent architectural concepts. Internal structure and organization of a computer lead to significant differences in performance and functionality, giving rise to an extraordinary range of computing devices from hand-held computer to large-scale, high performance machines. To gain a better understanding of exactly how a computer functions, students will write programs in a common assembly language.

Prerequisite(s): CSC 111 with minimum grade of C or ENGR 120 with minimum grade of C

Corequisite(s): MAT 225

CMPE 320 - Operating Systems Credits: 4

An operating system provides an abstract interface with which programmers can control hardware. Study includes both the use of operating systems (externals) and their design and implementation (internals). Includes laboratories to simulate or experiment with operating system concepts. Topics include overview of operating systems, processes and concurrency, memory management, scheduling, input/output and file systems, system performance evaluation ethics, and security.

Prerequisite(s): CMPE 220 with minimum grade of C

CMPE 322 - Microcontrollers & Interfaces Credits: 4

Students will use basic microprocessors and TTL logic components to create embedded solutions to real-world problems including: basic device control, serial and wireless communications, EEPROM storage and retrieval, and interfacing with analog sensors. Includes use of assembly and C languages for software development, and basic electronics skills to connect components.

Prerequisite(s): CMPE 220 with minimum grade of C and PHY 355 with minimum grade of C

CMPE 410 - Real-Time and Mobile Computing Credits: 4

Students will develop applications for real-time operating systems and today's hand-held devices. Students will learn about hard and soft real-time systems, differences between general purpose operating systems and real-time operating systems (RTOS), how to identify and meet real-

time goals in an application. Students will also learn how to design, develop, and deploy applications to a mobile operating system, such as a modern smartphone, PDA, or table computer.

Prerequisite(s): CMPE 320 with minimum grade of C

CMPE 420 - Digital and Reconfigurable Computing Credits: 4

In-depth study of issues involved in developing software for real-time study and/or embedded systems. Demands and architecture of real-time operating systems. Performance and benchmarking. Issues in designing for performance. Mission-critical and safety-critical systems. Software engineering tools and techniques specific to these systems.

Prerequisite(s): CMPE 320

CMPE 498 - Engineering Research Methods Credits: 2

Computer and Electrical Engineering students enrolled in this course will work under the direction with faculty to conduct directed research in an area related to Computer and/or Electrical Engineering. Students will use basic research strategies, including literature reviews, designing experiments, and conducting tests to complete a research project. Students are expected to produce results that lead to external publication at a conference or in a journal. This course is designated as a capstone course for Computer and Electrical Engineering. Although the course is two credit hours, students should expect to work considerably more to complete their projects.

Prerequisite(s): CMPE 322 with minimum grade of C and senior standing.

Graduate Credit: This course is not available for graduate credit.

CMPE 499 - Engineering Design & Development Credits: 2

Computer and Electrical Engineering students will work together in development teams to complete a development task. Starting from a given problem, they will plan and design a solution to that problem, and then go on to implement and test their plan. Students demonstrate their capabilities by using the engineering method to analyze the problem to develop requirements, estimate time and costs, perform safety and risk analysis, and develop an implementation plan. The team will then follow that implementation plan to develop their solution and demonstrate their final product. This course is designated as a capstone course for both Computer and Electrical Engineering. Although the course meets for 2 credit hours per week, students should expect to work substantially more hours with their team, outside of class. Graduate students are not permitted to take this course.

Prerequisite(s): CMPE 322 with minimum grade of C and senior standing.

Graduate Credit: This course is not available for graduate credit.

CSC 103 - Overview of Computer Science Credits: 3

Breadth-first overview of computer science introducing students to a wide range of topics, including algorithms, hardware design, computer organization, system software, language models, programming, compilation, theory of computation, artificial intelligence, or social issues involving computing.

Category: Cat A - Logic and Numbers

CSC 104 - Programming in Python Credits: 3

Studies structured algorithm design, developing algorithmic solutions to problems, the Python programming language, and SQL. Students will learn how to write programs in Python to solve various problems. Additionally, students will learn the basics of SQL and how to use it to aid in managing data. The course is not available to computer science (B.S.) for major credit.

Category: Cat A - Logic and Numbers

CSC 106 - Computer Science I - Lab Credits: 1

An introduction to computer programming from an object-oriented perspective. Students will complete several programs with an emphasis placed on good software engineering principles and development of good programming skills. Students will implement complete programs using an object-oriented programming language and development environment. Programming assignments will address the implementation and use of fundamental programming techniques including algorithm design, documentation, style, and debugging; fundamental program constructs including simple data types, and control structures; fundamental object oriented techniques including classes, abstraction, polymorphism, inheritance, and encapsulation; and fundamental software engineering principles.

Prerequisite(s): Restricted to non-majors.

Corequisite(s): CSC 110

CSC 107 - Computer Science I - Lab Credits: 1

An introduction to computer programming from an object-oriented perspective. Students will complete several programs with an emphasis placed on good software engineering principles and development of good programming skills. Students will implement complete programs using an object-oriented programming language and development environment. Topics include: fundamental programming techniques including algorithm design, documentation, style, and debugging; fundamental program constructs including simple data types, and control structures; fundamental object oriented techniques including classes, abstraction, polymorphism, inheritance, and encapsulation; and fundamental software engineering principles. In addition, the course will address expectations for CS majors; overview of the field; graduation alternatives and job expectations; mentoring with the transition to college; goal setting and action planning, and planning and measuring your progress against that plan.

Prerequisite(s): Restricted to majors.

Corequisite(s): CSC 110

CSC 110 - Computer Science I - Lecture Credits: 3

An introduction to computer programming from an object-oriented perspective. Students will be introduced to the basic concepts of computer programming. Topics include: fundamental programming techniques including algorithm design, documentation, style, and debugging; fundamental program constructs including simple data types, and control structures; fundamental object oriented techniques including classes, abstraction, polymorphism, inheritance, and encapsulation; and fundamental software engineering principles.

Prerequisite(s): CSC 106 (may be taken concurrently) or CSC 107 (may be taken concurrently) and math placement level of CSC 111 - Computer Science II Credits: 4

Students will reinforce their proficiency with core programming techniques by developing more challenging programs than in CS1. Students will apply new techniques such as pointers, structures and unions to create advanced programs and solutions. Students will also need to improve their solutions to enhance efficiency and soundness. Topics include intermediate programming techniques; using advanced data types including multi-dimensional arrays, queues, stacks, linked lists, recursion, sorting and searching algorithms.

Prerequisite(s): CSC 110 with minimum grade of C and successful completion of the programming competency exam.

CSC 120 - Introduction to Computer Science and Metacognition Credits: 3

This course will provide students admitted into the Computer Science & Engineering General program an introduction to computer programming and algorithmic problem solving. Additionally, students will receive extensive instruction in learning strategies and metacognitive skills to improve their understanding of their own learning process and improve their overall academic performance. Topics covered will include sequential statements, flow of control, variables, arrays, note taking techniques, effective reading strategies, exam preparation, and understanding the structure of the university. (Restricted to Computer Science & Engineering General students)

Category: Cat A - Logic and Numbers

CSC 180 - Microcomputer Basic Credits: 3

Studies BASIC programming including microcomputers. Topics include structured algorithm design, looping, functions and subroutines, graphics, and files. Will learn which elements of BASIC are standard and which vary from machine to machine. A survey of applications software which is available and a description of the hardware components will round out the students' knowledge of microcomputers. Course is not available to those who have already taken MIS 142 or CSC 110. Also, course is not available to computer science (B.S.) for major credit.

Category: Cat A - Logic and Numbers

CSC 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat A - Logic and Numbers

CSC 191 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat A - Logic and Numbers

CSC 310 - Design and Analysis of Algorithms Credits: 4

Examines various techniques for designing algorithms and analyzing their efficiencies, and examines and compares their efficiency of execution. Studies the theoretical foundations for analysis of algorithms and the ramifications of design strategies on efficiency.

Prerequisite(s): CSC 111 with minimum grade of C and MAT 225 with minimum grade of C

CSC 350 - Introduction to Computer Graphics Credits: 4

Provides a non-mathematical introduction to the basic concepts and techniques of computer graphics. Topics include real-world vs. synthetic image creation; graphics primitives; interaction and animation; I/O hardware environment; 3-D modeling and viewing; color, light, and shading; segments; textures; realistic effects. A typical graphics API (e.g., OpenGL) is used to create computer-generated images.

Prerequisite(s): CMPE 220 with minimum grade of C

CSC 361 - Video Game Programming Credits: 4

This course will look at the key concepts needed to build 2D and 3D video games using an existing game engine. The course will look at asset management, animation, collision detection and physics, and managing user input. Additionally, It will look at some key design patterns related to game programming.

Prerequisite(s): SWE 200 with minimum grade of C

CSC 371 - Database Management Systems Credits: 4

Detailed examination of theory and practical issues underlying the design, development, and use of a DBMS. Topics include characteristics of a well-designed database; high-level representation of an application using ER modeling; functional dependency theory, normalization, and their application toward a well-designed database; abstract query languages; query languages; concurrency; integrity; security. Advanced topics may be included (e.g., distributed databases; object-oriented databases). Theory to practice is applied in a number of projects involving the design, creation, and use of a database.

Prerequisite(s): SWE 200 with minimum grade of C

CSC 390 - Computer Science Internship I Credits: 3

Contact the department for further information on internships.

CSC 391 - Computer Science Internship II Credits: 3

Contact the department for further information on internships.

CSC 392 - Computer Science Internship III Credits: 3

Contact the department for further information on internships.

CSC 393 - Selected Topics in Computer Science Credits: 4

Opportunity to offer courses of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires junior standing or permission of instructor.

CSC 399 - Independent Study in Computer Science Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

CSC 403 - Machine Learning Credits: 4

This introductory course gives an overview of machine learning. This is a wide ranging field including topics such as: classification, linear regression, Principal Component Analysis (PCA), neural networks, bagging and boosting, support vector machines, hidden Markov models, Bayesian networks, Q-learning, reinforcement learning.

Prerequisite(s): MAT 217 and CSC 310

Graduate Credit: This course is not available for graduate credit.

CSC 410 - Theoretical Foundations of Computer Science Credits: 4

Topics include finite automata, regular languages, regular expressions, and regular grammars; pushdown automata and context-free languages; Turing machines; Church-Turing Thesis; the Halting Problem; undecidability; classes of languages, including the Chomsky hierarchy and the classes P, NP, and NP-Complete. Proof techniques for showing language (non)membership in a class.

Prerequisite(s): CSC 310

Graduate Credit: This course is not available for graduate credit.

CSC 431 - Computer Networks Credits: 4

Studies protocol suites, emphasizing the TCP/IP 4-layer model. Topics included are network addresses, sub netting, client/server network programming via the sockets API, network utilities, architecture of packets, routing, fragmentation, connection and termination, connection-less applications, data flow, and an examination of necessary protocols at the link layer, particularly Ethernet. Other topics may include FDDI, wireless, ATM, congestion control, and network security.

Prerequisite(s): CMPE 220 with minimum grade of C or better and SWE 200 or CMPE 320 or CSC 310 or CSC 350 with a grade of C or better

Graduate Credit: This course is available for graduate credit.

CSC 434 - Web Programming Credits: 4

Teaches how to set up a website typical of one used in an online business. Includes preparing web pages in HTML, writing client-side scripts in Vbscript or JavaScript for active web pages, writing server-side scripts in Vbscript for active server pages, learning to set up and access a database for processing online ordering and searches, and some web server administration. Students will establish a website for an imaginary business of their choosing.

Prerequisite(s): CSC 371 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CSC 451 - Computer Graphics Algorithms Credits: 4

Explores the algorithmic foundations that underlie a typical computer graphics API. Topics include normals; 2-D and 3-D transformation matrices; projection matrices; clipping, raster scan algorithms; fill algorithms; hidden line and surface algorithms; light, color, and shading algorithms; curve fitting; surface representation. Students will implement various aspects of a computer graphics API.

Prerequisite(s): CSC 350 with minimum grade of C and MAT 318 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CSC 462 - Artificial Intelligence Credits: 4

Overview of artificial intelligence. Emphasis on basic tools of AI, search and knowledge representation, and their application to a variety of AI problems. Search methods include depth-first, breadth-first, and AI algorithms; knowledge representation schemes include propositional and predicate logics, semantic nets and frames, and scripts. Planning using a STRIPS-like planner will also be addressed. Areas that may be addressed include natural language processing, computer vision, robotics, expert systems, and machine learning.

Prerequisite(s): SWE 200 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CSC 463 - Introduction to Robotics Credits: 4

Introduces the science of robotics from the perspective of artificial intelligence. Emphasizes various robot control architectures and their implementations using mobile robots. Topics include history of robotics; hierarchical, reactive, and hybrid architectures; Braitenberg vehicles; integration and calibration of sensors; construction techniques and considerations; and implementation of various types of behaviors.

Prerequisite(s): CSC 111 with minimum grade of C and CMPE 220 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CSC 490 - Selected Topics in Computer Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

CSC 491 - Selected Topics in Computer Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

CSC 492 - Selected Topics in Computer Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

CSC 494 - Selected Topics in Computer Science Credits: 4

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

CSC 495 - Selected Topics in Computer Science Credits: 4

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

CSC 498 - Senior Research Methods Credits: 2

Students will learn basic research strategies including conducting literature reviews, designing experiments, defining hypotheses, and writing proposals. Topics include finding and evaluating sources of information, defining topics, developing and supporting a hypotheses, and acceptable research and experimental practices. Graduate students are not permitted to take this course.

Prerequisite(s): Restricted to Computer science majors with junior standing and a C or better in any combination of five computer science and computer engineering courses.

Graduate Credit: This course is not available for graduate credit.

CSC 499 - Senior Research and Development Credits: 2

Students will independently, but under the direction of the instructor, execute the proposal developed in CSC 498 . Students will conduct the experiments outlined in their testing / implementation plan. Students will then analyze the results and determine if their hypothesis was supported or not. The goal is to gain experience with a formal development process and understand how the scientific method, mathematical reasoning, logic, and algorithmic thinking will generate concrete answers to problems. Graduate students are not permitted to take this course.

Prerequisite(s): CSC 498 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

CRJ 100 - Introduction to Criminal Justice Credits: 3

General overview of the criminal justice system, including history, current role, developments and constitutional implications of law enforcement, describes the major agencies: police, prosecution, courts and corrections, and analyzes their interdependence.

CRJ 211 - Criminal Law and Procedure Credits: 3

Comprehensive study of sources, distinctions and limitations relating to substantive and procedural criminal law; the development of the criminal law and procedure in the United States; the principles of criminal liability; the various crimes and their elements; the criteria considered in determining capacity and defenses. Emphasis on role of criminal justice personnel in the criminal law process as they perform their duties within the prescribed procedural framework.

Prerequisite(s): CRJ 100 with minimum grade of C

CRJ 221 - Policing a Democracy Credits: 3

Surveys the major trends and issues in law enforcement, including the historical and contemporary development of the police role in society. Analyzes police behavior and attitudes affecting their relationship with the community they serve, as well as the legal framework within which they operate.

Prerequisite(s): CRJ 100 with minimum grade of C

CRJ 241 - Survey of Corrections Credits: 3

Analyzes the development of correctional practices in the handling of criminals from early to modern times. Students analyze contemporary correctional organizational structures and treatment process, as well as institutional and community-based programs, practices, innovations, and problems.

Prerequisite(s): CRJ 100 with minimum grade of C

CRJ 309 - Theories of Crime and Crime Control Credits: 3

Acquaints students with the different explanations of the origins of crime and society's ultimate reaction to it from antiquity to present. Provides a broad understanding of the relationship between theory and the behavior of criminal justice system agencies.

Prerequisite(s): CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C

CRJ 310 - Research Methods Credits: 3

Introduction and overview to the evaluation of information concerning criminological and criminal/juvenile justice issues. Approaching these issues from a scientific perspective, such concerns as the theory/method interaction, measurement of criminal justice concepts, and methods in conducting criminal justice/criminological research are addressed from a consumer point of view.

Prerequisite(s): CRJ 309 with minimum grade of C

CRJ 321 - Criminal Investigation Credits: 3

Introduction to criminal investigation, crime scene search and recording, collection and preservation of evidence, crime scene technology, modus operandi, sources of information, interviewing and interrogation, stages of investigation, and case preparation.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 326 - Victimology: The Victim and the Law Credits: 3

An introduction to the study of victims and the Criminal Justice system with a focus on defining victimization, treatment of victims, characteristics of victim-offender typologies, domestic violence, sexual assault, restitution, compensation, shared responsibility, and the victim rights movement. Approved elective for Disabilities Studies Minors with Departmental permission.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 336 - Introduction to Forensic Science Credits: 3

Application of science to criminal investigation. Designed to familiarize students with the process of criminal investigation and the basic principles and uses of forensic science in the American justice system. Emphasis on reviewing the basic applications of biological, physical, chemical, medical, and behavioral sciences to questions of criminal investigation, evidence, and law.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 342 - Crime Prevention Credits: 3

This course is intended to present students with a working knowledge of crime prevention. The course will focus on providing students with an understanding of where and why crime patterns emerge, crime prevention techniques that can be used to intervene in those areas, and the most effective methods of evaluating those techniques. Particular attention will be paid to crime prevention theory and crime prevention methods utilized by criminal justice agencies and private security firms.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C

CRJ 345 - Organization & Management of CRJ Agencies Credits: 3

Survey course on organization, administration, and management of criminal justice agencies. Topics covered pertain to the principles of management as they relate to the functions and activities of criminal justice agencies. While organizational structure is examined, emphasis on criminal justice operations and the contemporary theories of criminal justice management.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 351 - Juvenile Justice Credits: 3

Surveys the juvenile justice system of approaches and procedures concerning identification, detention, informal adjustment, adjudication, and disposition relevant to administration of justice policy, practice, and law.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 356 - Organized Crime Credits: 3

Examines roots of organized crime and its transformation from a violence-driven regional and national set of illegal enterprises to an international and technologically sophisticated set of illegal enterprises. Role of technology in controlling organized crime will be examined, as will the global features of new organized crime groups as they emerge in a wide variety of countries. Social context of organized crime will be a consistent theme throughout.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 363 - Intimate Partner Violence Credits: 3

CRJ 309 This course will provide students with an overview of the theoretical paradigms examining the definitions of, causes of, ramifications of, and interventions for intimate partner violence. More specifically, from a criminal justice perspective we will (1) examine the nature and extent of intimate partner violence; (2) take an in-depth look at the perpetrators and victims of intimate partner violence; (3) examine theories to gain a better understanding of why these forms of violence take place; (4) examine the criminal justice response (e.g., police, courts, corrections, juvenile justice) to intimate partner violence; and (5) examine some of the larger cultural contexts within which the varieties of abuse occur. This course recognizes that a disproportionate number of the victims are women, but that a strict feminist analysis needs to be modified to recognize abuse in same sex relationships and a growing literature on female offenders.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C

CRJ 365 - White Collar Crime Credits: 3

Introduces the increasingly complex subject of crime committed by individuals whose legitimate employment provides them the opportunity for engaging in illegal activities. A variety of illegal activities will be examined as will white-collar scandals of the past and present. Relationship between the criminal justice system and white-collar crime will be thoroughly explored.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 370 - Mock Trial Credits: 3

Course in being a trial lawyer. Students will master the Federal Rules of Evidence (FRE) and apply them in a trial advocacy setting, either through the introduction of testimonial, documentary, or demonstrative evidence and/or by objecting to said admission of evidence. The student will perform all phases of a mock trial, from opening statements, direct, and cross-examinations (with objections), introducing evidence, jury instructions, and closing arguments. Last two weeks will be devoted to a full mock trial exercise.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 381 - Mental Health in the Criminal Justice System Credits: 3

An exploration of the intersection of the mental health and criminal justice systems in the United States. The primary theme is the deinstitutionalization movement which has resulted in the shifting of persons with mental illness from hospitals into correctional facilities. Important topics include school-to-prison pipeline (STPP), civil and outpatient commitment, police as first responders, training for law enforcement responding to crisis situations, and other efforts to decrease criminalization and stigmatization, such as Crisis Intervention Teams, Mental Health Courts, Assertive Community Treatment, and reentry strategies. Engagement and innovative policy solutions are required from students.

Prerequisite(s): CRJ 309 with minimum grade of C

CRJ 390 - Selected Topics in Criminal Justice Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 393 - Selected Topics in Criminal Justice Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 396 - Selected Topics in Criminal Justice Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 397 - Selected Topics in Criminal Justice Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

CRJ 398 - Selected Topics in Criminal Justice Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C

CRJ 399 - Independent Study in Criminal Justice Credits: 1

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C and CRJ 310 with minimum grade of C

CRJ 411 - Terrorism Credits: 3

To gain a basic appreciation for understanding the response of the criminal justice system to the terrorism problem. Includes types of terrorism, formation, leadership, location, motives and purposes, criminality, historical and contemporary issues and research, law enforcement, judicial and correctional efforts aimed at curtailing, controlling and understanding terrorism. Approved elective for Ethnic Studies Minors with Departmental permission.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CRJ 433 - Evidence Law Credits: 3

Analyzes the law and public policies which guide the introduction of evidence in court. Primary emphasis on Federal Rules of Evidence and the manner of collecting and presenting evidence consistent with the Fourth, Fifth and Sixth Amendments to the United States Constitution. Students demonstrate evidentiary foundations through in-class practicum exercises and learn to introduce, by way of witness testimony, documents, scientific and real evidence, opinion and expert testimony resulting in a thorough understanding of the evidentiary concepts of burden of proof, probative value, competency, relevancy, materiality, the hearsay rule and its exclusions, and privileges.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

CRJ 440 - Community Corrections Credits: 3

Examines the historical development and growth of community interventions, practices, and policies with respect to individuals who violate society's legal norms. Students analyze correctional philosophy, court sentencing and sanctioning alternatives, treatment methods, and the competing goals and potential future trends of corrections. Adherence to evidence based programming and the principles of effective intervention will be consistent themes throughout.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CRJ 452 - Race, Ethnicity, and Crime Credits: 3

Acquaints students with the issues regarding the role played by ethnicity/race in the American Criminal Justice system. A necessarily broad approach will be undertaken to achieve this task. The course will deal with three areas: (1) the making of laws and minorities, (2) the breaking of laws and minorities, and (3) society's reaction to the breaking of laws and minorities. In addition to making students aware of an important area

of study, the course should provide students with a broad understanding of the philosophical and practical issues revolving around crime and minorities in American society. Approved elective for Ethnic Studies Minors with Departmental permission.

Prerequisite(s): CRJ 309 with minimum grade of C and CRJ 310 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

CRJ 454 - Policy, Professionalism, and Ethics Credits: 3

Assists students in understanding the critical issues confronting the police, courts, and corrections as Criminal Justice professionals prepare to move into the next century. The course will focus on such issues as the use of discretion in practitioner decision-making; the impact of the law on Criminal Justice agency behavior; racial and gender issues; ethical issues and dilemmas; the impact of external influences on the operation of Criminal Justice agencies; the privatization of Criminal Justice services; and the future of the American Criminal Justice system. This course will provide a knowledge base from which Criminal Justice majors can either proceed to graduate courses or enter the field. This course can be particularly useful for the student who is currently considering an internship or employment in a Criminal Justice agency.

Prerequisite(s): Restricted to Criminal Justice majors. CRJ 309 with minimum grade of C and CRJ 310 with minimum grade of C and CRJ 452 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

CRJ 456 - Forensic Science: Evidence Analysis Credits: 3

Provides a continuation of CRJ 336. Surveys various types of physical evidence commonly encountered at a crime scene and in a crime laboratory environment. Consists of lecture and laboratory exercises including crime processing, the identification and analysis of trace evidence including hairs and fibers, fingerprints, footwear evidence, shoe and tire impressions, and tool marks.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C and CRJ 336 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

CRJ 461 - Social Construction of Homicide Credits: 3

Explores the nature of homicide in contemporary society and includes social theories of homicide, domestic murder, serial murder, infanticide, hate crimes, and youth gangs. Examination of the impact of drugs and alcohol and an assessment of capital punishment as a deterrent is included.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CRJ 463 - Comparative Criminal Justice Credits: 3

Provides a basic appreciation for understanding the historical, philosophical, ideological, and practical issues relevant to worldwide criminal justice systems.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CRJ 464 - Popular Culture, Crime and Justice Credits: 3

Examines the interrelationships between popular culture, crime, and justice. Explores history of this linkage, the research, and the current issues. Examines popular culture's depictions of victims, offenders, and professionals in the criminal justice system. Popular culture depictions are found in print media (newspapers, magazines, and tabloids), popular literature (police and law procedures), true crime fiction, films, television, rap music, and comics. Impact of popular culture by various media is addressed through the presentation of historical and contemporary research images of crime on individuals, groups, and public policy. Approved elective for Ethnic Studies minors with departmental permission.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CRJ 466 - Women and Criminal Justice Credits: 3

Presents contemporary issues and trends concerning women and their interactions with the criminal justice system. Major themes will be women as professionals; women as offenders; and women as victims. Each theme will be treated within the context of police, courts, and corrections. Approved elective for Women and Gender Studies minors with departmental permission.

Prerequisite(s): CRJ 309 with minimum grade of C and CRJ 310 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CRJ 469 - Victim Treatment and Services Credits: 3

This course introduces students to the dynamic and often controversial field of advocacy, treatment, and services for crime victims, ranging from protective services to therapeutic treatment of victims and survivors. Specific emphasis will be placed on the criminal justice and juvenile justice systems' ability to prevent and help victims recover from serious violent crime. Further, students will be introduced to the processes currently utilized by criminal justice and social service agencies to engage, investigate, and provide support services for victims and their families.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C or permission of department.

CRJ 471 - Internship in Criminal Justice I Credits: 3

Offers a planned program of research, observation, study, and work in selected criminal justice agencies representing the major components of the system. Designed to supplement classroom study with constructive participation in the criminal justice system of communities, the United States, and the Commonwealth of Pennsylvania.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C and permission of department.

Graduate Credit: This course is not available for graduate credit.

CRJ 472 - Internship in Criminal Justice II Credits: 3

Offers a planned program of research, observation, study, and work in selected criminal justice agencies representing the major components of the system. Designed to supplement classroom study with constructive participation in the criminal justice system of communities, the United States, and the Commonwealth of Pennsylvania.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C and permission of department.

Graduate Credit: This course is not available for graduate credit.

CRJ 473 - Internship in Criminal Justice III Credits: 3

Offers a planned program of research, observation, study, and work in selected criminal justice agencies representing the major components of the system. Designed to supplement classroom study with constructive participation in the criminal justice system of communities, the United States, and the Commonwealth of Pennsylvania.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C or CRJ 310 with minimum grade of C and permission of department.

Graduate Credit: This course is not available for graduate credit.

CRJ 474 - Internship in Criminal Justice IV Credits: 3

Offers a planned program of research, observation, study, and work in selected criminal justice agencies representing the major components of the system. Designed to supplement classroom study with constructive participation in the criminal justice system of communities, the United States, and the Commonwealth of Pennsylvania.

Prerequisite(s): CRJ 309 with minimum grade of C or CRJ 310 with minimum grade of C and permission of department.

Graduate Credit: This course is not available for graduate credit.

CRJ 475 - Internship in Criminal Justice V Credits: 3

Offers a planned program of research, observation, study, and work in selected criminal justice agencies representing the major components of the system. Designed to supplement classroom study with constructive participation in the criminal justice system of communities, the United States, and the Commonwealth of Pennsylvania.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C and CRJ 310 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

CRJ 481 - Independent Study in Criminal Justice Credits: 1-3

Opportunity to pursue in-depth study on a topic or issue of personal interest under the direction and guidance of a department faculty member.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C and CRJ 310 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

CRJ 490 - Selected Topics in Criminal Justice Credits: 3

Opportunity to pursue in-depth study on a topic or issue of personal interest under the direction and guidance of a department faculty member.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C and CRJ 310 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

CRJ 491 - Selected Topics in Criminal Justice Credits: 3

Opportunity to pursue in-depth study on a topic or issue of personal interest under the direction and guidance of a department faculty member.

Prerequisite(s): CRJ 100 with minimum grade of C and CRJ 211 with minimum grade of C and CRJ 221 with minimum grade of C and CRJ 241 with minimum grade of C and CRJ 309 with minimum grade of C and CRJ 310 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

DS 100 - Introduction to Disability Studies Credits: 3

Introduction to Disability Studies provides students with the opportunity to examine disability as a social, cultural, and political phenomenon. We will explore the impact of disability as it relates to the individual, families, social institutions, cultures and societies, and we will analyze the lives and perspectives of people with disabilities. We use an intersectional approach to diversity, always situating disability within its historical and social context and in relationship to other potential identities rooted in race, gender, class, and sexuality. This is an interdisciplinary course.

Prerequisite(s): No more than 60 credits or permission of instructor.

Category: Cat E - Soc and Behav Sciences

DS 391 - Internship in Disability Studies Credits: 3

The internship in Disability Studies provides students with a learning experience in a professional setting related to disability.

Prerequisite(s): DS 100

DS 400 - Capstone in Disability Studies Credits: 3

This interdisciplinary course is designed to allow students to apply a number of theoretical approaches and models to real-life examples. Students will integrate their understanding of concepts, issues and debates within the intersecting disciplines related to disability studies. The class will be highly interactive, integrating seminar discussions and group work by students in an attempt to further explore in-depth issues and topics discussed in class in relatively broad terms. Students will apply, integrate, and build on course material through short papers and oral presentations. In addition, they will advance and polish their writing, oral communication, research and critical analysis skills through the conduct of original research or a service learning project.

Prerequisite(s): DS 100

Graduate Credit: This course is not available for graduate credit.

ECH 200 - Introduction to Early Childhood Credits: 3

Builds an understanding of the history, foundations, theory, organizational patterns, and instructional techniques of education for children ages two through eight. Observes schools organized in various ways and experiences diverse instructional strategies. Classroom participation is on a regular basis.

ECH 210 - The Early Childhood Profession Credits: 3

Students in this course will be introduced to professional topics and competencies in early childhood education and will be given examples of the value of and strategies for creating a community of learners. Students will also be provided opportunities for practicing professional dispositions and behaviors in a variety of inclusive settings. Field hours are required.

ECH 220 - Developmental Science: Physical, Motor, & Health Credits: 3

A study of multiple aspects of physical development, prenatally through middle childhood. Attention is given to both typical and atypical development. Field hours are required.

ECH 260 - Developmental Science: Cognitive & Language Credits: 3

Students in this course will read about, write about and observe children's cognitive development from birth to age 11. The course will link the students understanding of development with implications for classroom practice preschool through the fourth grade.

ECH 280 - Physical, Language and Cognitive Development Credits: 3

Provides child development information in the physical, language and cognitive domains birth through fourth grade. Content will be linked to application for both families and teachers. Required for dual certification majors in the Pre K-4/Special Education major.

ECH 320 - Developmental Science: Social & Emotional Basis for Guiding Children's Behavior Credits: 3

A study of multiple aspects of social and emotional development, birth through middle childhood. Attention is given to both typical and atypical development. Application will be made to guiding children's behavior in the classroom settings. Field hours are required.

Prerequisite(s): ECH 210 with minimum grade of C and ECH 220 with minimum grade of C and (ECH 260 with minimum grade of C or ECH 280 with minimum grade of C)

ECH 330 - Primary Curriculum Credits: 3

Presents guidelines, strategies, and current, validated curricular models for planning and implementing developmentally appropriate educational programs for children in the primary grades (K-3). An integrated approach to curricular planning is emphasized, with focus given to areas of problem solving, expressive arts, and personal-social development. Activities include regularly scheduled observation and participation in a primary grade classroom.

Prerequisite(s): ECH 200 with minimum grade of C

ECH 333 - Social Studies Methods for PK-4th Grade Credits: 3

Students will learn age appropriate content and strategies for teaching social studies in pre K-4 grade classrooms. Resources and methods to support Pennsylvania learning standards will be presented for each age group.

Prerequisite(s): ECH 210 with minimum grade of C and ECH 220 with minimum grade of C and (ECH 260 with minimum grade of C or ECH 280 with minimum grade of C)

ECH 340 - Preschool and Kindergarten Curriculum Credits: 3

Presents guidelines for planning and implementing developmental curricula for preschool children. Includes cognitive and social domains of behavior. Approaches appropriate for children with special needs are included, as are strategies for parent involvement. Theoretical approaches which involve active learning, learning through play, experiences that build children's self esteem, developmental and individualized teaching/learning techniques, and behavior guidance through positive interactions are advocated.

ECH 343 - Mathematics Methods I for PreKindergarten & Kindergarten Credits: 3

Students will gain knowledge about teaching mathematics using age appropriate methods, strategies and materials for pre-kindergarten, kindergarten, and first grade children. Concepts related to early numeracy understanding will be emphasized. The course will include content, strategies, resources, and technology information.

ECH 370 - Assessing Young Children Credits: 3

Addresses a variety of effective and developmentally appropriate assessment techniques for use in early education practices. Responsible use of assessment is emphasized. Field experiences include both observation of and administering effective assessment measures and strategies.

Prerequisite(s): ECH 220 with minimum grade of C or ECH 260 with minimum grade of C or ECH 320 with minimum grade of C or ECH 280 with minimum grade of C

ECH 373 - Science and Technology Methods in PK-4 Credits: 3

Students will gain knowledge about teaching science in age appropriate ways for the Early Childhood/Elementary Education: PK-4 grades. Includes content, strategies and resources for meeting Pennsylvania standards for each age level.

ECH 393 - Mathematics Methods II, Grades 2-4 Credits: 2

Students will gain knowledge about teaching mathematics using age appropriate methods, strategies and materials for children in second through fourth grade. Concepts related to early numeracy understanding will be emphasized. Includes content, strategies, resources, and technology information. Field hours required.

Prerequisite(s): ECH 343 with minimum grade of C

ECH 394 - Technology Instruction for Early Childhood Classrooms Credits: 1

Technology Instruction for Early Childhood Classrooms is designed to prepare Pre K-4 majors for teaching pre K-4th grades with emphasis on the use of technology. Best practices will be utilized from the professional early childhood education field.

ECH 410 - Physical, Motor, and Sensory Development in Early Childhood Credits: 3

Examines physical, motor, and sensory development of typically and atypically developing young children, birth through age eight years. Child health and wellness concerns included. Developmental information applied to best practices in early childhood education and early intervention settings. Field experiences are required.

Prerequisite(s): Requires senior standing.

Graduate Credit: This course is available for graduate credit.

ECH 415 - Professional Practicum in PK-4 Credits: 3

This field-based course is for senior-level student participation in early childhood environments. Emphasis is placed on building partnerships with families and various community entities and implementing facets of an integrated curriculum. Instructor led seminars are scheduled throughout the course. Students will complete a total of at least 125 hours in a placement with students aged three to nine years.

Prerequisite(s): ECH 210 with minimum grade of C and ECH 220 with minimum grade of C and ECH 260 with minimum grade of C and ECH 320 with minimum grade of C and ECH 370 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

ECH 440 - Building Family and Community Partnerships Credits: 3

Emphasis is on understanding contemporary families with young children. Family diversity and fostering reciprocal relationships are stressed. Field experiences are required and will be completed in ECH 415. Field experiences include both observation of and participation in family/school/community interactions.

Graduate Credit: This course is available for graduate credit.

ECH 453 - Integrated Curriculum Pre K-4 Credits: 3

Students will apply Pennsylvania standards for math, science, literacy, social studies and the arts. Competencies will be practiced through projects, portfolio collections and demonstrations.

Prerequisite(s): ECH 210 with minimum grade of C and ECH 220 with minimum grade of C and ECH 253 with minimum grade of C and ECH 260 with minimum grade of C and ECH 320 with minimum grade of C and ECH 333 with minimum grade of C and ECH 343 with minimum grade of C and ECH 370 with minimum grade of C and ECH 373 with minimum grade of C and ECH 393 with minimum grade of C and RDG 323 with minimum grade of C and RDG 363 with minimum grade of C and RDG 383 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

ECH 460 - Family School and Community Partnerships Credits: 3

Surveys current and continuing issues in early childhood education. Includes child care, pre-primary programs and parent involvement, implementing a parent involvement project, and a individual study of a particular development area and/or processes.

Prerequisite(s): ECH 210 or ECH 220 or ECH 260 or ECH 320

Graduate Credit: This course is available for graduate credit.

ECH 462 - Practicum in Early Childhood Concentration with Administrative Field Experiences Credits: 3

This course will provide a practicum experience with a director of an early childhood program and give students an opportunity to see a wide variety of administrative tasks. The focus of the course will be on developmentally appropriate practice and meeting the ethical standards as described by the National Association for the Education of Young Children.

Prerequisite(s): PreK-4 Concentration or Director's Credential.

Graduate Credit: This course is available for graduate credit.

ECH 470 - Language Development, Literacy, and Play in Early Childhood Education Credits: 3

Preparation to understand the existing relationships among language development, early literacy development, and play behaviors in young children from birth through eight years. Application made to early childhood education and early intervention settings. Field experiences in an assigned practicum setting required.

Prerequisite(s): Senior status or graduate status.

Graduate Credit: This course is available for graduate credit.

ECH 480 - Early Childhood Professional Seminar Credits: 3

Students in this course will demonstrate professional competencies in early childhood education student teaching placement. They will demonstrate their understanding of the value of and strategies for creating a community of learners. Practice of professional dispositions and behaviors in an inclusive setting will be refined. Guided field assignments will be required in ECH 489 .

Corequisite(s): ECH 489

Graduate Credit: This course is not available for graduate credit.

ECH 489 - Early Childhood Student Teaching Credits: 1-12

This supervised, full-semester field-based experience is the culmination of the early childhood teacher preparation program. Early childhood teacher candidates are placed in pre-kindergarten, kindergarten, or first through fourth grade classrooms. Candidates will observe teachers, apply developmental theory and best educational practice, demonstrate dispositions for teaching, engage in ethical and effective professional practice to support the learning of all children.

Prerequisite(s): Completion of all course requirements for the early childhood certification major.

Corequisite(s): ECH 480

Graduate Credit: This course is available for graduate credit.

ECH 490 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 491 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 492 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 493 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 494 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 495 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 496 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 497 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 498 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECH 499 - Selected Topics in Early Childhood Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECS 415 - Professional Practicum: Pre K-4/Dual Credits: 3

Early Childhood Special Education (ECS 415) is for senior-level student participation in early childhood /early intervention environments. Emphasis is placed on building partnerships with families and various community entities and implementing facets of an integrated curriculum. Instructor led seminars are scheduled throughout the course. Students will complete a total of at least 50 hours in a placement with preschool children.

Graduate Credit: This course is not available for graduate credit.

ECS 489 - Student Teaching and Professional Practicum Credits: 12

This course is a site-based professional experience that provides a full semester of guided teaching in PreK-4th and PreK-8 special education classrooms during which the student, under the direction of a qualified cooperating teacher and university supervisor, takes increasing responsibility for planning and directing the learning experience of a specific group(s) of students.

ESS 108 - Conservation of Natural Resources Credits: 3

Introduction to environmental conservation. Basic elements of the physical environment are examined in consideration of the interaction between physical and human landscape systems. Emphasis on fundamental relationship of society to agricultural, hydrologic, biotic, mineral, and energy resources. Factors of environmental quality and land use by society also considered.

Category: Cat C - Bio and Phys Sciences

ESS 110 - Introduction to Geology Credits: 3

Examines and analyzes the geological processes and elements involved in the mobile earth, with emphasis on earth materials, external and internal processes, and earth history. Attention given to human interaction with the geological environment. Topographic maps, fossils, minerals and rocks are used to enhance understanding and student involvement. Lab/lecture.

Category: Cat C - Bio and Phys Sciences

ESS 111 - Introduction to the Atmosphere Credits: 3

Examines and analyzes the interrelated processes and elements of our atmospheric environment, including air-sea interactions, which produce our patterns of weather and climate. Attention given to interaction of the environmental elements and people with emphasis on areas of pollution, atmospheric modification, political and legal aspects, and economic implications of the atmospheric environment. Maps, space and aerial photographs, and instruments are used to enhance understanding and involvement in environmental problems. Lab/lecture.

Category: Cat C - Bio and Phys Sciences

ESS 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat C - Bio and Phys Sciences

ESS 191 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat C - Bio and Phys Sciences

ESS 210 - Physical Geology Credits: 3

Deals with basic principles of mineralogy, petrology, earth structures, and surficial processes. Comprehensive analysis of the Plate Tectonic Theory. Lab/lecture.

Category: Cat C - Bio and Phys Sciences

ESS 212 - Historical Geology Credits: 3

Deals with origin and evolution of the geological and biological earth. Major areas include principles of historical geology, significance of sedimentary rocks, fossil records, and history of the Earth. Lab/lecture.

Prerequisite(s): ESS 110 or HON 244 or ESS 210

ESS 214 - Geology of National Parks Credits: 3

Presents broad overview and basic geology in limited detail of the North American continent and Hawaii, particularly as represented by the National Parks. Classroom discussion supplemented by demonstration/laboratory exercises with earth materials, models, maps, and stereo photos.

Prerequisite(s): ESS 110 or ESS 210 or HON 244

ESS 220 - Oceanography Credits: 3

Comprehensive study of the ocean and surroundings. Main topics include origin of the ocean basins; water of the sea; physiography of the sea floor; plate tectonics; marine sediments; chemical properties of the sea; ocean circulation; waves, tides, beach, and shoreline processes; estuaries and life of the ocean.

Prerequisite(s): ESS 110 or ESS 210 or CHM 103 or CHM 105 or HON 244 or HON 196 or permission of instructor

ESS 340 - Marine Geology Credits: 3

ESS 355 - Meteorology Credits: 3

Deals with atmosphere and stresses those forces which bring about changes within it. Insolation, temperature, precipitation, humidity, winds, storms, and cloudiness are the chief topics studied. Origin and development of cyclones and their significance in weather forecasting play an important interpretative part of this course. Two hours lecture and two hours lab/week.

ESS 393 - Selected Topics in Earth Science Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ESS 397 - Introduction to Research Credits: 3

Opportunity to do research under the guidance of selected faculty members.

ESS 399 - Independent Study in Earth Science Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

ESS 404 - Applied Meteorology and Climatology Credits: 3

Intensive study of interaction between various atmospheric parameters and the natural or human-modified surfaces of the earth centered on the applied nature of the atmosphere including discussion of urban, human, agricultural, architectural, and commercial aspects of society. Computer

simulations and mapping are utilized to enhance understanding. Each student carries out a field study on a particular problem of atmospheric interest.

Prerequisite(s): ESS 111 or ESS 355

Graduate Credit: This course is available for graduate credit.

ESS 410 - Sedimentary Geology and Paleoenvironments Credits: 3

Sedimentary Geology involves the study of physical, chemical, and biologic processes that result in the formation, transportation and deposition of soils, sediments, fossils, and sedimentary rocks. These earth materials accumulate in a range of terrestrial, marginal-marine and marine depositional environments that experience processes that are often characteristic and unique to those environments. This course will engage students in an exploration of various earth materials (soils, sediments, and sedimentary rocks), sedimentary structures, and fossils, and the chemical, physical, and biologic processes that impact their formation. Students will also explore how soils, sediments, fossils, and sedimentary rocks record spatial and temporal changes in plate tectonics, earth system processes, and environments. An important focus will be on how geoscientists reconstruct ancient environments using earth materials and how they generate scientific models to help test short-term and long-term changes in the atmosphere, hydrosphere, biosphere, and lithosphere through time. The course will entail lectures, local and regional field trips that make occur on the weekend, as well as laboratory assignments that are designed to provide students with substantial hands-on, field experience.

Prerequisite(s): (ESS 110 or ESS 210)

Graduate Credit: This course is available for graduate credit.

ESS 413 - Mineral and Rock Resources Credits: 3

Deals with metallic ore deposits such as iron, ferroalloys and nonferrous metals, mineral fuels, and other selected minerals of economic significance. Emphasis on geologic occurrence and mode of origin, geographical distribution, and importance to humans.

Prerequisite(s): ESS 110 or ESS 210 or HON 244

Graduate Credit: This course is available for graduate credit.

ESS 442 - Environmental Geology Credits: 3

Deals with relationships between man and the geological habitat. Concerned with problems people have in using the earth and the reaction of the earth to that use in both a rural and urban setting. Stress placed on developing problem-solving skills in collecting, recording, and interpreting data through field investigations and simulation techniques.

Prerequisite(s): (ESS 110 or HON 244 or ESS 210)

Graduate Credit: This course is available for graduate credit.

ESS 451 - Coastal Environmental Oceanography Credits: 3

This field-intensive course examines the interaction of biological, chemical, physical, geological, and ecological ocean processes as applied to coastal environments. A significant emphasis is focused on describing and documenting coastal environments, their biotas, their environmental tolerances and ranges. Emphasis is also placed on environmental management issues of the coastal zone. Topics include water quality analysis, barrier island geology and ecology, estuarine pollution, beach defense and biological implications in areas of coastal upwelling and coastal fronts. Specific cases in coastal pollution, human impacts on coastal landforms, shoreline erosion, wetland loss, sea-level fluctuations, nutrients in estuaries, and climate change will be examined from coastal environments around the U.S. Lecture, field trips, and laboratory exercises are designed to provide students with hands-on experience with field and laboratory equipment used to solve real-world problems in diverse coastal settings. The course is field-based and taught out of the Marine Science Consortium, Wallops Island, Virginia. The course may also include a travel component to the Florida Keys Marine Lab or similar research facility for additional field experience.

Prerequisite(s): ESS 220 or permission of instructor

Graduate Credit: This course is available for graduate credit.

ESS 475 - Problems in the Marine Science Environment Credits: 3

Graduate Credit: This course is available for graduate credit.

ESS 490 - Selected Topics in Earth Science Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ESS 491 - Selected Topics in Earth Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ESS 492 - Selected Topics in Earth Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ESS 493 - Selected Topics in Earth Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ESS 494 - Selected Topics in Earth Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ECO 101 - Principles of Macroeconomics Credits: 3

Introduction to aggregative economics. Provides some historical and institutional perspective on the U.S. and world economy, focus primarily upon contemporary theories of employment, inflation, and growth. Also examined are monetary and fiscal policy and foreign trade.

Category: Cat D - Polit, Eco and Geo Sci

ECO 102 - Principles of Microeconomics Credits: 3

Introduction to theory of price, including demand theory; the theory of the firm under purely competitive and imperfectly competitive market conditions; and the theory of income distribution. Application of theory to practical problems stressed.

Category: Cat D - Polit, Eco and Geo Sci

ECO 113 - Principles of Economics Credits: 4

Introduces fundamental concepts important for understanding how individuals and organizations function within an economy. Covering both microeconomic and macroeconomic principles, a wide array of both theoretical and applied issues are addressed as are how changing market conditions impact consumers and firms and how government policies influence the economy and business decisions. This course is not open to students who have completed either ECO 101 and/or ECO 102 .

Category: Cat D - Polit, Eco and Geo Sci

ECO 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat D - Polit, Eco and Geo Sci

ECO 270 - Intermediate Macroeconomic Theory Credits: 3

Concerned with economic variables in the aggregate. Involves an analysis of national income accounting, the volume of output, income and employment, and the fine points of fiscal and monetary policy. Designed to aid students in advanced work in economics and especially to prepare them for graduate study.

Prerequisite(s): ECO 101 or HON 165 or permission of department.

ECO 280 - Managerial Economics Credits: 3

Designed in the methods of applying economic concepts to solving business problems and gaining insight into the nature of business enterprises. Combined with statistics, economic principles are used to analyze decision-making within profit maximizing organizations. Alternative market structures and how they affect the business environment are considered. Based upon theoretical concepts and empirical research results, students can appreciate the applicability of analytical thinking within organizations.

Prerequisite(s): (ECO 113 or ECO 102 or HON 166) and (MAT 181 or MAT 211)

ECO 303 - Labor Economics: Theory and Policy Credits: 3

Analyzes the theoretical determination of labor supply and demand, wage rates and the levels of employment with applications to competitive, monopsonistic and unionized markets. Includes discussions of how job characteristics, educational attainment and discrimination combine with legislation and governmental policies to determine the distribution of income to specific segments of the population.

Prerequisite(s): ECO 102 or ECO 113 or HON 166

ECO 305 - Money and Banking Credits: 3

Deals with monetary and banking principles and practices, credit, commercial banks and other financial institutions, and the Federal Reserve System.

Prerequisite(s): ECO 101 or HON 165 or permission of department.

ECO 310 - Public Finance Credits: 3

Deals with theory and categories of public expenditures, principles and effects of taxation, major forms of taxes, theory and problems of government borrowing and deficit financing, fiscal policy, budgets, and fiscal administration.

Prerequisite(s): (ECO 101 or HON 165) and (ECO 102 or HON 166) or permission of department.

ECO 317 - Health Economics Credits: 3

Introduces the fundamental concepts of health care markets. Transactions among health care providers, insurance companies, government and patients will be examined. Basic tools of economics are introduced to analyze the behavior of consumers, hospitals, insurers, and health care professionals. Topics covered include the demand and supply of health care, health insurance, pharmaceutical industry, quality of care, access to care, competition, reform proposals, and government programs and regulation.

Prerequisite(s): ECO 102 or ECO 113 or HON 166 or permission of department.

ECO 321 - International Economics Credits: 3

Introduces basic theory of international trade and finance. Highlights sources of comparative advantage, gains and losses from trade, the impact of trade on economic growth, and effects of trade policy interventions such as tariffs, quotas, voluntary export restraints and export subsidies. International agreements on regional trade liberalization (such as EU and NAFTA) and on multilateral trade liberalization (e.g., WTO) will also be discussed. Topics on international finance include balance of payments, determination of foreign exchange rates, and international monetary system.

Prerequisite(s): ECO 102 or ECO 113 or HON 166 or permission of department.

ECO 333 - Research and Analysis in Economics Credits: 3

Provides the opportunity for students to have a hands-on experience in applying various economic research methodology and analysis in addressing current socio-economic issues. Quantitative research approaches and the use of computer statistical software are essential in this course.

Prerequisite(s): (SCM 200 or MAT 117) and (ECO 113 or ECO 101 or ECO 102 or HON 166 or HON 165) or permission of department.

ECO 340 - Introduction to Regional Economics Credits: 3

Discusses the economics of industrial location, land utilization, urban structure, and regional development. Problems of locational change and adjustment are analyzed. Objectives, methods, and implications of policies of public control are emphasized.

Prerequisite(s): ECO 102 or HON 166 or permission of department.

ECO 345 - The Economics of Growth and Development Credits: 3

Introduces the general field of economics growth and the problems of developing countries. Specifically, the nature of a typical underdeveloped area and the problems of capital formation, population growth, and economic organization are analyzed and compared with those arising with the growth of industrialized countries. Theories of economic growth and their relevance to current problems in developing areas and various forms of international assistance, are examined.

Prerequisite(s): ECO 102 or HON 166 or permission of department.

ECO 355 - Environmental Economics Credits: 3

Focuses on environmental issues from both a microeconomic and macroeconomic point of view. Pollution control policies such as taxes, subsidies, marketable pollution permits, and government mandated pollution standards are analyzed from theoretical and applied perspectives.

ECO 360 - Industrial Organization Credits: 3

Analyzes structure, conduct, and performance of American industry with emphasis on the economic and social impact of the concentration of economic power in the industrial sector.

Prerequisite(s): ECO 102 or HON 166 or permission of department.

ECO 377 - Sports Economics Credits: 3

Tools of economic analysis are used to study the sports industry. Topics of discussion include monopoly, monopsony, pricing strategies, profitability, role of unions, discrimination, salary determination, and college athletics. The course is divided into three main sections: 1) the market structure of sports, 2) the financing of professional sports, and 3) the labor markets of professional and amateur sports.

Prerequisite(s): ECO 101 or ECO 102 or ECO 113 or HON 165 or HON 166

ECO 391 - Internship in Economics I Credits: 3

Students supplement their classroom studies by acquiring human capital through a professional internship. Contact the internship coordinator of the department for further information.

Prerequisite(s): Requires permission of department to enroll.

ECO 392 - Internship in Economics II Credits: 3

Students supplement their classroom studies by acquiring human capital through a professional internship. Contact the internship coordinator of the department for further information.

Prerequisite(s): Requires permission of department to enroll.

ECO 393 - Selected Topics in Economics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ECO 394 - Selected Topics in Economics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ECO 395 - Selected Topics in Economics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ECO 396 - Selected Topics in Economics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ECO 399 - Independent Study in Economics Credits: 1-3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

ECO 484 - Mathematical Economics Credits: 3

Covers the specification of economic models in mathematical terms. Applications of mathematical analysis to both macroeconomic and microeconomic concepts are presented.

Prerequisite(s): (ECO 101 or HON 165) and (ECO 102 or HON 166) and (MAT 181 or MAT 211)

Graduate Credit: This course is available for graduate credit.

ECO 485 - Econometrics Credits: 3

Covers statistical estimation and testing of economic models. Topics include specification of models, data problems, and estimation problems encountered in the study of economics, such as serial correlation, heteroscedasticity, autoregression, lag models, and identification.

Prerequisite(s): (ECO 101 or HON 165) and (ECO 102 or HON 166))

Graduate Credit: This course is available for graduate credit.

ECO 490 - Selected Topics in Economics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 290 - Introduction to English/Language Arts Education Credits: 3

Offers Secondary English certification students a foundation in English/Language Arts education. The first of three pedagogy courses, it provides the history of American education with an emphasis on middle and high schools and the fundamentals of educational and adolescent psychology and then moves to a more specific focus on the secondary ELA classroom. Introduces the philosophical beliefs and practical realities of American education (with a special focus on middle and high schools), the array of learning and development theories that inform effective educators, and the range of effective literacy practices involved in ELA teaching and learning at the secondary level. Curriculum, student diversity, assessment, technology, differentiation, and classroom management are topics explored both generally and with an ELA focus as students work toward becoming reflective collaborative decision-makers. Readings, assignments, and practical demonstrations will provide an opportunity to engage with theory and research that will be relevant to future course work and eventual middle and high school ELA classrooms.

EDU 371 - Technology in the Mathematics Classroom Credits: 3

Surveys the broad spectrum of technology as an effective means for achieving educational objectives in the secondary mathematics classroom. Emphasizes graphing calculators, computer spreadsheets, various software programs, digital technology, etc. Includes extensive laboratory-based hands-on learning.

Prerequisite(s): Requires junior standing or permission of instructor.

EDU 393 - Selected Topics in Educational Foundations Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

EDU 399 - Independent Study in Education Foundation Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

EDU 410 - Environmental Education Practicum Credits: 3

Opportunity to apply knowledge gained in previous courses and other experiences to a practical situation. Includes activities specifically designed to develop and evaluate skills needed to create a course of study for teaching environmental education in the elementary and secondary schools. An integral part is working with both elementary and secondary students in the application of both skills and knowledge.

Prerequisite(s): Approval of coordinator of environmental education.

Graduate Credit: This course is available for graduate credit.

EDU 412 - Teaching Social Studies in Secondary Schools I Credits: 3

Designed to acquaint the prospective teacher of social studies with the philosophy of the field, curriculum preparation and materials, and recent methods and techniques. Course outline, preparation of teaching units, testing and visual aids are stressed.

Corequisite(s): EDU 413

Graduate Credit: This course is available for graduate credit.

EDU 413 - Teaching of Social Studies II Credits: 3

Explores the rationale for media use in education, provides an opportunity to develop audiovisual materials and become familiar with commercial materials to supplement teaching techniques and hands-on experiences with a variety of media equipment. Incorporates techniques of evaluation and testing through presentations and projects, which enhance student decision making to include these elements in classroom instructions.

Corequisite(s): EDU 412

Graduate Credit: This course is available for graduate credit.

EDU 420 - Microcomputers in the Classroom Credits: 3

Provides basic knowledge of evolution and operation of a microcomputer system. A variety of educational applications are reviewed and analyzed for instructional contributions. Using recommended evaluation procedures, software reviewed and discussed as to classroom utilization. .

Graduate Credit: This course is available for graduate credit.

EDU 422 - Methods of Teaching English in Secondary Schools Credits: 3

Second half of methods block for secondary certification for English majors. Builds on EDU290 and completes preparation for student teaching. Will learn how to apply many of the concepts of EDU 290 and will begin more specifically elements into practice.

Prerequisite(s): EDU 290

Graduate Credit: This course is available for graduate credit.

EDU 426 - Methods of Teaching Foreign Languages Credits: 3

Focuses on techniques and materials for teaching foreign languages in the K-12 school setting. Theoretical rationales for a variety of methodologies and specific techniques examined along with the implications of findings from research in second language acquisition. Through a variety of strategies and experiences students develop those skills needed to begin a successful teaching career.

Prerequisite(s): Requires permission of instructor to enroll.

Graduate Credit: This course is available for graduate credit.

EDU 428 - Methods of Teaching and Training in Business Education Credits: 3

Focuses on skills and knowledge needed by pre-service teachers as they learn to design instructional programs in the areas of business and computer education and training. Particular focus is on identification and selection of appropriate curriculum materials, methods of presenting information to diverse groups of students, and the educational technology that supports the instructional program. Classroom management techniques, curriculum considerations, and strategies for teaching business subjects are stressed. Topics of educational and psychological measurement and evaluation and their use by classroom teachers as well as the evaluation of student progress in a variety of educational settings is addressed. Case studies focusing on various aspects of teaching provide an opportunity for reflection on all aspects of classroom instruction.

Graduate Credit: This course is available for graduate credit.

EDU 434 - Teaching of Mathematics in the Secondary Schools I Credits: 3

Covers theories of learning mathematics, national and state standards, and educational issues related to teaching and learning mathematics. Mathematical content and curricula for secondary school students will be explored and analyzed. Lesson and long-range planning and the classroom environment are included.

Graduate Credit: This course is available for graduate credit.

EDU 435 - Teaching of Mathematics in the Secondary Schools II Credits: 3

Covers instructional and assessment strategies for secondary school mathematics classrooms. Differentiated instruction techniques, the use of student-centered approaches, and reading and writing connections are included. Students will participate in pre-student teaching clinical experiences.

Prerequisite(s): EDU 434

Graduate Credit: This course is available for graduate credit.

EDU 440 - Teaching of Science in Secondary Schools Credits: 3

Students develop an instructional philosophy through discussions and reading as well as experience in simulated teaching activities. Use of demonstrations, experiments, visual aids, projects, cooperative learning, and other inquiry and discovery activities are stressed. Additional topics include individual differences among students, handicapped, or reading disabled.

Corequisite(s): EDU 441

Graduate Credit: This course is available for graduate credit.

EDU 441 - Curriculum and Evaluation in the Secondary Science Classroom Credits: 3

Understanding of inter-relatedness between the life science, physical science, chemistry, and earth and space science curricula through reading, demonstrations, and visits to schools. Emphasis on relationships among learning objectives, teaching/learning activities, and the attainment of those objectives. Evaluation component includes construction of classroom rubrics, quizzes and tests, and the analysis and improvement of those assessment tools.

Corequisite(s): EDU440

Graduate Credit: This course is available for graduate credit.

EDU 490 - Selected Topics in Education Foundation Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 491 - Selected Topics in Education Foundation Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 492 - Selected Topics in Education Foundation Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 493 - Selected Topics in Education Foundation Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 494 - Selected Topics in Education Foundation Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 495 - Student Teaching and Professional Practicum Credits: 9-15

Professional site-based experience provides a full semester of guided teaching in the K-12 schools during which the student, under the direction of a qualified cooperating teacher and university supervisor, takes increasing responsibility for planning and directing the learning experience of a specific group(s) of students. Student Teaching is a variable credit course based on your program requirements. Program requirements should be verified for the proper number of student teaching credits required for graduation. CREDIT HOURS: 9 hours graduate student teaching, 12 hours middle level student teaching all options except language arts single concentration, 12 hours early childhood student teaching (pre k-grade 4), and 12 hrs secondary education concentration students.

Graduate Credit: This course is available for graduate credit.

EDU 496 - Selected Topics in Education Foundation Credits: 1

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 497 - Selected Topics in Education Foundation Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 498 - Selected Topics in Education Foundation Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EDU 499 - Selected Topics in Education Foundation Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ELP 490 - Selected Topics in Educational Leadership and Policy Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ELP 491 - Selected Topics in Educational Leadership and Policy Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ELP 492 - Selected Topics in Educational Leadership and Policy Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ELP 493 - Selected Topics in Educational Leadership and Policy Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ELP 494 - Selected Topics in Educational Leadership and Policy Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ELEC 210 - Signals and Systems Credits: 4

Signals and systems covers the basic concepts of signals and system modeling. Students will learn about the differences between time-domain and frequency domain representation of a signal and modes of analysis. Students will also learn about continuous and discrete signals analysis using a number of different techniques (e.g. Fourier Analysis). Students will use state of the art tools (e.g. MATLAB) to simulate and analyze systems that use signals propagation.

Prerequisite(s): MAT 322 with minimum grade of C

ELEC 230 - Instrumentation Credits: 3

This course provides an overview of the different mechanisms and instruments used to measure physical values such as temperature, pressure, flow, and force; that are common in modern industrial processes. The course provides background in the sources of measurement error and methods to compensate for them.

Prerequisite(s): PHY 206 with minimum grade of C or PHY 222 with minimum grade of C

ELEC 300 - Foundations of Electronic Systems Credits: 4

Foundations of electronic systems including basic circuit theory, and fundamental and composite devices. Advanced circuit theory includes circuit analysis laws including KVL and KCL, lumped matter approach, and isomorphic analysis. Basic devices (e.g., resistors and capacitors) will be modeled and used to construct composite devices (e.g., transformer is constructed from two mutual inductors). Non-linear devices (e.g., transistors and diodes) will also be modeled and used to construct other basic systems (e.g., amplifiers, voltage regulators). Students will use and extend PSpice to model the ideal behavior of these systems.

Prerequisite(s): MAT 212 with minimum grade of C and PHY 221 with minimum grade of C

ELEC 323 - Electronic Design & Processes Credits: 4

Students will learn the principles of designing advanced circuits using state-of-the-art CAD tools to create a schematic within given engineering constraints, including factors such as functionality, physical limitations, cost, standard parts inventories, reliability, verifiability, signal integrity, and manufacturing complexity. Students will use advanced simulation tools to verify their designs. Students will learn about Printed Circuit Boards (PCBs), and will create a PCB layout for their schematic. Students will then use the lab facilities to manufacture their board, from blank

copper plates to populated board. This board will then be inspected, verified, and reworked as needed. Finally, the student will learn how to use system programmers and debuggers to load their software onto the board, and deliver a completed system.

Prerequisite(s): CMPE 322 with minimum grade of C

ELEC 330 - Control Systems Credits: 3

This is a study of the design and implementation of control systems used across a wide range of modern mechanical and electrical systems. This course explores the theory behind control systems allows us to effectively model their behavior, including frequency and time domain models of these systems. Both open- and closed-loop control systems are developed, with a special emphasis on the PID controller. Students will ultimately learn how to take measurements from a physical system and build a model of that system, develop a control system that meets engineering requirements, and then actually implement that control system using MATLAB. Finally, students will compare the theoretical results and the actual results of their control systems.

Prerequisite(s): ELEC 230 with minimum grade of C or CMPE 322 with minimum grade of C

ELEC 360 - Communications Systems Credits: 4

Introduction to analog and digital communication systems. Emphasis on engineering applications of theory to communication system design. Students will study the basics of sampling and quantization, coding, signal detection, and digital modulation schemes including AM, FM, PAM, and PCM. Transmission of information and system performance in the presence of noise will be covered. Students will use state of the art tools such as MATLAB to analyze communication systems limited by bandwidth and noise.

Prerequisite(s): ELEC 210 with minimum grade of C

ELEC 422 - High Speed Circuits Credits: 4

Students will learn about analog and mixed-signal circuits including high-speed clocks, phase-lock-loops, A/D and D/A converters, and amplifiers. Students will also learn about principles of high-speed communications, including energy and band-width constrained waveforms, and various forms of signal modulations, and data encodings (e.g. 8/10b encoding).

Prerequisite(s): CMPE 322 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

ENGR 100 - Engineering Seminar I Credits: 1

The goal of this course is to prepare the student for study in an engineering discipline. This will include general skills for achieving success in college, in addition to an introduction to the engineering disciplines and the engineering development process.

ENGR 110 - Modeling and Simulation Credits: 3

An introduction to modeling physical systems and simulating them using scientific computation software. Topics will include modeling dynamic systems, the basic mathematics of modeling physical systems, including difference equations, arithmetic and geometric series, spring-damper systems, open- and closed- loop systems. To support these topics, students will learn to use the MATLAB and Simulink systems, including basic expression evaluation, scalar, vector, and multi-dimensional variables, conditionals, repetition, and writing basic functions.

Prerequisite(s): Math placement level of 6

ENGR 120 - Programming for Engineers Credits: 3

An introduction to programming for electrical engineers. This course is a highly focused introduction to programming in C language. It covers the basics of programming including procedures, variables, types, loop, and control structures. The course introduces basic computing resources, and introduces algorithmic solutions to common engineering and numerical problems.

Prerequisite(s): Math placement level of 6

Corequisite(s): MAT 212

ENGR 200 - Engineering Seminar II Credits: 1

This course is focused on the tools that teams use to engineer solutions together. Participation in a team project will help the students learn about and apply current team coordination tools for project management, configuration management, and personal improvement.

ENGR 300 - Engineering Seminar III Credits: 1

The goal of this course is to prepare the student for upper class courses and entering the workplace. Career preparation will include strategies for finding internships and full-time positions and preparing for the hiring process (building a resume, writing a cover letter, and interviewing). Academic preparation will be focused on how to find and read journal publications on a given topic.

ENGR 310 - Statistical Process Control Credits: 3

The course will develop the students' understanding of statistical process control. A variety of control charts will be used for assessing process stability and estimation of process capability. We will also study how engineers design experiments based on statistical quality control for the purpose of controlling, improving, and optimizing the engineering process.

Prerequisite(s): MAT 375 with minimum grade of C

ENG 050 - Basic Writing Credits: 3

Offers development of skills necessary for writing effectively. Includes instruction in pre-writing, writing, revising, editing, and proofreading. In addition to assignments on vocabulary, sentence structure, mechanics, and usage, students will work on writing effective paragraphs and compositions. A documented essay is the final project. Required of students who exhibit need of preparation for ENG 114 .

Prerequisite(s): Writing placement score of 1

ENG 113 - Introduction to Academic Writing Credits: 3

This is an introductory writing course designed to increase students' writing proficiency to the level required in ENG 114 , a course that fulfills the General Education writing requirement. ENG 113 focuses on the writing process and provides an introduction to the kinds of critical and analytical writing that will be required in ENG 114 . Students will read and respond to a variety of texts and strengthen their ability to develop a clear and focused argument. Particular attention is paid to essential writing skills, such as the ability to generate ideas, create a clear and focused argument, develop focused paragraphs, use sources and create error-free sentences. There will also be a sustained focus on grammar and usage so that students are better prepared for the rigor of ENG 114 . This course DOES NOT fulfill the writing requirement.

Prerequisite(s): Writing placement score of 2

ENG 114 - Writing Intensive First-Year Seminar Credits: 3

Introduces thought provoking texts and subjects. Assists students in developing four basic skills: writing, reading, discussion, and critical-thinking. Students learn to communicate more effectively as writers and learn to read, discuss, and think more deeply and successfully. Introduces some university resources, such as the library and the Learning Center. Assists in making the transition from high school to the university by providing a small, interactive writing intensive course. Students are assigned to ENG114 on the basis of their performance on the SAT or after successful completion of ENG 113 .

Prerequisite(s): Writing placement score of 3 or higher or prior SAT verbal minimum score of 450 or SAT writing subscore minimum score of 26 or ENG 113 with minimum grade of C

Category: Basic Skills and Competencies

ENG 115 - Advanced Placement Writing Credits: 3

Provides well-prepared students with enhanced course work in writing effective essays in accordance with a process model of pre-writing, drafting, peer reviewing, revising, editing, and proofreading, as well as sophisticated rhetorical analysis of audience, form, and content. Students compose some writing from print, non-print and on-line sources, using such appropriate documentation formats as Modern Language Association (MLA) format for essays in the humanities. Students are assigned to ENG115 instead of ENG 114 on the basis of their performance on the SAT.

Prerequisite(s): Writing placement score of 4 or prior SAT verbal minimum score of 33 or SAT writing subscore minimum score of 610

Category: Basic Skills and Competencies

ENG 130 - Literary Studies for the English Major and Minor Credits: 3

Introduces the fundamental components of the major genres of literature (drama, fiction, poetry): plot-structure and character, narrative point-of-view and style, metaphor, and rhythm. Students are taught to identify and to analyze these components in a range of representative titles, e.g., Shakespeare's Othello, Toni Morrison's Sula, Coleridge and Wordsworth's Lyrical Ballads. Includes reading and writing assignments focused on such identification and evaluation. Students should expect to write at least one documented paper.

ENG 190 - General Education Special Topics Credits: 3

Read poetry, fiction, creative nonfiction, and plays; learn techniques of creative writing like dialogue, image, narrative, point of view, scene and plot. Students will have the chance to apply what they learn to their own creative writing.

Category: Cat B - Literature

ENG 213 - Writing and Research About Literature Credits: 3

Introduces the fundamentals of the research methodologies and critical approaches in the English major. Students are taught how to write and workshop a critically informed literary analysis involving both primary and secondary texts and using standard practices in the discipline (accessing authoritative criticism, cultural, and/or historical information using specialized research tools, and cultivating an ability to apply diverse critical perspectives). Course work includes reading and writing assignments that develop writing skills and original, critically informed analyses. Students should expect to write at least one documented paper.

ENG 224 - Introduction to Creative Writing Credits: 3

Introduction to Creative Writing introduces elements of creative writing in a variety of genres, providing practice analyzing short stories, creative nonfiction pieces, poems and/or dramatic scenes from the point of view of a creative writer. In a series of creative assignments, students will learn to use the tools of creative writing?such as scene, dialog, imagery and description?to explore and improve their own creative writing. Students will write a series of short summary/analysis responses to reading assignments. Students will complete a series of short explorations of creative writing, with a culminating assignment of an expanded and revised creative work in a process portfolio. This course satisfies the requirement for a course in Writing.

ENG 229 - Advanced Composition Credits: 3

This course is designed to help students make their writing more sophisticated and more effective in the rhetorical situations for which it is composed and to increase their understanding of language and the writing process. We will cover the study of rhetorical principles that will help students craft strategic arguments for specific audiences in particular contexts. Students should anticipate writing a minimum of 20 original pages distributed across several graded assignments, in support of which we will hold in-class workshops, discussions, smaller ?lead-in? writing assignments, instructor feedback, and group exercises. Students will learn to appreciate the choices open to them in their writing, examining model prose from several genres and writing polished essays of their own.

Prerequisite(s): ENG 114 or ENG 115 or HON 106

ENG 233 - American Literature I Credits: 3

First of a two-part chronologically based survey of American literature. Works of drama, fiction, and poetry by American writers of this period are studied. Representative writers are Taylor, Melville, Dickinson, and Whitman. Some attention given to history of ideas associated with the writers of this period. Expect to write at least one analytic paper dealing with one or more of the works read for the course.

ENG 234 - American Literature II Credits: 3

Second of a two-part chronologically based survey of American literature. Works of drama, fiction, and poetry by American writers of this period are studied. Representative writers are James, Wharton, O'Neill, and Stevens. Some attention given to the history of ideas associated with the writers of this period. Expect to write at least one analytic paper dealing with one or more of the works read for the course.

ENG 236 - British Literature I Credits: 3

First of a two-part, chronologically based survey of British literature. Works of drama, prose, and poetry by British writers of this period are studied. Representative writers include Chaucer, Jonson, and Milton. Some attention given to history of ideas associated with the writers of this period. Expect to write at least one analytic paper dealing with one or more of the works read for the course.

ENG 237 - British Literature II Credits: 3

Second of a two-part, chronologically based survey of British literature. Works of drama, prose, and poetry by British writers of this period are studied. Representative writers are Wordsworth, Browning, Yeats, and Joyce. Some attention given to history of ideas associated with the writers of this period. Expect to write at least one analytic paper for the course.

ENG 238 - Technical/Professional Writing I Credits: 3

Introduces the process, techniques, and forms of technical writing. Students follow a writing process from research through drafting to editing for clarity and effectiveness. Includes using graphics to convey information, accurately documenting electronic and on-line sources, and carefully considering audience. Assignments cover basic forms of technical communication such as memos, letters, resumes, instructions, abstracts, and presentations. A major research project in the disciplines gives students experience with the specific forms of technical or professional writing required in their academic area.

ENG 239 - Postcolonial Literature Credits: 3

Provides an introduction to postcolonial studies by covering literature from around the world engaged in the representation of and resistance to European colonization. Students will read and respond to a variety of postcolonial literature and cultures, which may include poetry, short fiction, novels, film, and postcolonial theory. Primarily focusing on writing in English from Sub-Saharan Africa, South Asia, and the Caribbean, the course may also include literature and cultures from other regions with a history of colonialism.

ENG 240 - Global Literature Credits: 3

Offers an introduction to reading literature in global and historical contexts. Readings will focus on literatures from multiple national sites, primarily those produced outside England and the US. The course will consider a variety of topics of comparative literary study, such as transnational identities, cultural translation, diaspora, and historical contact zones. Particular focus and genre will vary according to instructor. The course may focus on a theme (e.g., the romantic hero, utopian literature, the poetry of war) or a region (e.g., literature of sub-Saharan Africa, Magical Realism of South America, literature of the European Avant-Garde). Course work will include at least one analytical essay.

ENG 243 - The Art of the Film Credits: 3

The course provides an introduction to film and to the fundamentals of how it communicates as an art form and a cultural medium. Screenings in the course are chosen to emphasize the variety of narrative film by including literary adaptations of fiction and drama, classical American movies, foreign-language films, and examples of independent and silent cinema. The course aims to help students acquire skills of watching and responding that will enable them to become more knowledgeable and perceptive viewers, more aware of how movies work to shape our ideas about life and social experience. This course satisfies a Category B general education requirement.

Category: Cat B - Literature

ENG 248 - Introduction to Culturally Diverse Literature of the U.S. Credits: 3

Introduces literature by writers of African-American, Hispanic American, Asian American, and Native American descent. Representative authors may include John Edgar Wideman, Junot Diaz, Leslie Marmon Silko and Amy Tan. Expect to write analyses of the assigned readings. Course satisfies general education diversity requirements; fulfills general education literature requirement for Category B.

Category: Cat B - Literature

ENG 250 - Introduction to Literature Credits: 3

Read, think, and write about literature and its elements as appropriate for the general education curriculum. Provides practice in formal and thematic analysis of literature. Course satisfies the general education requirement for a Category B literature course.

Category: Cat B - Literature

ENG 304 - Literary Criticism Credits: 3

Covers historical and recent literary criticism and its applications in the analysis of literary texts. While reading assignments will be primarily in theory, writing assignments may focus either on theories themselves or on their analytic application. The course meets the departments criticism requirement.

ENG 307 - Poetry Writing Credits: 3

Provides the opportunity for students to develop interests and skills in writing poetry. Courses utilizes a workshop approach for discussion and critique of writing as well as individual conferences with the instructor. Students also read and analyze published poetry and engage in writing exercises. Students should expect to write and revise at least fifteen pages of poetry.

ENG 308 - Fiction Writing Credits: 3

Provides the opportunity for students to develop interests and skills in writing fiction. Courses utilizes a workshop approach for discussion and critique of writing as well as individual conferences with the instructor. Students also read and analyze published works of short fiction and engage in various writing exercises. Students should expect to write and revise at least two stories and produce a final portfolio of their work.

ENG 318 - Studies in English Renaissance Literature Credits: 3

Provides in-depth study of selected English Renaissance literature, from around 1500-1660. Content varies by instructor but will include works by at least two writers. Featured topics may include literary genres or modes (e.g., the sonnet, revenge tragedies or conduct books); themes (e.g., the representation of women or iconography); or topics important to the time period (e.g., the Reformation, New World exploration or the English Civil War). Expect to write at least one analytic paper requiring research.

ENG 323 - Reviewing the Arts for Publication Credits: 3

Provides practical experience in writing critical reviews in the arts: music, dance, painting, literature, sculpture and architecture. Writing will be done in a variety of publication formats (mass circulation weekly, daily newspaper, professional journal). Some time will be given to readings in the history of the arts and related ideas.

ENG 330 - Shakespeare Credits: 3

Presents a representative range, by chronology and by genre, of Shakespeare's plays. Emphasizes the study of the texts' poetic structure and of dramatic performance, illuminated by contemporary video productions of some plays. Expect to write at least one analytic paper on one or more of the plays read.

ENG 333 - Cultural Studies Credits: 3

Involves analysis of cultural artifacts, institutions, rituals, objects, and/or processes that may be interpreted as representing a culture's system of beliefs, values, hierarchies, ideologies, or codes. This may involve work with literary texts as well as historical documents, legal codes, material objects, music, film, and other cultural productions. Possible topics might include studies of body representation in the Civil War era; church doctrine and discourses of gender in the Middle Ages; the rise of the phonograph and the Harlem Renaissance; the politics of fashion and cosmetics during the 1960s; the fanzine and ideologies of gender in punk subculture; or film noir and 'race' in the Cold War. Expect to write at least one analytical paper. Specific content will vary according to instructor. The course meets the departments criticism requirement.

ENG 335 - Creative Nonfiction Writing Credits: 3

Provides the opportunity for students to develop interests and skills in writing creative nonfiction such as memoir, essays, travel or nature writing. Course utilizes a workshop approach for discussion and critique of writing as well as individual conferences with the instructor. In addition to reading examples of the genre and writing various short exercises, students should expect to write and revise at least two creative nonfiction essays.

ENG 336 - Theories and Approaches: Language, Learning, and Literacy Credits: 3

Introduces students to theories of literacy practices in the field of English language arts and explores their applications. Readings and assignments engage students in a variety of topics, including, but not limited to: critical and cultural literacy, new media, rhetorical/composition theory, performance, and second language learning. Students can expect to read a variety of theoretical texts, to write analytic papers, and to develop projects that apply these theories. Content and focus varies by instructor.

ENG 337 - Romanticism Credits: 3

Provides in-depth study of selected Romantic literature and its cultural and historical background. Content varies by instructor. Featured topics could include Transcendentalism, the iconoclastic hero, or the gothic novel. Expect to write at least one analytical paper dealing with one or more works read for the course. This course satisfies the requirement for a course in History and Movements.

Prerequisite(s): ENG 130

ENG 338 - Technical Writing for Professionals Credits: 3

Covers the essential forms of technical writing, including e-mails, memos, letters and instructions. Emphasis on audience analysis, editing for clarity and effectiveness, and incorporation of graphics and design to convey information. An advanced project, such as a proposal report, is tailored to the interests and occupations of the students. Offered exclusively online. Restricted to students in the Degree Completion Program.

Prerequisite(s): Requires enrollment in degree completion program.

ENG 341 - Teaching Writing in the Secondary Schools Credits: 3

Teaching Writing instructs certification students in the pedagogy and best practices of teaching writing in the secondary schools. Through practical engagement in a variety of activity-oriented and project-based writing tasks, students will learn the skills necessary to design writing lessons and to assess writing in the secondary schools. Students can expect to develop practical materials related to process writing, writing on demand, authentic assessment, grammar, student-directed writing, and writing workshops, to name a few. This course satisfies the requirement for a course in Writing.

Prerequisite(s): ENG 130

ENG 342 - Mythology Credits: 3

Introduces the major myths of classical Western and other cultures. Defines and demonstrates these myths as they are to be found in literature. Some attention is given to theories of myth, e.g., Frazer, Freud, Levi-Strauss. Expect to write at least one analytic paper dealing with mythical elements in works of literature read for the course.

ENG 344 - Studies in Single Author Credits: 3

Provides in-depth analysis of representative works by a single author and familiarizes students with relevant secondary sources associated with the author. Particular author varies according to the instructor. Expect to write at least one lengthy documented paper dealing with works covered in the class.

Prerequisite(s): ENG 130 or permission of department.

ENG 345 - Women's Literature Credits: 3

Introduces poetry, drama, and fiction written by women. Representative authors include Emily Dickinson, Lorraine Hansberry, Doris Lessing. Expect to write at least one analytic paper dealing with works read in the course.

ENG 349 - Victorian Literature Credits: 3

Provides an in-depth study of selected Victorian literature and its cultural and historical backgrounds. Content varies by instructor. Featured topics could include themes like the age of empire, the conflict between religion and science, or ?the woman question.? Expect to write at least one analytic paper dealing with one or more works read for the course. This course satisfies the requirement for a course in History and Movements.

Prerequisite(s): ENG 130

ENG 358 - Ethnic Literature Credits: 3

Introduces literature by members of American minority groups such as Blacks, Hispanics, and Native Americans. Representative authors include Ralph Ellison, Amando Muro, and Leslie Marmon Silko. Expect to write at least one analytic paper dealing with works read in the course.

ENG 359 - Native American Literature Credits: 3

Exploration of literature written by Native American authors, which may include biography, poetry, fiction, non-fiction, and critical essays. In addition to studying these texts as literary productions, students will learn historical, political, and cultural background to help them understand their context more fully, especially in terms of their shaping through colonial contact. Content and focus may vary by instructor and may include the complex interplay between social and political forces, the traditions and customs of particular nations, the incorporation and re-articulation of elements from traditional Indian culture, and the sustained focus on individual writers. Issues of identity and authenticity, language and orality, stereotyping and prejudice will be central to this course. Expect to write at least one lengthy analytical paper. This course satisfies the requirement for a course in Identities.

Prerequisite(s): ENG 130

ENG 360 - Popular Genres Credits: 3

This course investigates popular literature, which first became commercialized in the nineteenth century. Readings for the course can include a wide range of popular genres, including but not limited to detective fiction, science fiction, historical fiction, and fantasy. Students will engage with the texts through a range of theoretical and historical readings. Core questions could focus on the history of popular literature, the aesthetics of genre, the globalization of American popular culture, mass consumption of popular literary culture, and/or adaptations. This course should allow students to deepen their understanding of genre and of the changing role of literature in society. This course satisfies the requirement for a course in Genre.

Prerequisite(s): ENG 130

ENG 362 - Disability in Literature Credits: 3

Provides a focused interdisciplinary study of literature written about and by people with various physical, intellectual, and psychological disabilities. Reading, writing assignments, and discussions will explore how literary texts represent disability as a complex social, cultural, and political identity. Students will be introduced to the foundational elements of Disability Studies as an interdisciplinary approach and will apply this approach to a variety of literary texts that feature disability. Content and focus may vary by instructor and may include: examining the trope of disability in canonical texts; exploring re-constructions of disability in the life narratives of people with disability; scrutinizing the intersection between disability and other social identities such as gender, race, class, and sexuality; and studying literary Disability Studies in global contexts. Expect to write at least one extensive analytical paper about one of the course readings and to make at least one presentation on issues related to literary Disability Studies. This course satisfies the requirement for a course in Identities.

Prerequisite(s): ENG 130

ENG 363 - Modernism Credits: 3

This course will focus on the literature of the Modernist era, roughly defined as occurring between the turn of the 20th century and World War II, as an international development that occurred in multiple national sites throughout Europe, North America and elsewhere. Students will pay

particular attention to how Modernism's literary and cultural experiments intended to shock and disrupt normal aesthetic sensibilities at the same time as they challenged the philosophical and political conventions of their day. Students will learn to recognize the key characteristics of modernist style, read major texts from the period, engage with various critical and theoretical assessments of modernism, and develop a substantive research project on some aspect of modernism. Specific topic varies by instructor. This course satisfies the requirement for a course in History & Movements.

Prerequisite(s): ENG 130

ENG 364 - Postmodernism Credits: 3

Introduces students to postmodern literature and culture as a historical and theoretical orientation of the mid- to late twentieth century. Students will learn about the various styles, movements, and/or positions in postmodernism, engage in close analysis of literary and cultural texts, discuss critical and theoretical approaches to postmodernism, and develop their own research projects on topics relevant to the course. Specific topic varies by instructor. This course satisfies the requirement for a course in History and Movements.

Prerequisite(s): ENG 130

ENG 366 - History and Structure of the English Language Credits: 3

Provides in-depth study of principles of English grammar, including phonology, morphology, syntax, semantics, and usage. Provides an overview of the geographical, social, and linguistic history of the English language and its speakers. Expect to write at least one researched essay dealing with some aspect of the English language.

ENG 367 - Studies in Drama Credits: 3

Provides focused, in-depth study of drama's fundamental components, such as plot, character, and staging. Content varies by instructor. Featured topics could include theater of the absurd, comedies of manners, and revenge tragedies, among others. Expanding on the basic fundamentals of drama analysis taught in ENG 130, this course further develops students' analytical skills and extends their awareness of critical approaches to drama. Students should expect to write at least one analytical paper. This course satisfies the requirement for a course in Genre.

Prerequisite(s): ENG 130

ENG 368 - Studies in Fiction Credits: 3

Provides focused, in-depth study of fiction's fundamental components, such as plot, character, and narrative point of view. Featured topics could include the rise of the novel, the Bildungsroman, or magical realism. Expanding on the basic fundamentals of fiction analysis taught in ENG 130, this course further develops students' analytical skills and extends their awareness of critical approaches to fiction. Students should expect to write at least one analytical paper. This course satisfies the requirement for a course in Genre.

Prerequisite(s): ENG 130

ENG 369 - Studies in Poetry Credits: 3

Provides focused, in-depth study of various elements, conventions, types, movements, and/or important authors of poetry. Topic will vary by instructor, but may include studies of the sonnet, Imagism, or the ekphrastic tradition. Expanding on the fundamentals of poetry analysis taught in ENG 1xx, this course further develops students' analytical skills and extends their awareness of critical approaches to poetry and poetics. Students should expect to write at least one analytical paper. This course satisfies the requirement for a course in Genre.

Prerequisite(s): ENG 130

ENG 370 - Queer Studies Credits: 3

A concentrated interdisciplinary study of gay, lesbian, bisexual, and/or transgender (GLBT) literature in the context of the history of GLBT social and political movements and the branch of cultural theory known as queer theory. Works from a variety of genres by GLBT authors and/or containing queer thematic content will be examined in a non-homophobic environment. Students will examine continuing debates, sparked by the rise of queer theory, about topics such as the constructed or essential nature of sexuality and gender. Provides students with a better understanding of the artistic contributions and political struggles of GLBT figures as well as an invigorating analytical tool (queer theory) with interdisciplinary applications. Students should expect to write at least one analytical paper dealing with one or more works read for the course.

ENG 373 - Studies in Creative Nonfiction Credits: 3

Examines prose that claims to be a factual representation of the truth in a narrative form. Genres that may be studied include autobiography, memoir, biography, history, documentary writing, essay, travel writing, nature writing, and writing about culture. Works by more than one author

will be read; may emphasize determining characteristics of the genre rather than the chronological period in which it appears. Expect to write at least one lengthy analytic paper.

Prerequisite(s): ENG 130 or permission of department.

ENG 375 - African-American Literature Credits: 3

Covers the origin and development of literary works by black Americans from the 18th century to the present day. Students will read autobiographies, poems, novels and essays by such major writers as Frederick Douglass, W.E.B. DuBois, Claude McKay, Zora Neale Hurston, Richard Wright, Ralph Ellison, James Baldwin, Gwendolyn Brooks, Alice Walker, and Toni Morrison. Requires oral and written reports and essay examinations.

ENG 376 - Studies in Medieval Literature Credits: 3

Provides an in-depth study of selected writers and/or topics in English and continental literature from ca. 800-1485. Possible topics include Chaucer and the 14th century; medieval drama; the literature of medieval women; Arthurian traditions; early medieval literature, 700-1066. Expect to write at least one research paper dealing with one or more works read for the course.

ENG 377 - The Long 18th Century Credits: 3

Provides an in-depth study of selected works written by British and/or American writers from 1660 to 1820. Content will vary with the instructor, who may emphasize authors, texts, movements, genres, or themes. The course may cover poetry, prose, and/or drama, and examine genres such as slave and Indian captivity narratives, novels of seduction and domesticity, political writing, and autobiography. Topics may include the rise of the novel in Britain or America, the Enlightenment, crime and social transgression, revolution, and contemporary representations of gender and race. Students will write at least one analytical paper dealing with works read in the course. This course satisfies the requirement for a course in History and Movements.

Prerequisite(s): ENG 130

ENG 380 - 19th Century Literature Credits: 3

Provides an in-depth study of selected 19th century British, American, and/or Anglophone literature. Content varies by instructor. Featured topics could include the rise of realism, the novel of purpose, or transatlantic romantic literature. Expect to write at least one analytic paper dealing with one or more works read for the course. Expect to write at least one analytical essay. This course satisfies the requirement for a course in History and Movements.

Prerequisite(s): ENG 130

ENG 383 - Literature After 1900 Credits: 3

Provides an in-depth study of representative British, American, and/or Anglophone writers and works written after 1900. Selection of texts by at least two such writers will vary according to instructor. May concentrate on the emergence of distinctive regional literature(s), the response to major historical events of the period such as the Great Depression or World War II, or the development of new digital poetics in the internet age. Expect to write at least one analytic paper.

ENG 385 - Studies in Postcolonial Literature Credits: 3

Provides focused study of works by authors from Asia, Africa, the Caribbean, the Pacific, Latin America, and/or the Middle East writing after the age of European colonial rule. May focus on a theme (e.g., nation and identity, the poetics of decolonization), an author or movement (e.g., Chinua Achebe, the Negritude movement), genre (e.g., poetry in national liberation movements, the South Asian novel) or a region (e.g., Caribbean literature). Particular focus will vary according to instructor. Course work will include at least one analytical essay. This course satisfies the requirement for a course in Identities.

Prerequisite(s): ENG 130

ENG 387 - English Internship I Credits: 1-9

Contact department for further information on internships.

ENG 388 - Independent Study-Senior Paper Credits: 3

Allows senior English majors to write a lengthy critical paper on a topic of their choice. Students wishing to exercise this option should submit a proposal to the curriculum committee of the English department no later than March 30 of their junior year. Must be taken as an independent study course in the final semester of the student's senior year.

ENG 389 - English Internship II Credits: 1-9

Contact department for further information on internships.

ENG 399 - Independent Study in English Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

ENG 420 - Special Topics in Writing Credits: 3

Provides in-depth study of the history, theory, and/or teaching of writing. Content varies by instructor. Featured topics may include rhetorical theory and history, writing pedagogy, or politics and practices of literacy. Expect to produce at least 20 pages of writing in a combination of shorter and longer assignments, including an analytical paper.

Graduate Credit: This course is not available for graduate credit.

ENG 426 - Teaching Adolescent Literature Credits: 3

Acquaints secondary English pre-service teachers with award-winning literature and teaching resources to use with adolescents in grades 7-12. Includes examination of the psychological and developmental needs of the adolescent; how to accommodate variety of student abilities and interests within a classroom; and how to incorporate adolescent literature in the secondary English curriculum. Representative authors include Blume, Hinton, Cormier, Lowry, and Paterson. Expect to write at least one analytical paper and develop materials for instructional purposes.

Prerequisite(s): EDU 290

Graduate Credit: This course is not available for graduate credit.

ENG 427 - Advanced Poetry Workshop Credits: 3

Provides the opportunity for advanced students to develop their abilities to write original, publishable poetry with special emphasis on the development of a significant body of work. Taught as a workshop; individual tutorials will also be arranged for student writers. In-depth readings and lectures will cover recent developments, both theoretical and practical, in the poetry field. Each student should expect to write and revise at least 15 pages of poetry, and to produce a final portfolio of course work.

Prerequisite(s): ENG 307

Graduate Credit: This course is not available for graduate credit.

ENG 428 - Advanced Fiction Workshop Credits: 3

Provides opportunity for advanced students to develop their abilities to write original, publishable fiction with special emphasis on the development of a significant body of work. Taught as a workshop; individual tutorials will also be arranged for student writers. In-depth readings and lectures will cover recent developments, both theoretical and practical, in prose genres including short fiction and the novel. Each student should expect to write and revise at least two or more short works of fiction, or chapters of a novel, and to produce a final portfolio.

Prerequisite(s): ENG 308 or permission of instructor.

Graduate Credit: This course is not available for graduate credit.

ENG 430 - Special Topics in Literary History and Movements Credits: 3

Provides an in-depth study of a literature or movement not covered by the regular curriculum in its historical and/or cultural contexts. Content varies by instructor. Expect to write at least one analytical paper dealing with one or more works read for the course. This course satisfies the requirement for a course in History and Movements.

Prerequisite(s): ENG 130

Graduate Credit: This course is not available for graduate credit.

ENG 435 - Advanced Creative Nonfiction Credits: 3

Provides opportunity to develop ability to write original, publishable creative nonfiction with special emphasis on the development of a significant body of work. Taught as a workshop; individual tutorials arranged for student writers. In-depth readings and lectures cover recent developments, both theoretical and practical, in creative nonfiction areas such as personal essay or memoir. Each student should expect to write and revise two pieces of creative nonfiction, and to produce a final portfolio of course work.

Prerequisite(s): ENG 335 or permission of instructor.

Graduate Credit: This course is not available for graduate credit.

ENG 438 - Technical Professional Writing II Credits: 3

Incorporate theories of technical and professional communication into writing practice. Students use argumentative rhetorical strategies, analyze audience needs, and consider ethical implications as they prepare advanced projects in technical writing. Emphasizes critical evaluation of information, project design and implementation, and organizational skills for collaborative projects. Students complete advanced assignments, such as writing a grant proposal, creating online user documentation, preparing a research report in a hyperlinked format, and making a persuasive presentation using computer-generated graphics. Serves as preparation for an internship in technical or professional writing; and a significant asset for students whose employment goals require strong writing skills and the ability to lead and to coordinate projects.

Prerequisite(s): ENG 238

Graduate Credit: This course is not available for graduate credit.

ENG 440 - Special Topics in Genre Credits: 3

This course focuses on the in-depth analysis of a problem, theme, concept, theory, and/or historical aspect of a one or more literary genres otherwise not covered by an existing course. Content will vary according to instructor. Some topics might include theories of literary genre, the institutional history of literary genres, hybrid genres in the digital age, etc. Students will write at least one paper. This course satisfies the requirement for a course in Genre.

Prerequisite(s): ENG 130

Graduate Credit: This course is not available for graduate credit.

ENG 445 - Special Topics in Identities Credits: 3

This course focuses on the in-depth analysis of a problem, theme, concept, theory, and/or historical aspect of a one or more identity otherwise not covered by an existing course. Content will vary according to instructor. Some topics might include theories of cultural and racial formation, the literature of gender and sexuality in the age of social media, globalization and local culture, etc. Students will write at least one paper. This course satisfies the requirement for a course in Genre.

Prerequisite(s): ENG 130

Graduate Credit: This course is not available for graduate credit.

ENG 460 - Senior Seminar Credits: 3

The senior seminar is a special-topics course that provides a culminating opportunity for senior English majors and minors to demonstrate the skills of literary interpretation, critical thinking, independent research, and analytical writing that the major provides. As a seminar, class sizes are small in order to enable intensive student interaction in class discussions and writing assignments. The topics of the course will vary according to instructor and will focus on a theme, a literary period or genre, and/or a theoretical question within literary or cultural criticism. Students will produce at least one lengthy analytical essay or equivalent project and deliver a presentation on their work.

Prerequisite(s): ENG 130 and ENG 213

Graduate Credit: This course is not available for graduate credit.

ENT 336 - Product Design & Development Credits: 3

This course will examine the product-creation process (product and services) from opportunity identification to product production. Topics will include --- identifying customer needs, patents and intellectual property, robust design, rapid prototyping, concept testing, product architecture and product production (or outsourcing). This is a hands-on course that relies primarily on real world application of product creation across multiple disciplines. A group project will require students to design and development of an actual product.

Prerequisite(s): MKT 305 (may be taken concurrently)

ENT 337 - Issues in Entrepreneurship Credits: 3

Covers a series of applied topics in a very hands-on method. Concepts, theories, and business practices from a variety of disciplines covered from an entrepreneurial perspective. This perspective used to drive students to a more thorough understanding of the necessities of an entrepreneur or manager-entrepreneur. Consists of a series of discipline modules considered the tools of the entrepreneur.

ENT 431 - Corporate Entrepreneurship Credits: 3

Examines the need for entrepreneurship in a corporate setting. Companies must be faster, more flexible, more aggressive and more innovative in order to maintain their competitive edge. In other words, they must be more entrepreneurial. Topics will include the need for speed, adaptability, and innovation in order to maintain a competitive edge. This course will cover many entrepreneurial issues and controversies, and students will be challenged to develop and defend their positions regarding these matters. This is an application-oriented course. Students will apply concepts, tools, and frameworks in a series of real world cases and contexts.

Prerequisite(s): ACC 201 and FIN 311 and MGT 305

Graduate Credit: This course is not available for graduate credit.

ENT 432 - Entrepreneurship Credits: 3

Focuses on the concepts, skills, and know-how, information, attitudes and alternatives relevant for start-up and early-stage entrepreneurs and entrepreneurial managers. A difficult and complex course with two fundamental objectives: To teach the use of entrepreneurial perspective in order to make better decisions and increase the odds of success; and teach effective entrepreneurial and general management practice from the perspectives of the founder and the vital stakeholders who can make a substantial difference in the ultimate success or failure of the entrepreneurial process. Central focus is the critical role of opportunity creation and recognition, as the principal success factor in new enterprise formation and building. Especially relevant for aspiring entrepreneurs bent on launching and growing a business.

Prerequisite(s): ENT 337 and ENT 433

Graduate Credit: This course is not available for graduate credit.

ENT 433 - Small Business Management Credits: 3

Studies the concerns and trends unique to small businesses. Emphasis on the profitable operation of an ongoing small business. Designed for students who are primarily interested in owning and managing the small business enterprise. Case analysis and analysis of actual small business operations will be used. Consideration will be given regarding how to market and produce new and existing products and how to determine pricing and demand elasticities. Basic objective to enhance the students' probability of successfully running and growing a small business by mixing a variety of instructional exercises including the textbook, Internet exercises, a simulation, and a promotional newsletter or brochure.

Prerequisite(s): ACC 201 and FIN 311 and MGT 305 and MKT 305

Graduate Credit: This course is not available for graduate credit.

ETH 100 - Introduction to Ethnic Studies Credits: 3

Introduces perspectives about ethnic realities in America. Through an interdisciplinary examination of intellectual thought presented through various formats, students facilitate the formation of a well-rounded view of ethnic groups, an awareness of their own ethnicity, and an appreciation for human diversity. Major emphasis on African-Americans, Asian Americans, Latino Americans, and Native Americans. Also focuses on immigration experiences of European ethnic groups.

Category: Cat E - Soc and Behav Sciences

ETH 101 - Introduction to African-American Studies Credits: 3

Provides an interdisciplinary overview of the various perspectives that have impacted African-American life and culture. Introduces the Afrocentric conceptual framework as well as other intellectual paths of African-American thought. These intellectual frameworks are the foundation for critical understanding and discussion of African-American experiences and the relevance of African-American studies as an academic discipline.

Category: Cat E - Soc and Behav Sciences

ETH 102 - Introduction to Latino Studies Credits: 3

This course provides an understanding of the Hispanic presence in the United States through an interdisciplinary approach. Through an analysis of the wide variety of historical, political, sociological, and artistic components the students will achieve a deep understanding of the impact and relevance of the multiple Latin American cultures that are part of the Latino experience in the American society.

Category: Cat E - Soc and Behav Sciences

ETH 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat E - Soc and Behav Sciences

ETH 390 - Ethnic Studies Internship Credits: 3

Contact Ethnic Studies for further information on internships.

ETH 399 - Independent Study in Ethnic Studies Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

ESC 200 - Lifestyle Management Credits: 3

Designed to assist young adults in the understanding of and planning for a lifelong healthful lifestyle. Wellness topics discussed include the five components of health-related fitness, chronic disease prevention, stress management, nutrition, and weight management with an emphasis on lifetime fitness. Students will design and implement an individualized fitness and behavior modification program.

ESC 207 - Stress Management Credits: 3

Explores stress reaction and its relationship to illness and disease. Provides intervention strategies to limit harmful effects in addition to other such skills necessary for successful life management.

ESC 213 - Organization and Administration for Fitness and Sport Facilities Credits: 3

Explores organization and administrative procedures for health, fitness and sport settings. May include health and safety concerns, fitness facility maintenance and planning, fitness facility design and evaluation, financial management, legal liability issues, organizational design, security, and facility and event assessment.

ESC 243 - Physiological Basis of Sport Credits: 3

Involves the study of the physiological basis for sport performance with a focus on how the body responds to acute exercise and how it adapts to chronic exercise. Restricted to coaching/exercise science minors until schedule clean-up.

Prerequisite(s): BIO 150 or HON 186 or BIO 238 or BIO 350

ESC 244 - Mechanical Analysis of Sports Skills Credits: 3

Provides studies and experiences in anatomical and mechanical principles of sports skills. Restricted to exercise science majors/minors and coaching minors until schedule clean-up.

ESC 250 - Introduction to Kinesiology Credits: 3

Introduction to variety of subdisciplines within the discipline of kinesiology. May include biomechanics, exercise physiology, motor learning and control, sport and exercise psychology, and sport sociology. Restricted to exercise science majors/minors until schedule clean-up.

ESC 321 - Exercise Physiology I Credits: 4

Focus on development of knowledge in applied physiology as a basis for understanding the physiological responses and adaptations related to acute and chronic exercise stress. Includes applied learning experiences that facilitate student understanding. Three hour lecture and one hour lab per week. Open to exercise science majors only.

Prerequisite(s): ESC 250 (may be taken concurrently) and (BIO 238 with minimum grade of C or BIO 350 with minimum grade of C)

ESC 325 - Sport Psychology Credits: 3

This course will provide students with knowledge of how psychological factors (e.g., anxiety, confidence, coaching strategies) affect sport behavior and performance, and how participation in sport affects one's psychology (e.g., motivation, personality development). An additional focus of the course will be on how psychological skills (e.g., goal setting, imagery, self-talk) can be used to improve sport performance.

Prerequisite(s): PSY 101

ESC 333 - Biomechanics Credits: 4

Study of qualitative and quantitative analysis of mechanical principles of human motion. Quantitative analysis will include the kinematic and kinetic description of linear and angular motion associated with sport skills and exercise activities. Restricted to exercise science majors. Offered Spring Semester only.

Prerequisite(s): ESC 244 with minimum grade of C and (PHY 121 with minimum grade of C and PHY 123 with minimum grade of C) or PHY 110 with minimum grade of C) and (BIO 371 with minimum grade of C or BIO 237 with minimum grade of C)

ESC 336 - Motor Behavior Credits: 3

Subdiscipline of Exercise Science concerned with understanding the processes responsible for the acquisition, performance, and retention of motor skills as explored through motor learning, motor control, and motor development throughout a life span. Restricted to exercise science majors/minors until schedule clean-up.

Prerequisite(s): ESC 250 with minimum grade of C

ESC 339 - Exercise Science Seminar Credits: 1-3

Discussion of selected area within exercise science. Main focus of to supplement learning through discussion, laboratory, and/or research of an area within exercise science. Seminar topics announced each semester.

Prerequisite(s): Vary depending on topic.

ESC 340 - Prevention and Care of Athletic Injuries Credits: 3

Provides knowledge and competencies in the care and prevention of athletic injuries. Also provides CPR and First Aid certification. Restricted to exercise science majors/minors and coaching minors.

Prerequisite(s): For Minors BIO 150 , BIO 238 , or BIO 350 . For Majors ESC 250 with minimum grade of C (may be taken concurrently).

ESC 348 - Group Exercise Techniques & Leadership Credits: 3

This course will focus on the knowledge and skills to safely and effectively conduct group exercise activities. More specifically, it will explore the fundamentals of group exercise leadership, primary components of group exercise, and group exercise programming. In addition, students will be introduced to a variety of group exercise formats (i.e., high/low cardio, sports conditioning, yoga, functional training). This course will provide an opportunity to teach and evaluate group exercise sessions for all ages.

Prerequisite(s): ESC 321 with minimum grade of C or ESC 243 with minimum grade of C

ESC 350 - Nutrition for Sport & Fitness Credits: 3

Provides current and accurate recommendations regarding the role of nutrition in fitness and sport performance. Restricted to exercise science majors/minors. Health science students admitted during schedule adjustment.

Prerequisite(s): ESC 243 with minimum grade of C or ESC 321 with minimum grade of C

ESC 352 - Psychology of Physical Activity Credits: 3

Covers four major topic areas: research methods and potential biases in the behavioral sciences; the effects of exercise and physical activity on mental health; behavioral approaches and theories to understanding and influencing physical activity; and psychosocial factors as they relate to health, chronic disease, and pain. Students required to read and critically evaluate primary research articles as well as literature reviews. Emphasizes a biopsychosocial approach to health and illness. Issues unique to children, older adults, those with chronic disease and disability, women, and people of color highlighted. Sensitivity to diversity, including race, class, ethnicity, and gender emphasized. Course uses lectures and class discussions. Restricted to exercise science majors/minors until schedule clean-up.

Prerequisite(s): ESC 250 with minimum grade of C and (PSY 101 or HON 151)

ESC 353 - Research Design and Statistics for Exercise Science Credits: 4

Provides an understanding and interpretation of research methods within Exercise Science. Students will learn basic concepts for designing a research project within Exercise Science. They will be Introduced to data collection, data analysis, presentation of the data, and ethical principles surrounding research. Exercise science majors only.

Prerequisite(s): ESC 244 with minimum grade of C and MAT 117 with minimum grade of C and (ESC 321 with minimum grade of C or ESC 243 with minimum grade of C)

ESC 387 - Theory and Practice of Power and Agility Training Credits: 3

This course prepares students to design both short-term and long-term training programs for both power and agility training. The primary goal is for the student to be able to develop the knowledge and skills to train a variety of different athletes and populations.

Prerequisite(s): ESC 243 with minimum grade of C or ESC 321 with minimum grade of C

ESC 391 - Selected Topics in Exercise Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ESC 393 - Selected Topics in Exercise Science Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ESC 394 - Selected Topics in Exercise Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ESC 399 - Independent Study in Exercise Science Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

ESC 400 - Methods of Coaching Credits: 3

Provides course work and practical field experience in a supervised sport setting. Must have completed 12 credits toward the coaching minor requirement. Restricted to coaching minors.

Prerequisite(s): ESC 340 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

ESC 420 - Cardiac Rehab and Special Populations Credits: 4

Provides a technical expertise in cardiac rehabilitation and basic ECG interpretation. Population specific issues related to children, females, the elderly, diabetes and cancer, as well as other chronic diseases, and how they relate to exercise will be explored. Three hours lecture and one hour lab per week. Restricted to exercise science majors.

Prerequisite(s): (ESC 250 with minimum grade of C and ESC 321 with minimum grade of C)

Graduate Credit: This course is available for graduate credit.

ESC 421 - Exercise Physiology II Credits: 4

Provides an understanding of the physiology of exercise with an emphasis on the physiological responses and adaptations to exercise, the relationship between health and fitness, and the physiology of athletic performance. Three hours lecture and one hour lab per week. Restricted to exercise science majors

Prerequisite(s): ESC 321 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

ESC 422 - Exercise Testing and Prescription Credits: 3

Designed to aid in gaining the knowledge and practical application of testing, programming, and techniques associated with fitness training based on cardiorespiratory, flexibility, and resistance training guidelines from the American College of Sports Medicine (ACSM) and the National Strength and Conditioning Association (NSCA). Restricted to exercise science majors.

Prerequisite(s): (ESC 250 with minimum grade of C (may be taken concurrently) and ESC 421 with minimum grade of C (may be taken concurrently))

Graduate Credit: This course is available for graduate credit.

ESC 424 - Internship Credits: 6-12

Offers a practical, research, observational, study, and/or work experience within an area or career path of student's choice through constructive participation within the field of Exercise Science.

Prerequisite(s): Requires 2.50 QPA overall; must have completed all exercise science major course requirements with a grade of C or above.

Graduate Credit: This course is not available for graduate credit.

ESC 490 - Selected Topics in Exercise Science Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ESC 491 - Selected Topics in Exercise Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ESC 492 - Selected Topics in Exercise Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

ESC 493 - Selected Topics in Exercise Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

FIN 101 - Personal Finance Credits: 3

Survey course that introduces the student to basic skills needed to manage their personal financial affairs. This course includes topics such as financial budgeting and cash management, net worth analysis, consumer purchases and protections, personal credit and debt management, savings and investments, home ownership as well as large purchase decision making analysis, insurance needs and protection, personal income tax effects, long-term retirement and estate planning issues.

FIN 311 - Financial Management Credits: 3

Introduces concepts and techniques of financial management in the context of a business firm seeking to maximize the firm's value. Topics include wealth maximization, agency issues, analyses of cash flows and financial ratios, time value of money, valuation of stocks and bonds, risk-return relationship, Capital Asset Pricing Model, capital budgeting, and cost of capital.

Prerequisite(s): ACC 200 and (ECO 113 or ECO 102 or HON 166) and junior standing.

FIN 312 - Investments Credits: 3

Deals with the basic principles of security analysis and analytical techniques. Includes a study of the economic functions and operations of the security markets, portfolio management, and the formulation of investment programs.

Prerequisite(s): FIN 311 and SCM 200 or permission of department chair.

FIN 313 - Advanced Financial Management Credits: 3

Explores financial theory and financial decision models necessary for handling complex business problems. Topics include capital structure, dividend policy, working capital management, analyses of long-term financing, option pricing, international aspects of financial management, and merges and acquisitions.

Prerequisite(s): FIN 311 and SCM 200 or permission of department chair.

FIN 314 - Financial Institutions Credits: 3

Approaches financial institutions and capital markets from a managerial point of view. Topical coverage includes financial management principles and policies unique to commercial banks, savings institutions, pension funds, and insurance companies.

Prerequisite(s): FIN 311 and SCM 200 or permission of department chair

FIN 320 - Risk Management and Insurance Credits: 3

Introduces the concept of pure risk and scope of exposure facing individuals, businesses, and other organizations. Study includes examinations of various risk control techniques with special emphasis on insurance.

Prerequisite(s): FIN 311 and SCM 200 or permission of department chair.

FIN 322 - Estate Planning Credits: 3

Focuses on efficient conservation and transfer of wealth consistent with the client's goals. Study of the legal, tax, financial, and non-financial aspects of this process, covering topics such as trusts, wills, probate, advanced directives, charitable giving, wealth transfers, and related taxes.

Prerequisite(s): BSL 261 and ACC 306 (may be taken concurrently) and FIN 320 (may be taken concurrently)

FIN 324 - Retirement Planning and Employee Benefits Credits: 3

Provides knowledge of both public and private retirement plans. Public plans include Social Security, Medicare, and Medicaid. Private plans include defined benefit and defined contribution plans and their regulatory provisions. Specifics of the various plans are analyzed as well as non-qualified deferred compensation plans. Issues individuals face in retirement, such as life-styles choices and medical issues also discussed.

Prerequisite(s): FIN 311

FIN 333 - Applied Company and Security Analysis Credits: 3

Develops the ability to understand and analyze how forecasts for the economy, stock market, industries, and companies are used in a traditional fundamental analysis approach to investing. Enables students to calculate and interpret the return and risk measures for investment instruments (e.g., bond, preferred stock, and common stock).

Prerequisite(s): FIN 311 and SCM 200 or permission of department chair.

FIN 340 - Principles of Real Estate Credits: 3

Introduces the field of real estate. Designed to provide an understanding of the fundamental determinants of real estate value, the real estate market within which such value is established, real estate laws, instruments and institutions which facilitate and regulate the managerial functions required for efficient growth, and the allocation of real estate resources.

Prerequisite(s): FIN 311 or permission of department chair.

FIN 393 - Selected Topics in Finance Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

FIN 399 - Independent Study in Finance Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

FIN 405 - Real Estate Appraisal and Investment Analysis Credits: 3

Provides understanding of the techniques, risks, and rewards associated with various ways of investing and financing both residential and commercial real estate. Topical coverage includes investing, financing, appraising, consulting, and managing real estate.

Prerequisite(s): FIN 311 or permission of department chair.

Graduate Credit: This course is available for graduate credit.

FIN 414 - Bank Management Credits: 3

Deals with the regulatory and managerial environment within which the bank manager operates. Concerned with the regulatory framework which controls the balance sheet policies of a bank as well as branching and merger activity. Other selected advanced topics of bank management, such as the management of deposits and capital adequacy, the bank's balance sheet, assets, and liquidity, are addressed.

Prerequisite(s): FIN 314 or permission of department chair

Graduate Credit: This course is not available for graduate credit.

FIN 421 - Personal Financial Planning Credits: 3

Capstone synthesis course for Personal Financial Planning majors. Requires students to apply information and skills learned in business core and personal financial planning courses to case situations. Includes the financial planning process, personal financial statements, cash flow and debt management, analysis of insurance needs, investment planning, as well as estate, retirement, and income tax planning. Designed to apply and integrate the above knowledge into a cohesive personal financial plan.

Prerequisite(s): FIN 312 (may be taken concurrently) and FIN 320 (may be taken concurrently) and FIN 322 (may be taken concurrently) and FIN 324 (may be taken concurrently) and ACC 306 (may be taken concurrently)

Graduate Credit: This course is not available for graduate credit.

FIN 425 - Global Financial Management Credits: 3

Studies the international environment, the foreign exchange risk management, the investment decision, the financing decision, and management of ongoing business operations in global settings. Emphasis on the analysis and evaluation of the investment decision, financial decision, and operational and financial risk in foreign countries.

Prerequisite(s): FIN 311 and SCM 200 or permission of department chair.

Graduate Credit: This course is available for graduate credit.

FIN 434 - Investment Management Program Credits: 1-3

Students manage a real money security portfolio to obtain practical investing experience. Students establish investment philosophy, investment objectives and policies, identify investment strategies, and present recommendations for buying and selling investment securities toward the goal of constructing and managing a real portfolio.

Prerequisite(s): FIN 333 and permission of department.

Graduate Credit: This course is not available for graduate credit.

FIN 435 - Investment Management Program Credits: 1-3

Students manage a real money security portfolio to obtain practical investing experience. Students establish investment philosophy, investment objectives and policies, identify investment strategies, and present recommendations for buying and selling investment securities toward the goal of constructing and managing a real portfolio.

Prerequisite(s): FIN 333 and permission of department.

Graduate Credit: This course is not available for graduate credit.

FIN 442 - Derivatives Markets Credits: 3

Broad overview of different types of financial derivatives (forwards, futures, options, options on futures, and swaps), while focusing on the principles that determine market prices. To integrate the understanding of these instruments, the discussion emphasizes the relationships among futures, options, and swaps. Emphasizes the application of financial derivatives as risk management tools, not as instruments of speculation.

Prerequisite(s): FIN 312 or permission of department chair.

Graduate Credit: This course is not available for graduate credit.

FIN 490 - Selected Topics in Finance Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

FRN 101 - Beginning French I Credits: 3

Designed for students who have never studied the language. Both textbook and authentic materials used to enable students to express themselves on personalized topics.

Category: Cat B - Humanities

FRN 102 - Beginning French II Credits: 3

Continuation of FRN 101 . Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self, family, and friends.

Prerequisite(s): FRN 101 with minimum grade of C or Departmental Placement

Category: Cat B - Humanities

FRN 103 - Intermediate French Credits: 3

Continuation of FRN 102 . Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self, family, friends, and their communities. Reading, writing, listening and speaking are combined to explore the history, geography, music, arts, and film of the French-speaking world.

Prerequisite(s): FRN 102 or Departmental Placement

Category: Cat B - Humanities

FRN 150 - French Civilization Credits: 3

Overview of French cultural traditions from early times to the present followed by an examination of the French way of thinking in terms of myth and reality through a survey of French education, politics, geography and sociology. Examines French-speaking civilizations in Africa, North America, and the West Indies. Taught in English; a reading knowledge of French helpful but not essential for non-majors.

Category: Cat B - Humanities

FRN 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

FRN 202 - Intermediate Conversation Through the Media Credits: 3

Designated to promote and improve speaking and listening comprehension skills in the language through explorations of various contemporary media. Utilizing radio and television broadcasts, Internet materials, video, film, and audio programs and the tradition of printed text, students consider current topics of interest through discussion, debate and oral presentations. Special attention given to vocabulary building and improving students' oral/aural proficiency. May be taken concurrently with FRN 103 with permission of the department.

Prerequisite(s): FRN 103 or Departmental Placement

Category: Cat B - Humanities

FRN 204 - Ideas and Cultures from the French-Speaking World Credits: 3

Introduction to comparative cultural studies of the French and Francophone world. Exploration of the rich cultural exchanges among Francophone communities with an emphasis on their geographical, historical and social contexts undertaken. Sustained attention will be given to oral and written expression.

Prerequisite(s): FRN 103 or Departmental Placement

Category: Cat B - Humanities

FRN 211 - Intermediate French Grammar Credits: 3

This grammar course will hone previously acquired skills with verbs will introduced to additional tenses as well as moods. Students will continue developing their writing skills with simple sentences and will be encouraged to develop compound sentences. The linguistic elements will be contextualized in cultural issues to develop oral and written expression.

FRN 300 - Advanced French Conversation Credits: 3

This course will allow students to develop their French-speaking skills through listening, reading and discussion of authentic material representing French socio-cultural realities including economics, politics, popular culture, and family life in the 21st century. Designed to improve and refine communicative skills, this course emphasizes listening comprehension and fluency in speaking, and provides students the opportunity to practice the language through discussion of topics of interest and exploration of a variety of media. Through oral presentations, debates, collaborative projects, and other assignments, FRN 300 prepares students to express opinions and points of view in order to attain the proficiency level of Advanced Low following the American Council on the Teaching of Foreign Languages (ACTFL) guidelines. The course is taught in French.

Prerequisite(s): (FRN 202 or FRN 204) and FRN 211 or Departmental Placement

FRN 308 - Diction et Comprehension Credits: 3

Intensive pronunciation and intonation drills supported by examination of phonetic principles. Sound production is stressed and student will learn to distinguish stylistic nuances in phonetic variants. Graduated listening comprehension exercises train the student to understand various style levels, regional and national variations in accent, etc.

Prerequisite(s): FRN 202 or FRN 204 or permission of instructor.

FRN 309 - French Grammar Credits: 3

Examines in detail the structure of the French language. Extensive oral and written exercises are designed to provide the more advanced student with a mastery of those elements of French which pose the greatest difficulties for the American student.

Prerequisite(s): FRN 202 or FRN 204 or permission of instructor.

FRN 316 - Composition and Stylistics Credits: 3

Intended to help develop basic writing skills in sustained contexts: narratives, descriptions, dialogs, essays, etc. Emphasizes syntax of written French at formal and semiformal levels.

Prerequisite(s): FRN 202 or FRN 204 or permission of instructor.

FRN 320 - French for the Professions Credits: 3

Emphasizes skills in communication in the daily world of business, health professions, social work, law enforcement, etc. May include techniques of translation, a study of the economic and business systems in the French-speaking world, and extensive practice in using forms and expressions frequently used in correspondence of the above mentioned professions. Content may be adapted to students' needs.

Prerequisite(s): FRN 202 or FRN 204 or permission of instructor.

Category: Cat B - Humanities

FRN 330 - Masterpieces of French Literature Credits: 3

Designed to pursue selective readings of classical French literature in all genres from the medieval period to the present day. Students will engage in critical discussions of the textual examples in efforts to trace the evolution of particular literary themes and styles.

Prerequisite(s): FRN 202 or FRN 204 or permission of instructor.

Category: Cat B - Literature

FRN 331 - Masterpieces of Francophone Literature Credits: 3

Introduction to rich variety of authors writing in French-speaking world outside of metropolitan France. Works by authors from North and sub-Saharan Africa, Quebec, and other regions of Canada, as well as the Caribbean region, Indian Ocean and South Pacific can be included.

Prerequisite(s): FRN 202 or FRN 204 or permission of instructor.

Category: Cat B - Literature

FRN 340 - Genres Littéraires Credits: 3

Offers an intensive critical study of a single literary genre (novel, short story, essay, poetry, theatre) within the French and/or Francophone traditions. Content will vary depending on the instructor.

Prerequisite(s): FRN 202 or FRN 204 or permission of instructor.

FRN 380 - Aspects De La Civilisation Française/Francophone Credits: 3

Particular topics, historical events or political and artistic movements that have assisted in fashioning French and Francophone cultures will be critically explored.

Prerequisite(s): FRN 202 or FRN 204 or permission of instructor.

FRN 388 - Internship French I Credits: 3

Contact the department for further information on internships.

FRN 392 - French Cultural Studies Immersion Credits: 3

This course will be offered in Quebec or in France every other summer. It will allow students to witness and appreciate first hand elements of culture such as traditions and history, music, theater, dance or even cuisine. It will also give the opportunity to the students to practice their language skills with native speakers in an immersion environment.

FRN 393 - Selected Topics in French Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

FRN 399 - Independent Study in French Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

FRN 400 - Seminar: Advanced Studies in French Language and Literature Credits: 3

Detailed examination of specific aspects of French literature authors, genres, literary and philosophic schools, or linguistic problems such as translation and dialects. Seminar may be taken more than once provided a specific topic is not repeated.

Prerequisite(s): Requires permission of instructor.

Graduate Credit: This course is not available for graduate credit.

FRN 401 - Seminar: Advanced Studies in French Language and Literature Credits: 3

Detailed examination of specific aspects of French literature authors, genres, literary and philosophic schools, or linguistic problems such as translation and dialects. Seminar may be taken more than once provided a specific topic is not repeated.

Prerequisite(s): Requires permission of instructor.

Graduate Credit: This course is not available for graduate credit.

FRN 402 - Seminar: Advanced Studies in French Language and Literature Credits: 3

Detailed examination of specific aspects of French literature authors, genres, literary and philosophic schools, or linguistic problems such as translation and dialects. Seminar may be taken more than once provided a specific topic is not repeated.

Prerequisite(s): Requires permission of instructor.

Graduate Credit: This course is not available for graduate credit.

FRN 411 - Theory and Practice of Translation Credits: 3

Introduces various types and tools of oral and written translation and provides extensive practice in French-to-English translating in professional contexts (business, education, criminal justice, medicine, computer science, international relations and political science) and in translating works of literature. Emphasis will be given to discussion of translation problems, recognition of appropriate solutions, and the use of specific translation strategies in French-to-English translation.

Prerequisite(s): FRN 309 and FRN 316

Graduate Credit: This course is not available for graduate credit.

FRN 490 - Selected Topics in French Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

FRN 491 - Selected Topics in French Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

FRN 492 - Selected Topics in French Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

FRN 493 - Selected Topics in French Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

GEO 101 - World Geography Credits: 3

Study of basic global patterns and problems and the distinctive characteristics and interconnections of world culture regions with human ways of living viewed in their interactions and associations with natural, human, and technological resources of aspects of the environment. Course made functional in everyday living through perception of relations between concepts of the course and current world problems.

Category: Cat D - Polit, Eco and Geo Sci

GEO 103 - Geography of the United States and Canada Credits: 3

Introductory regional analysis of population, land utilization, and economic activity through a comprehensive study of interrelationships between humans and the physical and cultural environments. Provides a conceptual framework within which past, present, and future rural and urban environments of the United States and Canada become explainable.

Category: Cat D - Polit, Eco and Geo Sci

GEO 105 - Physical Geography Credits: 3

Studies way the basic natural phenomena of air, water, and ground mutually interact and the way in which these interactions vary from one part of the earth to another to yield different natural environmental regions. Two hours lecture/two hours lab/week.

GEO 140 - Cultural Geography Credits: 3

Examines the diverse cultural landscapes and behavioral patterns of the world. The dynamic aspects of our technological era are viewed as they influence cultural realms differing in race, language, religion, economy, and population distribution. The origin and diffusion of skills and tools used by societies to transform and adjust to their environments will be surveyed.

Category: Cat E - Soc and Behav Sciences

GEO 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat D - Polit, Eco and Geo Sci

GEO 202 - GIS I: Introduction to Geographic Information Systems Credits: 3

Introduction to the fundamental mapping and computer concepts and skills that underlie Geographic Information Systems (GIS) and every other geotechnology. Topics include representation (raster vs. vector), display, map scale, coordinate systems, data acquisition, and data management.

GEO 203 - Climatology Credits: 3

Deals with regional and applied climatology. Areas of emphasis are climatic controls, classification, U.S. precipitation regimes, world climate types, relationship of climate to other physical phenomena, and importance of climate in selected aspects of human activities.

GEO 224 - Soils Credits: 3

Studies geoenvironmental aspects of soils: their nature and properties, classification and distribution, interpretation of soil surveys, and factors affecting land use decisions. Local soil types, surveys, management and conservation practices, and problems of environmental quality studied.

Prerequisite(s): ESS 110 or HON 244 or ESS 210 or permission of instructor.

GEO 226 - Hydrology Credits: 3

Presents basic concepts of hydrology with emphasis on the relationship of water to natural and human systems. Major topics include the dynamics of surface water flow, hydrogeology, water pollution, and water resources analysis.

GEO 230 - Economic Geography Credits: 3

Investigates and delineates the spatial patterns of the human process of making a living. Each major economic activity is considered in terms of the basic resources available in the physical environment and the existing technical advancement of the culture. Basic geographic considerations relevant in analyzing economic patterns such as locational factors, research tools, and location theory are introduced.

GEO 244 - Land Use Credits: 3

Reviews the relationship of people to the land and how technological advances and expanding population have put increasing pressure on lean resources and have created a variety of complex land use dilemmas which affect persons at all levels of society. Rural to urban migration, energy-consumptive settlement patterns, urban sprawl, private land ownership and control, and federal, state and local land use regulations will be studied. Spatial approach of land and the interaction of the physical and cultural environment in the decision-making process will be emphasized.

GEO 301 - Introduction to Biogeography Credits: 3

Basic concepts and factors which are important in understanding the processes and influences involved in studying the distribution of terrestrial organisms over the earth will be presented. Some topics of importance include biodiversity; past and present patterns of the distribution of

terrestrial organisms; the abiotic, biotic and human influences on those patterns; and a variety of factors related to the various time scales at which organisms can be studied.

GEO 305 - Geography of Europe Credits: 3

Regional course designed to develop unbiased understanding of the economic problems of Europe, exclusive of Russia and surrounding regions. Geographic relationships underlying land utilization, boundary disputes, and dominant international problems are considered.

Prerequisite(s): GEO 101 or HON 141

GEO 306 - Geomorphology Credits: 3

Studies physical and chemical processes that have in the past and are presently forming the landscape. Description and classification of landforms and the theoretical and dynamic aspects of landform evolution are studied. Geomorphic techniques of quantitative analysis, advanced interpretation of topographic maps and air photographs, and field work are stressed. Two hours lecture and two hours lab/week.

Prerequisite(s): ESS 110 or HON 244 or ESS 210

GEO 308 - Geography of Latin America Credits: 3

Comparative study of the geographical regions of Middle and South America. Latin American relations with the United States and the rest of the world are interpreted through the analysis of the economic, social, and cultural activities of people in relation to the physical factors of this environment.

GEO 310 - Transportation Geography Credits: 3

Analyzes overall roles of transportation within the urban context. An integral part is the discussion of current urban transportation problems. Field work involving an evaluation of local transportation needs will be required. Course topics and requirements are flexible enough to meet the needs of students coming from urban studies, economics, business and elementary education.

GEO 313 - Geography of South and Southeast Asia Credits: 3

Examines the diverse cultural and physical features giving form to the present political/economic situation in this region and shaping the future.

GEO 317 - Geography of East Asia Credits: 3

Examines the vast and complex physical and cultural patterns of China, Korea, and Japan. Analysis of present and future economic and political structure is emphasized.

GEO 320 - Historical Geography Credits: 3

Emphasizes the reciprocal and causal relationships between the natural environment found in the United States and the historical movement and settlement of man on the varied American environment. Emphasizes interaction between human choice on one hand and the nature of coast lands, islands, rivers, mountains and soil, plains, and climate conditions.

GEO 322 - Urban Geography Credits: 3

Surveys the city, its forms, functions, internal and external relations, and evolution. Emphasis on large urban agglomerations, particularly those of the Western World. Individual and group field work examining local and regional urban areas of several classes is integral to the course.

GEO 332 - Field Methods in Oceanography Credits: 3

A course to familiarize students with the dynamic marine environment and field work on board small research vessels; to instruct in the use and application of standard oceanographic instruments and sampling devices; to promote and encourage independent research through the initial stages of a scientific project.

Prerequisite(s): ESS 220 with a minimum grade of D or permission of instructor

GEO 336 - Coastal Geomorphology Credits: 3

A study of coastal environments with an emphasis on understanding the interrelationships among landforms, processes, and material. The student will participate in field studies conducted along high and low wave energy environments.

Prerequisite(s): ESS 210 with a minimum grade of D, ESS 220 with a minimum grade of D, or permission of the instructor

GEO 339 - Remote Sensing Credits: 3

Explores viewing and interpreting the earth from aircraft and satellite-borne imaging systems. Examines remote sensing of the Earth and uses the interaction of electromagnetic energy with matter to determine physical properties of surfaces. Imagery will include those from Landsat TM, SPOT, TIMS, and radar.

GEO 352 - Cartography Credits: 3

Introduces basic tools of map making. Explains techniques for displaying data and develops skills in compilation, design, and execution of maps.

GEO 360 - Internship in Geography I Credits: 3

Contact the department for further information on internships.

GEO 361 - Internship in Geography II Credits: 1-4

Contact the department for further information on internships.

GEO 363 - GIS II: Intermediate Geographic Information Systems Credits: 3

Continues development of the student's understanding of GIS and extends understanding into spatial analysis. Fundamental concepts covered previously, including scale, earth models, map projections and coordinate systems, are also developed. New major concepts include Boolean logic, overlays, map algebra, binary modeling. Technical skill development focuses on data collection and integration, digitizing, and design of spatial data display. Primary emphasis on using real-world examples in GIS modeling and analysis.

Prerequisite(s): GEO 202

GEO 390 - Internship in Urban Studies I Credits: 3

Contact the department for further information on internships.

GEO 391 - Geography Seminar Credits: 3

Opportunity for advanced students to explore in greater depth those aspects of geography and geographic thought not fully developed in other courses. Geography viewed in light of its historical development and the leading edges of current research. Distinctive areas of specialization opened for in-depth consideration. Drawing upon departmental, interdepartmental and outside sources, seminar designed to stimulate and excite interest in a rapidly expanding professional field concerned with current social and environmental problems. Required for all arts and science and secondary education majors in geography.

GEO 393 - Selected Topics in Geography Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

GEO 394 - Internship in Urban Studies II Credits: 3

Contact the department for further information on internships.

GEO 397 - Introduction to Research Credits: 1-3

Opportunity to do research under the guidance of selected faculty members.

GEO 398 - Research II Credits: 3

Opportunity to do research under the guidance of selected faculty members.

GEO 399 - Independent Study in Geography Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

GEO 402 - Medical Geography Credits: 3

Introduces student to a geographical approach in the analysis of problems regarding environmental health. Dynamic interaction between the total person and the total environment (physical, biological, cultural, economic) lie at the core of geography, a discipline that integrates natural and social sciences. Consideration of such interactions is essential for an understanding of the changes that occur in the distribution of health and disease, when, for instance the environment is altered, or human lifestyles undergo substantial modification.

Graduate Credit: This course is available for graduate credit.

GEO 404 - Groundwater and Hydrogeology Credits: 3

Examines the fundamental concepts of groundwater and hydrogeology in the context of real-world applications on the foundations of theory. Emphasis on the principles of groundwater flow, well installation, field data collection, and the analysis of physical and water chemistry as they relate to professional groundwater investigations. Grades based on exams and application-oriented assignments (problem sets). Required field trip(s) will supplement classroom material (field trip dates and times will be determined during class).

Prerequisite(s): ESS 110 or HON 244 or ESS 210

Graduate Credit: This course is available for graduate credit.

GEO 405 - Environmental Conservation and Management in PA Credits: 3

This course examines the management of environmental and natural resource issues. Legislation, policies, programs, and strategies that are developed at the local, state, and federal levels of government are discussed as they apply to these issues. There will be an emphasis on current environmental and natural resource issues in Pennsylvania. Topics that will be considered during the course will include the environment as a public policy issue, waste management and cleanup programs, energy, air and water pollution, and the use of public lands. Through lectures, discussion, readings, writing assignments, and case study analysis, the student will be introduced to a range of environmental and natural resource issues.

Graduate Credit: This course is available for graduate credit.

GEO 415 - Regional Geographic Studies Credits: 3

Opportunity to study the physical and human landscapes within a particular region of the world not covered by regular courses. Departmental faculty bring their regional expertise into the classroom and provide students with a focused examination of the region with respect to current political, social, economic, physical, and environmental issues. Faculty highlight their own work in the region and place their research within the broader regional context.

Graduate Credit: This course is available for graduate credit.

GEO 420 - GIS III: Advanced Geographic Information Systems Credits: 3

Examines advanced topics in GIS analysis such as spatial data uncertainty, error propagation, spatial data display, transformations of geographic phenomena, and visualization. Skills focus on advanced spatial analysis, terrain modeling, georectification of data, and network analysis. Students design and implement an independent GIS project during the course.

Prerequisite(s): (GEO 202 and GEO 363)

Graduate Credit: This course is available for graduate credit.

GEO 421 - Environmental Law Credits: 3

Environmental Law examines the interrelationship between laws, regulations, and policies, which have a direct and indirect impact upon the environment. This course covers the major federal and Pennsylvania environmental laws, regulations, and policies and discusses the importance of compliance in order to avoid liability. The course will include an analysis of laws that establish compliance obligations, laws that enforce and impose liability, and the court's role in the environmental law process.

Graduate Credit: This course is available for graduate credit.

GEO 425 - Image Processing Credits: 3

Computer processing of remotely-sensed imagery is explored and laboratory exercises enhance understanding of image processing. Intermediate and Advanced processing techniques performed on imagery from local and non-local areas. Techniques include spatial modeling, multispectral classification, and learning new techniques in processing satellite-borne imagery and other data. Successful completion of GEO 339 - Remote Sensing Credits: 3 is suggested.

Graduate Credit: This course is available for graduate credit.

GEO 427 - Sustainability Credits: 3

This course examines how human society faces the challenges of global environmental change, resource limitations, and environmental degradation. Areas of focus include global change, ecosystems, population growth, environmental economics and policy, energy, water, agriculture, ethics and history. As a naturally interdisciplinary subject, this course will examine both the physical and social science involved with these issues and the various types of solutions that humans will apply to sustainability problems including: technology, engineering,

management, and planning. The course will rely heavily on insight and guest lectures from many disciplines as well as applied projects that focus on different areas of sustainability.

Prerequisite(s): ESS 108 or BIO 145

Graduate Credit: This course is available for graduate credit.

GEO 440 - Field Techniques Credits: 3

Studies geoenvironmental aspects of the local landscape by direct field observation. Various procedures and techniques are utilized to collect data concerning landforms, geology, soil, streams, air quality, population, transportation, housing characteristics and land use. Instruments, maps, air photographs, and statistics are used to aid in the research, analysis, and evaluation of the field problem.

Graduate Credit: This course is available for graduate credit.

GEO 441 - Quantitative Methods Credits: 3

Broad-based education in the geographical sciences requires a proficiency in applying statistical techniques to environmental problems. Provides a comprehensive and empathetic approach to statistical problem solving using practical geographic examples.

Graduate Credit: This course is available for graduate credit.

GEO 444 - Environmental Land-Use Planning Credits: 3

Studies the spatial pattern of land-use development in rural and urban areas and interaction between urbanization and environment. Examines the physical and cultural requirements of environmental land-use planning including the study of the land-use classification, planning and zoning procedures, economic activity and the city as an ecosystem. City planning techniques, land-use mapping and field study of local region are utilized.

Graduate Credit: This course is available for graduate credit.

GEO 446 - Water Resources Management Credits: 3

Roles of water resources management policies and institutions are examined within central theme of unified river basin management. Stresses interrelationships among watershed planning; relevant legislation; agency authority and coordination; and the geography of watershed management. North American case studies used to illustrate multiple use issues, including aquatic ecology, wetlands, floodplain management, recreation, water supply, hydropower, industry, and commercial shipping.

Prerequisite(s): GEO 226

Graduate Credit: This course is available for graduate credit.

GEO 450 - Geography-Geology Field Studies Credits: 1-3

One week to 10-day regional field study observing and analyzing the physical and cultural landscape. Emphasis placed upon the physical and historical geology and geography of a prescribed route including several states.

Prerequisite(s): Vary depending on topic, please contact instructor.

Graduate Credit: This course is available for graduate credit.

GEO 452 - Geography-Geology Field Studies Credits: 1

One week to 10-day regional field study observing and analyzing the physical and cultural landscape. Emphasis placed upon the physical and historical geology and geography of a prescribed route including several states.

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Prerequisite(s): (ESS 212 and (GEO 103 or HON 140)) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

GEO 463 - Applied Geophysical Imaging Credits: 3

This course familiarizes students with the concepts and field implementation of shallow subsurface geophysical techniques applicable to environmental studies. This course will be taught from a practical, environmental perspective rather than an engineering perspective and is field intensive. We will apply multiple geophysical methods in the field to detect and map underground geologic and artificially buried features at selected sites in and around Shippensburg. The course covers the basics of five critical geophysical methods: Electrical Resistivity, Ground-

penetrating Radar, Electromagnetic Induction, Gravity, and Seismic methods, with emphases on the basic principles, applications, strengths and the limitations of each method. Field exposure will involve the first three of the five methods, for which the department maintains equipment. Students will map several underground features in the field, including groundwater-bearing zones as well as contaminated sites around landfills, buried man-made features, sinkholes, caves, saltwater/freshwater interfaces, etc.

Graduate Credit: This course is available for graduate credit.

GEO 490 - Selected Topics in Geography Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

GEO 491 - Selected Topics in Geography Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

GEO 492 - Selected Topics in Geography Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

GEO 493 - Selected Topics in Geography Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

GEO 494 - Selected Topics in Geography Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

GER 101 - Beginning German I Credits: 3

Designed for students with no background in the language. Both textbook and authentic materials used to enable students to express themselves on personalized topics. The department reserves the right to remove students found to be in violation without notice.

Category: Cat B - Humanities

GER 102 - Beginning German II Credits: 3

Continuation of GER 101 . Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self and other personalized topics.

Prerequisite(s): GER 101 or Departmental Placement

Category: Cat B - Humanities

GER 103 - Intermediate German Credits: 3

Continuation of GER 102 . Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self, family, friends, and their communities. Reading, writing, listening and speaking are combined to explore the language and culture of the German-speaking world.

Prerequisite(s): GER 102 or Departmental Placement

Category: Cat B - Humanities

GER 150 - German Civilization and Culture Credits: 3

Examines the culture, the social and artistic factors which have contributed to the evolvement of the civilization and culture of German-speaking peoples. Examines trends in world history that had an impact on the cultural development of German-speaking countries and employs a historical approach. Taught in English; knowledge of German language and culture helpful but not essential.

Category: Cat B - Humanities

GER 151 - German Cinema Credits: 3

Survey of Germany's cinematographic production within its cultural/historical/social contexts from the beginnings until today. Works of art movements (e.g. Expressionism, the New German Cinema) or of individual filmmakers are analyzed; some film criticism and film analysis skills are employed. Taught in English.

Category: Cat B - Literature

GER 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

GER 203 - Intermediate German Communication Credits: 3

Designed as a continuation of GER 103 and to promote and improve the four skills through exploration of various authentic materials. Students consider topics of interest through discussion, presentations and written reflection while reviewing/building language skills. Special attention given to vocabulary building and improving students' oral/written proficiency in order to attain ACTFL level Intermediate-Low-Mid.

Prerequisite(s): GER 103 or Departmental Placement

Category: Cat B - Humanities

GER 204 - Contemporary German Culture Credits: 3

Introduction to comparative cultural studies and current cultural topics of the German-speaking world. Sustained attention will be given to oral and written expression.

Prerequisite(s): GER 103 or Departmental Placement

Category: Cat B - Humanities

GER 215 - German for the Professions Credits: 3

Emphasizes skills in communication in the daily world of business, health professions, social work, law enforcement, etc. May include techniques of translation, a study of the economic and business systems in the German-speaking world, and extensive practice in using forms and expressions frequently used in correspondence of the above mentioned professions. Content may be adapted to students' needs.

Prerequisite(s): GER 203 or GER 204 or permission of instructor.

Category: Cat B - Humanities

GER 220 - Intermediate German Grammar Credits: 3

Presents a thorough review of the fundamentals of verb and case of the German language. Students will be trained in the use of grammatically-correct German through extensive oral and written practice.

Prerequisite(s): GER 103 or permission of instructor.

GER 300 - Introduction to German Literature Credits: 3

Introduction to selected works in German literature and approaches to understanding and reading literature in a critical way (e.g. reading strategies, cultural/historical discourses, German/Cultural Studies methods). (varying content)

Prerequisite(s): GER 203 or GER 204 or permission of instructor.

GER 309 - German Phonetics Credits: 3

Presents a careful analysis of the sounds of German. Provides an introduction to the principles of phonetics combined with intensive drills in the pronunciation of standard German (in terms of accent, intonation, and stress). Special attention paid to the identification and correction of individual pronunciation errors.

Prerequisite(s): GER 203 or GER 204 or permission of instructor.

GER 312 - German Grammar Credits: 3

Presents a thorough review of misc. details in the structure of the German language. Students will be trained in the use of grammatically correct German through extensive oral and written practice.

Prerequisite(s): GER 203 or GER 204 or permission of instructor.

GER 313 - Composition and Stylistics Credits: 3

Intended to help develop students' writing skills in the form of narratives, descriptions, argumentative texts, etc., this course will emphasize the use of written German at formal and semi-formal levels and focus on relevant (academic) writing. It will enable students to develop a repertoire of textual forms in order to communicate effectively and fluently in writing.

Prerequisite(s): GER 203 or GER 204 or permission of instructor.

GER 320 - Berlin Credits: 3

Employs Berlin as an example of the concept and culture of metropolis. Analyzes the sociological, political, and historical significance of Berlin and provides a survey of the history of the German capital and its culture. Literature, film, other artworks and nonfictional texts about Berlin will be analyzed.

Prerequisite(s): GER 203 or GER 204 or permission of instructor.

Category: Cat B - Literature

GER 322 - Readings in German Literature Credits: 3

Studies different authors, genres, or movements in German literature (varying topics). Focus on close readings and analysis within a cultural context.

Prerequisite(s): GER 203 or GER 204 or permission of instructor.

Category: Cat B - Literature

GER 390 - German Internship Credits: 3

Contact the department for further information on internships.

GER 393 - Selected Topics in German Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires permission of instructor.

GER 394 - Selected Topics in German Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires permission of instructor.

GER 395 - Selected Topics in German Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires permission of instructor.

GER 399 - Independent Study in German Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

GER 400 - German Seminar Credits: 3

Detailed examination of specific aspects of German culture or literature (varying topics). Seminar may be taken more than once provided a specific topic is not repeated.

Prerequisite(s): Requires permission of instructor.

Graduate Credit: This course is not available for graduate credit.

GER 490 - Selected Topics in German Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

GRN 100 - Introduction to Gerontology Credits: 3

Provides basic knowledge about gerontology from biological, psychological, and social perspectives, with an emphasis on examining aging among diverse groups. Traditional topics include physical and mental health aspects of aging, work and retirement in later life, and an overview of aging in special populations.

GRN 301 - Gerontology Internship Credits: 3

Provides an off-campus, professional learning experience in the field of aging. Contact the program director for information.

Prerequisite(s): GRN 100 and at least two other courses from disciplines in the Gerontology Minor list of approved courses.

GRN 303 - Gerontology Internship II Credits: 3

This optional second internship provides an additional off-campus, professional learning experience in the field of aging. Contact the program director for information.

Prerequisite(s): GRN 100 and at least two other courses from disciplines in the Gerontology Minor list of approved courses.

GRN 390 - Selected Topics in Gerontology Credits: 3

Opportunity to offer courses in areas of program minor not covered by the regular courses.

GRN 391 - Selected Topics in Gerontology Credits: 1-3

Opportunity to offer courses in areas of program minor not covered by the regular courses.

GRN 392 - Selected Topics in Gerontology Credits: 3

Opportunity to offer courses in areas of program minor not covered by the regular courses.

GRN 490 - Selected Topics in Gerontology Credits: 3

Opportunity to offer courses in areas of program minor not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

GRN 491 - Advanced Selected Topics in Gerontology Credits: 1-3

Opportunity to offer advanced courses in areas of program minor not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

GRN 492 - Selected Topics in Gerontology Credits: 3

Opportunity to offer courses in areas of program minor not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HCA 400 - Introduction to Health Care Systems Credits: 3

Introduces the major components of the health care system in the United States, including governmental, for profit, and not-for-profit organizations. Discusses the influence of social, political, and economic forces on the delivery of health care. Examines current problems facing the health care industry and evaluates alternative programs from other nations.

Graduate Credit: This course is available for graduate credit.

HCA 451 - Legal Aspects of Health Care Credits: 3

Examines the federal and state regulation of health care providers, focusing primarily on hospitals, nursing homes, physicians, and insurers. Reviews general principles of liability and confidentiality for health care providers. Assesses issues associated with the introduction of medical evidence and testimony. Evaluates the role of the legal system in cases involving all aspects of the human life cycle, ranging from conception to the end of life.

Prerequisite(s): HCA 400

Graduate Credit: This course is available for graduate credit.

HCA 452 - Health Care Financial Management Credits: 3

Examines the most used tools and techniques of health care financial management including health care accounting and financial statements; managing cash, billings, and collections; making major capital investments; determining cost and using cost information in decision-making; budgeting and performance measurement; and pricing.

Prerequisite(s): HCA 400

Graduate Credit: This course is available for graduate credit.

HCA 453 - Human Resources Management for Health Care Professionals Credits: 3

Examines the development and functions of human resources management in the context of public, private, and not-for-profit health care settings including hospitals, rehabilitation facilities, and continuing care retirement communities among others. Evaluates the roles of management and the functional specialist in the development and implementation of personnel policy and administration. Emphasizes the impact of American culture and public policy upon the human resources and industrial relations functions.

Prerequisite(s): HCA 400

Graduate Credit: This course is available for graduate credit.

HCA 454 - Health Care Strategic Management Credits: 3

Explores the determinants of organizational survival and success. Assesses the need to achieve a fit between the internal and external environment. Analyzes cases to examine environmental and competitive issues.

Prerequisite(s): HCA 400

Graduate Credit: This course is available for graduate credit.

HCA 485 - Independent Research in Health Care Administration Credits: 1-6

Students do in-depth research in an area of health care that interests them. The project will demonstrate the student's ability to do independent research, culminating in a well-written report. Contact the research coordinator of the department for further information.

Prerequisite(s): Requires departmental approval.

Graduate Credit: This course is available for graduate credit.

HCA 490 - Selected Topics in Health Care Administration Credits: 3

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HCA 491 - Selected Topics in Health Care Administration Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HCA 498 - Internship in Health Care Administration Credits: 1-3

Students broaden their knowledge of health care administration by participating in an internship. Contact the internship coordinator of the department for further information.

Prerequisite(s): Requires departmental approval.

Graduate Credit: This course is available for graduate credit.

HCA 499 - Internship in Health Care Administration II Credits: 1-3

Students broaden their knowledge of health care administration by participating in an internship. Contact the internship coordinator of the department for further information.

Prerequisite(s): Requires departmental approval.

Graduate Credit: This course is available for graduate credit.

HIS 105 - Historical Foundation of Global Cultures Credits: 3

Introduces the premodern social, cultural, economic, political, scientific, and environmental foundations of today's globalized world. Particularly emphasizes the origins and interactions of major cultural and political traditions; world religions such as Buddhism, Christianity, Islam, and Judaism; and the local religious traditions of Africans, Asians, Native Americans, and others. Fosters interdisciplinary thinking by drawing insights from related disciplines. Also develops essential study skills of independent learning, analytic reading, critical thinking, and effective written and oral communication.

Category: Basic Skills and Competencies

HIS 106 - Thinking Historically in a Global Age Credits: 3

Explores the political, economic, social, cultural, scientific, and environmental changes since 1500 that have shaped today's world. Students will examine the historical background of contemporary issues. Particularly emphasizes the historical context of modern globalization; the transformation of traditional societies; and the international role of the United States. Fosters interdisciplinary thinking by drawing insights from related disciplines. Also, systematically builds on study skills developed in History 105, further strengthening ability to learn independently, think and read critically, and produce college-level research and writing.

Category: Basic Skills and Competencies

HIS 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

HIS 201 - Early History of the United States Credits: 3

Traces the major social, political, and cultural themes of American history from the initial contacts among Africans, Europeans, and Native Americans through the Civil War. This course fulfills the university's diversity requirement.

HIS 202 - Recent History of the United States Credits: 3

Examines the social, political, and economic currents of American history since the Civil War. Emphasizes changes taking place in agriculture, labor, urban society, social relations, and industry.

HIS 203 - Theory and Practice of History Credits: 3

Covers briefly the history of the discipline. Introduces historiographical issues, methodology, and the craft of argumentation; includes library skills, the use of computers, analysis of professional historians' research. Hands-on approach provides opportunities to work with primary sources (documents, oral sources, quantitative data, visual/material evidence). Seminar with discussion, oral presentations, written exercises, and a major paper or project.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and sophomore standing.

HIS 301 - The West in American History Credits: 3

Studies the history and significance of the continuously advancing West in the development of the United States and present day life in America. Frontier society and migration are included is the importance of the American frontier on the nation's history.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202) or permission of instructor.

HIS 302 - American Business History Credits: 3

Analyzes evolution of business in North America from the colonial era through the development of 20th century corporate capitalism and to the "post-industrial" economy of the contemporary world. Particular emphasis is placed on the relationship between workers, employers and technological innovation, the social and cultural framework of capitalism, and the links between the economy and the environment. The course focuses primarily on the United States with cross-border comparisons to Canada and Mexico.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 304 - American Diplomatic History Credits: 3

Studies U.S. foreign relations from colonial times to present and the factors which influenced them (e.g., the psychological outlook, the aims and the policies of the decision makers; public opinion; domestic and international politics; geography, and technology).

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 305 - The Civil War Era Credits: 3

Studies the background, development and results of sectional rivalries between northern and southern sections of the United States. The war and its aftermath are considered from political, military, economic, and sociological points of view.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202) or permission of instructor. HIS 201 is recommended but not mandatory.

HIS 307 - Contemporary U. S. History since 1945 Credits: 3

Stresses recent economic, social, and cultural developments of the American people. Traces the growth of the city and the development in our economy and deals with the diverse effects of these forces upon American life and thought.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202) or permission of instructor

HIS 309 - History of the American Worker Credits: 3

Covers the historical development of the American working class between the 18th and 20th centuries. Readings focus on the process of unionization and the relationship between industrial workers and the social, educational, political, and economic life in America.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202) or permission of instructor

HIS 314 - History of Jacksonian America Credits: 3

Analyzes the social, intellectual, political, economic, and religious events, trends, issues, and problems in American life from the 1810s until the 1850s.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202) or permission of instructor

HIS 318 - History of U.S. Women Credits: 3

Focuses upon historical factors that shaped the lives of American women in the 18th, 19th, and 20th centuries. Changing standards of behavior, expectations of marriage and family, and options of work outside the home will be explored, as well as women's demands for equality in education, careers, and citizenship. Women's differing experiences based on race, ethnicity, religion, region, social class, and age will be discussed.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 319 - Introduction to Public History Credits: 3

Explores the field of public history and the ways that historians preserve, interpret, and present the past to the general public. Through guest speakers and hands-on activities performed in class and at area historical institutions, students will learn about the work of public historians in areas such as archives, historical editing, oral history, material culture studies, museums, historic preservations, digital history, and historical film productions. special emphasis will be placed on the financial, legal. ethical. political, and interpretative issues faced by historians presenting the past to diverse audiences, and recent public history controversies. Students will also explore career opportunities available in the field of public history.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202) or permission of instructor

HIS 320 - Europe in the Early and High Middle Ages: 300 to 1270 Credits: 3

Surveys the important political, economic and cultural developments in Europe from the time of the late Roman Empire to the end of the crusading movement. Special emphasis on the great cultural achievements of the 11th through the 13th centuries.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 321 - Late Medieval Europe: 1270 to 1517 Credits: 3

Examines the decline of medieval civilization and the emergence of the modern, with particular emphasis upon growth of the modern state, the Italian and northern renaissances, and the crises of the Catholic Church in the 14th and 15th centuries.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 325 - History of the Tsarist Russia Credits: 3

Studies the development of the Tsarist system (1462-1917) and of the 1917 Russian revolutions. Major attention focused on tsars, clergy, nobles, bureaucrats, intelligentsia, and peasantry in terms of their character, relations, institutions, and beliefs. Special concern given to causes of the 1917 revolutions and the legacy of pre-Soviet Russia.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 326 - History of the U.S.S.R. Credits: 3

Considers the history of modern Russia in three phases: a study of the basic aspects of Marxist-Leninist ideology; chronological coverage of the history of Soviet Russia from the 1917 revolution to the present; and a study of conditions within present-day Russia and her relations with the rest of the world.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 330 - History of Modern Germany: 1919 to Present Credits: 3

Survey of German history from the end of World War I to the present, emphasizing social and political developments. Particular attention paid to the dissolution of the Weimar Republic and the establishment of the National Socialist totalitarian state.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 331 - History of Modern France: 1750 to Present Credits: 3

Examined origins and course of the French Revolution and assesses the consequences for social, economic, institutional, political, and intellectual trends. These themes then are followed through successive revolutions, wars, and governmental changes down to the present.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 332 - English History: 1066 to Present Credits: 3

Surveys British history from the Norman Conquest to the late 20th century, emphasizing the unique character of English institutional and social developments. Major topics include growth of common law and Parliament, the changes in institutions and religion during the Tudor-Stuart era, the impact of the Industrial Revolution, the acquisition and evolution of empire, and the role of Great Britain in the 20th century.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 334 - Europe 1715-1815: The Era of the Industrial and French Revolutions Credits: 3

The century from 1715-1815 has a fair claim to be the most important one hundred years in the history of the world, because of the importance of the Industrial Revolution and the French Revolution. This course introduces students to the period, to give them a better context for understanding the causes and consequences of these major events using both primary and secondary sources.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123)

HIS 337 - History of the Byzantine Empire Credits: 3

This course examines the eastern Roman, or Byzantine, Empire and its civilization from the age of Constantine to the fall of Constantinople to the Ottomans in 1453. Of special interest will be three themes: the relationship of Byzantium to Western Europe, the development of the Byzantine state, and the influence of Byzantine economy, art, and religion on both the Empire and its neighbors.

Prerequisite(s): HIS 105 or HON 122

HIS 338 - Colonial America Credits: 3

Explores changing patterns of life in North America from the late 15th century to the mid-18th century. Themes examined include the European exploration and settlement of the Americas, the demographic and ecological consequences of colonization, and the development of distinct regional cultures in colonial America.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202) or permission of instructor

HIS 339 - The Central Islamic Lands, 500-1700 Credits: 3

This course examines the development of Islam as a cultural and religious tradition from its origins in the late antique Middle East until the period of the "Gunpowder Empires". It includes the rise and disintegration of the caliphate as an Islamic empire, the development of Islamicate societies and Islamic institutions, the spread of Islam through much of Asia and Africa, the simultaneous localization and globalization of the Islamic tradition, and the rise of new imperial systems under the Ottomans, Safavids, and Mughals.

Prerequisite(s): HIS 105 or HON 122

HIS 341 - African-American History Credits: 3

Traces the experiences of African-Americans from the early colonial period to the present while emphasizing the following themes: the formation of a racial identity among diverse African-Americans, the rise of slavery and abolitionism, the struggles of African-Americans after the Civil War, and the evolution of 20th century civil rights movements.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 342 - U.S. Immigration and Ethnicity Credits: 3

Examines the history of immigration and ethnicity in the United States between 1820 and 1980. Traces processes, politics, and cultures of new Americans with special emphasis on legal barriers to full citizenship. Focus on gender relations and the experiences of recent ethnics included.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 344 - History of the Modern Middle East Credits: 3

Surveys the modern Middle East from 1500 to present. Investigates how the world was transformed by the rise of Islam as a guiding force within some of the most powerful and stable empires, like the Ottoman and Saffavid Empires, in history. Discusses in some depth the impact of colonialism and the rise of nationalist movements. Major emphasis placed on contemporary issues: the Iranian Revolution, Iraq-Iranian War, Arab-Israeli Conflict, the Palestinian Question, and the problems of national development in the area.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 345 - Military History of the United States Credits: 3

Studies the military history of the United States by placing the American military within the larger context of the changing economic, technological, social, and intellectual environment of the United States of which environment the American military is a product and extension.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 348 - The History of Ancient Rome Credits: 3

This course examines Ancient Roman society, religion, and government, looking at the development of religious, social, and political changes throughout Roman history. Emphasis will be placed on social, religious, and political institutions that have had the longest-term impact.

Prerequisite(s): (HIS 105 (may be taken concurrently) or HON 122 (may be taken concurrently))

HIS 349 - History of Latin America Credits: 3

Surveys the history of Latin America from the pre-Columbian civilization to the present with emphasis on the social, cultural, political, and economic themes that explain the present problems and potentials of the continent.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 350 - History of Modern Japan Credits: 3

Deals with the evolution of traditional Japanese social, economic, and political institutions. Impact of rapid modernization on these institutions and the transformation of Japan into a world power will be the major themes of this course. Japan's re-emergence as an economic and political force in Asia since World War II examined.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 351 - World History since 1945 Credits: 3

Examines the major events and key developments that have occurred since World War II. Course is global in scope and particular emphasis is placed on the interrelationships that have come to characterize the entire world's events and institutions since 1945.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 352 - The US and Vietnam Credits: 3

Begins with an overview of pre-colonial Vietnam, examines the motives and consequences of 19th and 20th century French colonialism to 1954, and finally analyzes the American war in Vietnam and its impact on both Vietnam and the United States.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202) or permission of instructor

HIS 353 - Modern Southeast Asia Credits: 3

Provides an understanding of modern Southeast Asian history from the early 1500s through the post-colonial period. After a brief introduction to Southeast Asia's early history, the main themes explored are nature and impact European colonization, growth of nationalist resistance movements and the subsequent emergence of modern nation states. Concludes by addressing the main issues confronting post-colonial Southeast Asia.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 354 - Traditional China Credits: 3

Surveys China's history from ancient to early modern times (ca. 1600) by investigating major developments in Chinese society, political systems, economy, and culture.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 355 - History of Modern China Credits: 3

Concerned with the evolution of traditional Chinese institutions and philosophies. Decline of the imperial system examined from the point of view of internal disintegration and external aggression. Course then traces development of nationalist movements in China since 1911 and describe the impact of the KMT-CCP Civil War to 1950. China's emergence as a world power examined.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 356 - History of 19th Century Europe Credits: 3

Examines the major political, social, economic, and cultural developments that shaped Europe during the "long" 19th century between 1789 (the French Revolution) and 1914 (the outbreak of WWI). Particular emphasis is placed on the causes and effects of the French and Industrial Revolutions. Traces new movements and ideologies such as liberalism, nationalism, socialism, Darwinism, feminism, imperialism, and militarism.

Prerequisite(s): (HIS 106 or HON 123) and (HIS 105 or HON 122) or permission of instructor

HIS 357 - History of Holocaust Credits: 3

Examines the background, perpetration, and memory of the systematic destruction of Europe's Jews and other minorities during the Second World War, commonly known as the Holocaust. Particular emphasis is placed on the history of Antisemitism in Europe, Social Darwinism, the rise of the Nazi Party in Germany, Nazi ideology, the carrying out of the murder of Europe's Jews, and the legacy of the Holocaust.

Prerequisite(s): (HIS 106 or HON 123) and (HIS 105 or HON 122) or permission of instructor

HIS 358 - American Environmental History Credits: 3

Analyzes growth of the American economy from the pre-colonial era. Deals with the interaction between humans and the natural world in the United States from the pre-colonial era to the present. Explores such topics as the impact of industrialization and urban growth on the American environment, the emergence of ecological consciousness and green politics, and the creation of the idea of "Nature" in American culture.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 359 - History of Western Political Thought, 1500-1800 Credits: 3

In 1500, most European governments were monarchies. By 1800, there had been successful revolutions in Britain, France, and America. The result of these revolutions was a dramatic increase in popular participation in government. There was also a revolution in thinking about politics- most intellectuals now hoped and expected that democracy would spread. This course, focusing on primary sources, examines the major political thinkers of the era- including Machiavelli, Hobbes, Locke, and Rousseau- to understand how this crucial intellectual change came about.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123)

HIS 360 - History of Mexico Credits: 3

Surveys Mexican history from pre-conquest to the present. Major topics include the Spanish Colonialism, the Mexican Revolution, and Mexico's present cultural and economic influence within Latin America.

Prerequisite(s): (HIS 106 or HON 123) and (HIS 105 or HON 122) or permission of instructor

HIS 361 - History of 20th Century Europe Credits: 3

This course traces the political, economic, social, and cultural development of Europe from the beginning of the 20th century through the early 21st century. Particular focus is given to the causes and impact of World War I, the Russian Revolution and Stalinism, the rise of fascist regimes, World War II and the Holocaust, the Cold War division and postwar reconstruction of Europe, the end of the Cold War, European integration, and contemporary challenges facing Europe.

Prerequisite(s): HIS 106 or HON 123

HIS 362 - Europe 1450-1715: The Era of the Renaissance and Reformation Credits: 3

Europe in the sixteenth and seventeenth centuries developed many features that we recognize as modern: large standing armies, prime ministers and governments who had to command a majority in parliament, religious pluralism, central banks and stock exchanges, and a culture of scientific experiment. This course tries to explain the causes of these major changes using primary and secondary sources.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 (may be taken concurrently) or HON 123)

HIS 363 - History of U.S. and World War II Credits: 3

This course will provide an intensive examination of some of the major social, political, economic, diplomatic and military issues of United States history during the era of the Second World War. Special attention will be paid to the impact the war had on American society, gender, and race relations; the way the war transformed the U.S. role in international relations; the impact of the war on American society and foreign relations in the postwar era; the changing place of the war in American historical memory; and the ways the war has been portrayed over time by Hollywood.

HIS 366 - History of Brazil Credits: 3

Surveys Brazilian development from the Colonial to the Modern era including an examination of Portuguese conquest and control, the monarchy, industrialization, the influence of minorities, and the literature and arts.

Prerequisite(s): (HIS 106 or HON 123) and (HIS 105 or HON 122) or permission of instructor

HIS 376 - History of Africa South of the Sahara Credits: 3

Surveys sub-Saharan African history beginning with brief introduction to pre-colonial history. Emphasis on the colonial period beginning with the Berlin Conference of 1885 and the post-colonial era. Historical periods studied include pre-colonial history up to the 14th century, exploration age up to 1885, colonial development to 1945, and post-World War II Africa.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) or permission of instructor

HIS 382 - Selected Topics in History Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS 383 - Selected Topics in History Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS 384 - Selected Topics in History Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS 385 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS 386 - History Research Seminar Credits: 3

Focuses on the critical analysis of primary and secondary sources centered on the production of a research project of significant scholarly value. Students will choose a topic, analyze the relevant secondary source literature and conduct original scholarly research using archival, oral, manuscript and/or other primary sources. Assigned readings will provide practical advice on the art of historical research and writing. Students will also be encouraged to submit their research for presentation at a professional conference or publication in a scholarly journal. P

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and junior standing or permission of instructor.

HIS 387 - History Internship Credits: 3

Contact the department for further information on internships.

HIS 388 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS 389 - History Internship Credits: 3

Contact the department for further information on internships.

HIS 390 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS 391 - History Internship Credits: 3-6

Contact the department for further information on internships.

HIS 393 - Selected Topics in History Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS 394 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS 397 - Seminar in Comparative History Credits: 3

Examines themes common across world civilizations from c. 1000 to the present and considers their development in specific cultural settings. Although specific states or world regions may be considered, readings are broadly comparative and intended to form a synthesis of discrete national or regional histories. Includes a writing requirement. Usually taken during the senior year.

Prerequisite(s): (HIS 105 or HON 122) and (HIS 106 or HON 123) and HIS 203 and senior standing

HIS 398 - Independent Study I in History Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

HIS 399 - Independent Study II in History Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

HIS 402 - Revolutionary America Credits: 3

Explores the fundamental changes in American life during the 18th century and their culmination in the American Revolution. Analyzes those themes within the conceptual framework of the modernization of traditional societies and in the context of broader Western and American developments.

Prerequisite(s): ((HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202)) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

HIS 407 - Women in Comparative Perspective Credits: 3

Topical exploration of female experiences in selected global cultures. How different societies have constructed gender (or defined the social meaning of being a woman) over time explored in a comparative perspective. Intellectual discourses of religion, education, and politics structure cultural comparisons of women's work, their position within the family, attitudes toward sexuality, civil rights, and access to public power. Through readings, discussions, films, and occasional lectures the class examines the historical development of modern gender conventions in various world regions and of controversies about the human rights of women.

Prerequisite(s): ((HIS 105 or HON 122) and (HIS 106 or HON 123)) and sophomore standing or permission of instructor.

Graduate Credit: This course is available for graduate credit.

HIS 413 - Pennsylvania History Credits: 3

Deals with development of Pennsylvania from the eve of European settlement to the present. Attention given to political, economic, and social trends and institutions from the 17th through the 20th centuries. Pennsylvania's role in national and international history also studied.

Prerequisite(s): ((HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202)) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

HIS 423 - Issues in 20th-Century Europe Credits: 3

Chronological and topical study of political, economic, social, and intellectual trends of our era. Modern wars, the struggle between authoritarianism and democracy, the East-West split, and the European economic community are major themes.

Prerequisite(s): ((HIS 105 or HON 122) and (HIS 106 or HON 123)) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

HIS 428 - Issues in the Gilded Age and Progressive Era Credits: 3

Covers political, economic, social, and intellectual aspects of the Progressive Movement, tracing its origins in the 19th century and showing how progressivism was a part of the background of the New Deal. Special attention given to the all-important transition of the concept of liberalism from laissez-faire individualism to state regulation. Emphasis placed upon the differing interpretations of the Progressive Movement, which have been developed by various historians.

Prerequisite(s): ((HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202)) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

HIS 430 - U.S. Cultural History Credits: 3

Focuses upon significant cultural developments in American History, and upon the importance of culture to major trends and events in the U.S. past. Course addresses cultural theory, definitions of culture, multiculturalism in history, and the roles of culture and communication in the interpretation of history. Individual subjects covered each semester will include some combination of the following: mass media (including radio, television, print), folklore, religion, material culture, and performance culture.

Prerequisite(s): ((HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202)) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

HIS 433 - Oral History Credits: 3

Introduces students to methods and uses of oral history. Students learn to analyze and use oral history sources, and will practice oral history protocols including the conduct of recorded interviews, the storage of oral history recordings, and the transcription of oral history interviews. Students will also be introduced to alternative uses for oral history including audio and video documentary, and digital methods of exhibition.

Prerequisite(s): ((HIS 105 or HON 122) and (HIS 106 or HON 123) and (HIS 201 or HIS 202)) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

HIS 454 - China and the Outside World Credits: 3

Investigates China's relations with the outside world during its pre-modern history. Since China is somewhat geographically isolated from the rest of Eurasia, historians have tended to assume Chinese civilization is mostly the product of indigenous developments. The course challenges this assumption by looking at how China and people outside of its borders have influenced each other.

Prerequisite(s): ((HIS 105 or HON 122) and (HIS 106 or HON 123)) or permission of instructor.

Graduate Credit: This course is available for graduate credit.

HIS 460 - Archives and Public History Credits: 3

Course examines the relationship between archives and the theory and practice of public history. The course will survey the best practices for the care and preservation of archival materials, as well as the application of archival techniques to the care and preservation of electronic records. Special attention will be paid to the ways that public historians and archivists can use archival materials, online archival resources, and public archival programs to help the public learn about the past and appreciate the value of historical records. Students enrolled in the class will be required to visit archival institutions and to undertake hands-on projects with archival materials.

Graduate Credit: This course is available for graduate credit.

HIS 482 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HIS 483 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HIS 484 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HIS 490 - Selected Topics in History Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HIS 492 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HIS 493 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HIS 496 - Selected Topics in History Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HON 100 - Honors: Introduction to Human Communication Credits: 3

See course description for HCS 100 .

Category: Basic Skills and Competencies

HON 101 - Honors: Introduction to the Theatre Credits: 3

See course description for THE 121 .

Category: Cat B - Humanities

HON 102 - Honors: Introduction to Women's Studies Credits: 3

See course description for WST 100 .

Category: Cat E - Soc and Behav Sciences

HON 105 - Honors: Ethical Theories and Problems Credits: 3

See course description for PHL 105 .

Category: Cat A - Logic and Numbers

HON 106 - Honors: Writing Intensive First-Year Seminar Credits: 3

See course description for ENG 114 .

Category: Basic Skills and Competencies

HON 108 - Honors: Astronomy Credits: 3

See course description for PHY 108 .

Category: Cat C - Bio and Phys Sciences

HON 111 - Honors: Introduction to Interdisciplinary Arts Credits: 3

See course description for IAP 111 .

Category: Cat B - Humanities

HON 122 - Honors: Historical Foundation of Global Cultures Credits: 3

See course description for HIS 105 .

Category: Basic Skills and Competencies

HON 123 - Honors: Thinking Historically in a Global Age Credits: 3

See course description for HIS 106 .

Category: Basic Skills and Competencies

HON 130 - Honors: Introduction to Philosophy Credits: 3

See course description for PHL 101 .

Category: Cat A - Logic and Numbers

HON 135 - Honors: Art History III Credits: 3

See course description for ART 233 .

Category: Cat B - Humanities

HON 140 - Honors: Geography of the United States and Canada Credits: 3

See course description for GEO 103 .

Category: Cat D - Polit, Eco and Geo Sci

HON 141 - Honors: World Geography Credits: 3

See course description for GEO 101 .

Category: Cat D - Polit, Eco and Geo Sci

HON 142 - Honors: Introduction to the Atmosphere Credits: 3

See course description for ESS 111 .

Category: Cat C - Bio and Phys Sciences

HON 145 - Honors: Environmental Biology Credits: 3

See course description for BIO 145 .

Category: Cat C - Bio and Phys Sciences

HON 151 - Honors: General Psychology Credits: 3

See course description for PSY 101 .

Category: Cat E - Soc and Behav Sciences

HON 159 - Honors: Physical Anthropology Credits: 3

See course description for ANT 121 .

Category: Cat C - Bio and Phys Sciences

HON 160 - Honors: Cultural Anthropology Credits: 3

See course description for ANT 111 .

Category: Cat E - Soc and Behav Sciences

HON 161 - Honors: Introduction to Sociology: Society and Diversity Credits: 3

See course description for SOC 101 .

Category: Cat E - Soc and Behav Sciences

HON 162 - Honors: Contemporary Social Problems Credits: 3

See course description for SOC241.

Category: Cat E - Soc and Behav Sciences

HON 163 - Honors: Introduction to Archaeology Credits: 3

See course description for ANT 150 .

Category: Cat E - Soc and Behav Sciences

HON 165 - Honors: Principles of Macroeconomics Credits: 3

See course description for ECO 101 .

Category: Cat D - Polit, Eco and Geo Sci

HON 166 - Honors: Principles of Microeconomics Credits: 3

See course description for ECO 102 .

Category: Cat D - Polit, Eco and Geo Sci

HON 180 - Honors: Physics for Society Credits: 3

See course description for PHY 110 .

Category: Cat C - Bio and Phys Sciences

HON 182 - Honors: Overview of Computer Science Credits: 3

See course description for CSC 103 .

Category: Cat A - Logic and Numbers

HON 186 - Honors: Human Biology Credits: 3

See course description for BIO 150 .

Category: Cat C - Bio and Phys Sciences

HON 187 - Honors Contemporary Issues in Biology Credits: 3

Opportunity to explore topics not covered by the regular courses.

Category: Cat C - Bio and Phys Sciences

HON 190 - Honors: General Education Selected Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

HON 196 - Honors: A Cultural Approach Credits: 3

See course description for CHM 103 .

Category: Cat C - Bio and Phys Sciences

HON 208 - Honors: Opera and Music Theatre Credits: 3

See course description for MUS 227 .

Category: Cat B - Humanities

HON 210 - Honors: Introduction to Music Credits: 3

See course description for MUS 121 .

Category: Cat B - Humanities

HON 224 - Honors: The Art of the Film Credits: 3

See course description for ENG 243 .

Category: Cat C - Bio and Phys Sciences

HON 235 - Honors: Introduction to Cultural Studio Credits: 3

See course description for ART 274 .

Category: Cat B - Humanities

HON 244 - Honors: Introduction to Geology Credits: 3

See course description for ESS 110 .

Category: Cat C - Bio and Phys Sciences

HON 249 - Honors: Introduction to Literature Credits: 3

See course description for ENG 250 .

Category: Cat B - Literature

HON 252 - Honors: Selected Topics in Psychology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Category: Cat E - Soc and Behav Sciences

HON 261 - Honors: World Music Credits: 3

See course description for MUS 261 .

Category: Cat B - Humanities

HON 262 - Honors: Selected Topics in Sociology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Category: Cat E - Soc and Behav Sciences

HON 269 - Honors: Sociology of the Arts Credits: 3

See course description for SOC 370 .

Category: Cat B - Humanities

HON 274 - Honors: Introduction to International Politics Credits: 3

See course description for PLS 141 .

Category: Cat D - Polit, Eco and Geo Sci

HON 279 - Honors: U.S. Government and Politics Credits: 3

See course description for PLS 100 .

Category: Cat D - Polit, Eco and Geo Sci

HON 350 - Honors: Selected Topics in Political Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HON 360 - Honors Colloquium Credits: 1

Exploration of topics of special interest to Honors students.

Category: Cat D - Polit, Eco and Geo Sci

HON 363 - Honors Colloquium Credits: 2

Exploration of topics of special interest to Honors students.

Category: Cat D - Polit, Eco and Geo Sci

HON 392 - Honors Seminar Credits: 3

Focus on interdisciplinary explorations of specific topics, and emphasize interdisciplinary analysis and problem-solving.

Category: Cat B - Humanities

HON 393 - Honors Seminar Credits: 3

Focus on interdisciplinary explorations of specific topics, and emphasize interdisciplinary analysis and problem-solving.

Category: Cat C - Bio and Phys Sciences

HON 394 - Honors: Selected Topics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Category: Cat D - Polit, Eco and Geo Sci

HON 395 - Honors: Selected Topics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Category: Cat E - Soc and Behav Sciences

HON 396 - University Honors Colloquium Credits: 3

Capstone course for the University Honors Program. Utilizes an interdisciplinary approach to explore a theme. Students complete research and service learning projects on the theme from the perspective of their discipline. Students present their projects at the University Honors Symposium.

HON 397 - Honors: Selected Topics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HON 398 - Honors: Selected Topics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Category: Cat A - Logic and Numbers

HON 399 - Honors: Independent Study Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

HON 411 - Honors: Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3

See course description for EEC 273 .

Graduate Credit: This course is not available for graduate credit.

HON 440 - Honors: Business and Society Credits: 3

See course description for MGT 447 .

Graduate Credit: This course is not available for graduate credit.

HON 442 - Selected Topics in Honors Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Category: Cat D - Polit, Eco and Geo Sci

Graduate Credit: This course is not available for graduate credit.

HON 497 - Honors: Strategic Management Credits: 3

See course description for MGT 497 .

Graduate Credit: This course is not available for graduate credit.

HCS 100 - Introduction to Human Communication Credits: 3

A performance based hybrid course intended to advance communication competence through knowledge of communication theory in application to communication skills acquisition. Emphasis is placed upon developing cultural mindfulness and ethical communication choices through practice in listening/audience membership, verbal and nonverbal communication, interpersonal, small group, and public speaking contexts. Students benefit from engaging in communication across a variety of contexts with members of diverse audiences and acquire transferable skills.

Category: Basic Skills and Competencies

HCS 125 - Survey of Communication Studies Credits: 3

Surveys the academic field of human communication with attention to the various contexts in which communication is experienced, and the cultural influences in the production and evaluation of communication across all contexts. The course introduces students to the discipline, establishes the social scientific approach to the study of communication, and extends the understanding of human communication across academic, personal, and professional contexts. It is intended to provide a depth of knowledge in the General Education Program, and is encouraged for those considering the major or minor.

Prerequisite(s): HCS 100 or HON 100

Category: Cat E - Soc and Behav Sciences

HCS 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

HCS 191 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat E - Soc and Behav Sciences

HCS 200 - Human Communication Theory Credits: 3

A research/writing intensive fundamental examination of human communication from a theoretical perspective. Included are explorations into theories of the processes, myths, effects, ethics, and criticism of this pervasive phenomenon. Students analyze interpersonal, group, public, cultural, gender-based, and mass communication theories to discover how they become vital to explaining daily living and interactions. Students begin to understand the underpinnings of theories that are the foundation and guidelines of the discipline.

Prerequisite(s): HCS 125 with minimum grade of C

HCS 210 - Public Speaking Credits: 3

A performance based course emphasizing the preparation and delivery of speeches to proximate and remote audiences. Advanced instruction is given and practice provided in logical organization of the speech and analysis of the audience, the speaker, the occasion and the topic.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 220 - Nonverbal Communication Credits: 3

A performance based course designed to familiarize the primary concepts and the body of literature relating to nonverbal communication. Approached from a theoretical examination relating to the functional and practical constructs of nonverbal communication. Students will acquire an understanding of nonverbal cues, how they impact interactions, and will stress improvement of communication skills.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 225 - Communication and Sport Credits: 3

Sport permeates communication and communication is the essential vehicle for the accomplishment of sport. In this course, we examine the ways in which everyone ? even those who disdain athletic endeavors ? comes to know and rely on sport in language, metaphor, and mythology. This analysis adopts a critical/cultural lens, through which issues of sex/gender, race/ethnicity, (dis)ability and nationality inform our communication about sport, and where communication about sport may be influenced and shown to have significant effects on participants and communicators. This exploration will provide the foundation for in-depth study of the many contexts in which communication and sport are intrinsically bound, including the expression of sport fan identity, interpersonal (player-player, player-coach) communication, small group/team communication, and organizational communication.

Prerequisite(s): HCS 100 with minimum grade of C or HON 100 with minimum grade of C

HCS 230 - Small Group Communication Credits: 3

Experiential perspective, combining theory and practice, into the study of group experiences. Topics include group formation, decision-making, roles and leadership, conflict, risky shift, and groupthink. Students gain understanding and build skills through practical application of these topics.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 250 - Interpersonal Communication Credits: 3

A performance based course focused on communication theories, processes, and outcomes in dyadic interaction. This course develops critical thinking and interpersonal communication skills through discussion and application of significant theories relevant to relational formation, development, change, maintenance, and termination in a variety of contexts. This course incorporates presentations, case studies, and experiential learning to support theory-based skill acquisition.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 260 - Computer-Mediated Communication Credits: 3

A twofold approach to computer-mediated communication technology and its impact on human communication with the following objectives: (1) familiarization with and discussion of different forms of computer-mediated communication and their impact on various communicational and societal contexts (interpersonal communication, group communication, intercultural communication, organizational communication, social networking, education, commerce and miscellaneous other areas); (2) application and/or creation of popular computer-mediated communication tools such as basic HTML, webpage design, the web form, basic audio and video editing tools, social media, and certain prominent instructional and presentational technologies.

Prerequisite(s): HCS 125

HCS 265 - Interviewing Credits: 3

Practical approach to the information exchange process. Students participate in information-gathering and information-giving interviews. Skill development in this performance-based course emphasizes interviews in employment, and as a form of data collection, persuasion, and feedback. Students explore a variety of interview contexts and appropriate written instrumentation for each category.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 270 - Intergroup/Intercultural Communication Credits: 3

This performance-based course investigates the processes through which the elements of communication and culture are mutually reinforcing. Students will identify the manner in which cultural values and norms permeate discourse, and analyze the role of communication in (re)creating culture. Special emphasis is placed on nonverbal and verbal communicative interaction between members of disparate cultural traditions in order to develop cultural awareness (of the self and other), knowledge, appreciation, and skills essential to intercultural communication.

HCS 310 - African-American Communication Credits: 3

A performance-based exploration of body of oral discourses, styles, and traditions of African-Americans. Students will discover a foundation for understanding the nature and power of the spoken word, develop appreciation for communication theory through the rhetoric of resistance to the human communication of oppression, and explore Afrocentric communication theory and African-American rhetoric.

HCS 315 - Asian-American Communication Credits: 3

A performance-based course examining the cultural heritage of Asian American ethnic groups and the communication patterns that emerge based on this cultural heritage. Students will explore the similarities and differences of Asian American communicative experiences inside the United States in order to get a better understanding of the relationships among ethnicity, ethnic identity, generation, and communication.

Prerequisite(s): HCS 270 with minimum grade of C

HCS 325 - The Rhetoric of African-American Struggle and Progress Credits: 3

A research and writing-intensive course that emphasizes bibliographical-historical-critical analyses of significant speeches, lyrics, and other artifacts by African-American men and women. Students will examine artifacts from slave narratives, the antebellum period, Civil Rights, Black Power Struggle, and the present. Included are public addresses and artifacts by Frederick Douglass, Sojourner Truth, W. E. B. Dubois, Booker T. Washington, Angela Davis, Malcolm X, Dr. Martin Luther King, Jr., Jessie Jackson, Al Sharpton, Tupac Shukur, Public Enemy and others.

HCS 330 - Special Topics in Cultural Perspectives Credits: 3

A performance-based course that investigates selected contexts in which cultural perspectives of communication are of interest. Selected Topics will allow students to apply theories and concepts specific to culture in communication to the analysis and practice of communication in an area of recent development, new faculty interests, or emerging student concern. Selected Topics courses will require case studies, dyadic presentations, and additional modes of performance. Topics may include, but are not limited to co-culture communication patterns, culture and nonverbal communication, LGBTQA communication, (dis)ability, and aging.

Prerequisite(s): HCS 270 with minimum grade of C

HCS 333 - Communicating Identity Credits: 3

This writing-intensive seminar course examines identity from the standpoint of human communication, which maintains that identity is (in)formed and (re)produced through communication. The course includes an examination of theories of identity in communication studies, and places emphasis on how features of identity (including sex/gender, race/ethnicity, age, ability, sexual orientation, etc) are communicated interpersonally, in groups, and through the mass media.

HCS 335 - Popular Culture and Gender Construction Credits: 3

This performance based course examines the influence of different forms of popular culture, such as film, music, fashion, and sport on the construction of gender ideals in a particular culture. As part of the course, students explore theories that explain how popular culture is formed generally, and focus on the ways females and males are portrayed in specific images and roles specifically. In this process, the changes in images and roles with regard to gender, including androgyny, are also considered.

HCS 340 - Gender and Communication Credits: 3

A performance based course that explores messages about sex, gender, and communication. This course investigates the similarities and differences in the ways women and men communicate by distinguishing between 'sex' and 'gender' and considering the socializing agents that may influence the manner in which we communicate. In addition, students in this course explore how gender is both created through communication and communicated in interactions. Students may select communication theories or levels of interaction to explore how gender is communicated, and consequently constructed and performed, including (but not limited to) personal relationships and groups, the workplace, education, and mass media.

HCS 345 - Environmental Communication Credits: 3

This course is centered on the rhetorical construction and communication of interrelated issues pertaining to sustainability and environmental movements. Specifically, with a communication approach, we shall explore the roles and functions of communication in media presentation, strategies of public participation, awareness campaigning, and personal embodiment of principles of environmentalism and sustainability.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 349 - Special Topics in Interpersonal Communication Credits: 3

A performance-based course that investigates selected contexts in which interpersonal communication is of interest. Selected Topics will allow students to apply Interpersonal Communication theories and concepts to the analysis and practice of communication in an area of recent development, new faculty interests, or emerging student concern. Selected Topics courses will require case studies, dyadic presentations, and additional modes of performance. Topics may include, but are not limited to: Friendship, Family Communication, the 'dark side' of interpersonal communication, Doctor-Patient interaction, and so on.

Prerequisite(s): HCS 250 with minimum grade of C

HCS 350 - Theories of Organizational Communication Credits: 3

Combines theory and application. Theoretically, students analyze different perspectives on organizational theory; communication, relationships, and media within the organization; dynamics of organizational culture; and strategic communication and public relations. In terms of application, students analyze real-life case studies of organizational communication, and develop and simulate resolutions to the cases.

HCS 351 - Special Topics Organizational Communication Credits: 3

A performance-based course that investigates selected contexts in which organizational communication is of interest. Selected Topics will allow students to apply Organizational Communication theories and concepts to the analysis and practice of communication in an area of recent development, new faculty interests, or emerging student concern. Selected Topics courses will require case studies, dyadic presentations, and additional modes of performance. Topics may include, but are not limited to: the communication audit of organizations, organizational identification, critical perspectives of organizational communication, and communication and leadership.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 352 - Argumentation & Debate Credits: 3

A performance-based, research-intensive course that incorporates analysis of forms of reasoning, ethics, use of evidence, refutation, and style in the development of argument. Designed to develop research, critical thinking, and persuasive speaking ability. Includes study of debates and participation in classroom debates involving vital contemporary issues.

Prerequisite(s): HCS 200 with minimum grade of C and HCS 210 with minimum grade of C

HCS 356 - Persuasion Credits: 3

A performance-based research-intensive survey of classical, humanistic, and social scientific theories of persuasion, and application of theory to written and oral assignments. Emphasis is given to analysis of persuasive strategies, preparation of persuasive appeals, ethics of persuasion, persuasive campaigns, and audience analysis.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 360 - Research Methods in Communication Credits: 3

This research intensive course provides instruction and training in social science research methods in communication studies. There are three units: An overview of ethical practices in social scientific approaches; an examination of survey design for quantitative analysis; and an examination of qualitative research methods. Students engage in a semester-long research project, including study design, data collection, data analysis, and reporting in both quantitative and qualitative traditions. Students apply instruction to contexts of communication study in order to produce a research proposal for the senior thesis project.

Prerequisite(s): HCS 200 with minimum grade of C

Corequisite(s): HCS 370

HCS 363 - Political Rhetoric Credits: 3

This course will explore the role of communication in the political process. Emphasis will be on the functions of rhetoric, great media events, ghost writing, mudslinging, advertising, and presidential rhetoric as each relates to political communication and rhetoric.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 365 - Language and Meaning Credits: 3

A writing-intensive philosophical examination of the relationship between thoughts, words, and actions. Theories of symbolic interaction, social constructionism, and semiotics are the basis for course. Exploration given to application of theory to contexts as diverse as specific social movements, health care, public discourse, diversity, conflicts, debates, political campaigns, and family dynamics.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 370 - Rhetorical Criticism Credits: 3

A research- and writing-intensive course that teaches students how to critically analyze and evaluate public discourse. Attention is given to the logical, aesthetic, political and controversial components of communication designed to influence belief, affect social change and craft cultural identities. Topics include the scope and function of rhetoric in contemporary culture, various approaches and methods of rhetorical criticism, and discussion of contexts for criticism.

Prerequisite(s): HCS 200 with minimum grade of C

Corequisite(s): HCS 360

HCS 372 - Communication for Training and Instruction Credits: 3

Opportunity to examine how communication is the tool for imparting knowledge and understanding in educational and training environments. Cornerstone activity will analyze, understand, and employ learning theory to prepare a training program.

Prerequisite(s): HCS 350 with minimum grade of C

HCS 375 - Special Topics in Rhetoric and Symbolism Credits: 3

A performance-based course that investigates selected contexts in which rhetoric and symbolism is of interest. Selected Topics will allow students to apply theories and concepts of rhetoric and symbolism to the analysis and practice of communication in an area of recent development, new faculty interests, or emerging student concern. Selected Topics courses will require case studies, dyadic presentations, and additional modes of performance. Topics may include, but are not limited to: Health Communication campaigns, framing, new media analysis, and so on.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 381 - Professional Communication and Multi-media Presentation Credits: 3

A performance based course designed to improve and enhance skills in speaking, writing, and utilizing multi-media channels for effective communication in modern professional settings. The core speaking component emphasizes structure, audience adaptation, style of presentation, and the integrated use of contemporary presentational techniques. Successful completion indicates students have demonstrated high levels of skill and a strong theoretical understanding of effective performance of public oral communication in the workplace.

Prerequisite(s): HCS 200 with minimum grade of C and HCS 210 with minimum grade of C and HCS 350 with minimum grade of C

HCS 385 - Resolving Conflict through Communication Credits: 3

Performance based course focusing on the development of communication skills that assist in the resolution of conflict. Students use communication techniques such as listening, interviewing, responding, and persuading and apply them to conflict situations. Emphasis is placed on the non-adversarial methods of conflict resolution such as interest based negotiation and third party mediation.

Prerequisite(s): HCS 200 with minimum grade of C

HCS 387 - Selected Topics in Human Communication Studies Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HCS 388 - Selected Topics in Human Communication Studies Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HCS 389 - Selected Topics in Human Communication Studies Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HCS 390 - Internship I Credits: 3

Offers a planned program of full or part-time work in a field related to human communication which supplements classroom learning. Placement must be approved by the student's academic advisor. Approval of the department chair and the college dean is required.

Prerequisite(s): Requires 2.5 QPA in major and 2.25 overall and junior standing.

HCS 391 - Internship II Credits: 3

Offers a planned program of full or part-time work in a field related to human communication which supplements classroom learning. Placement must be approved by the student's academic advisor. Approval of the department chair and the college dean is required.

Prerequisite(s): Requires 3.25 QPA in major and 3.0 overall and senior standing.

HCS 392 - Internship III Credits: 3

Offers a planned program of full or part-time work in a field related to human communication which supplements classroom learning. Placement must be approved by the student's academic advisor. Approval of the department chair and the college dean is required.

Prerequisite(s): Requires 3.5 QPA in major and 3.25 overall and senior standing.

HCS 393 - Selected Topics in Speech Credits: 3

Opportunity to offer courses in areas of departmental major interests not covered by the regular courses.

Prerequisite(s): Requires permission of instructor.

HCS 394 - Selected Topics in Human Communication Studies Credits: 3

Offers a planned program of full- or part-time work in a field related to speech communication to supplement classroom study. Work content must be given prior approval by the department chair and the dean and be supervised by a faculty member.

Prerequisite(s): At least 12 HCS credits completed in the major or minor, 2.5 QPA in major and 2.5 QPA overall and at least junior standing.

HCS 399 - Independent Study in Human Communication Studies Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

HCS 400 - Senior Seminar Credits: 3

Required capstone course for all HCS majors that emphasizes a summative experience in the advanced studies of the field of human communication. Students engage in extensive seminar discussion about the study of communication, particularly as it relates to careers and advanced study. Students are expected to produce, from their own scholarly investigation in the form of a senior thesis, results that are potentially presentable at professional conferences and in scholarly publications.

Prerequisite(s): (HCS 360 with minimum grade of C and HCS 370 with minimum grade of C)

Graduate Credit: This course is available for graduate credit.

HCS 410 - Feminist Perspectives on Communication Theory and Research Methods Credits: 3

A writing-intensive seminar course in which students engage in a critical examination of traditional approaches in communication theory and research methods to reveal their underlying, often unstated assumptions about human nature and human communication. Feminist perspectives on different communication contexts, models, theories, and research methods are employed to explore the limitations and biases of traditional theories and modes of inquiry. In examining group, interpersonal, organizational, public, and intercultural communication contexts androcentric and Eurocentric biases are deconstructed and alternative approaches to the study of communication are discussed and applied in order to overcome the theory/method, subject/object dualism characteristic of conventional communication research.

Graduate Credit: This course is available for graduate credit.

HCS 430 - Advanced Interpersonal Communication Credits: 3

Advanced Interpersonal Communication is a writing- and research-intensive course that explores the design, execution, and reporting of interpersonal communication research. In this course students will refine their skills in writing literature reviews, designing interpersonal communication research, engaging in data collection, and reporting findings in written and oral presentation. This class extends the basic research skills acquired in the program to a specific area of study, with additional emphasis given to applied research that has immediate utility and benefit.

Prerequisite(s): HCS 250 with minimum grade of C and HCS 360 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

HCS 491 - Selected Topics in Human Communication Studies Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HCS 492 - Selected Topics in Human Communication Studies Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HCS 493 - Selected Topics in Human Communication Studies Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

HCS 494 - Selected Topics in Human Communication Studies Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

IAP 111 - Introduction to Interdisciplinary Arts Credits: 3

Introduces the variety of the creative and performing arts theater, music, painting, sculpture, dance, photography, literature, and film and demonstrates the ways in which these arts can influence and enhance one another. Through class discussion, guest lectures by arts faculty, and attendance at campus arts events, students learn how to better appreciate and respond to the different artistic media by exploring the ways in which a creation in one art form can inspire re-creation in another. Course satisfies a Category B General Education: Humanities requirement and is a introductory course for the Interdisciplinary Arts major.

Category: Cat B - Humanities

IAP 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

IAP 399 - Independent Study in Interdisciplinary Arts Program Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

IAP 449 - Interdisciplinary Arts Senior Thesis Credits: 3

Capstone course required for IA majors in the first semester of their senior year. Working collaboratively under the guidance of the course instructor, students conduct individual research projects resulting in either a substantive work of creative writing or a documented thesis paper with an interdisciplinary approach to the arts.

Prerequisite(s): IAP 111 or HON 111

Graduate Credit: This course is not available for graduate credit.

IAP 451 - Interdisciplinary Arts Showcase Credits: 3

Provides IA majors with opportunity to design, prepare, and present a public exhibition of their work in the form of an illustrated lecture, a performance piece, a multimedia presentation, a dramatic reading, or a work of film, video, or computer animation.

Prerequisite(s): (IAP 111 or HON 111) and IAP 449

Graduate Credit: This course is not available for graduate credit.

IAP 452 - Interdisciplinary Arts Internship Credits: 3

Offers IA majors the opportunity for full- or part-time work in an arts-related profession. All work programs must be reviewed and given prior approval by the program director and the dean, and supervised by a Shippensburg University faculty member.

Prerequisite(s): (IAP 111 or HON 111) and IAP 449

Graduate Credit: This course is not available for graduate credit.

IAP 453 - Interdisciplinary Arts Internship Credits: 3

Offers IA majors the opportunity for further full or part-time work in an arts-related profession. All work programs must be reviewed and given prior approval by the program director and the dean and supervised by a Shippensburg University faculty member.

Prerequisite(s): IAP 111 and IAP 452

Graduate Credit: This course is not available for graduate credit.

INT 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat E - Soc and Behav Sciences

INT 200 - Introduction to International Studies Credits: 3

Introductory course for the International Studies Major and Minor, and Area Studies Letters of Completion. Uses an interdisciplinary approach to assist in understanding other cultures, countries, and world regions, and the global forces that link them together. Teaches problem-solving to mitigate tensions in cross-cultural encounters, international relations and globalization.

INT 280 - Selected Topics in International Studies: Comparative & Global Cultures Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 281 - Selected Topics in International Studies: Global Political Relations Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 282 - Selected Topics in International Studies Global Business & Economics Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 283 - Selected Topics in International Studies Africa & Middle East Studies Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 284 - Selected Topics International Studies Asian Studies Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 285 - Selected Topics in International Studies European Studies Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 286 - Selected Topics in International Studies Latin American & Caribbean Studies Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 300 - International Studies Seminar Credits: 3

Capstone course for the International Studies Major and Minor. Uses an interdisciplinary approach to investigate a global topic. Past topics have included Globalization, Global Environment, Human Rights, and Imperialism. Involves seminar discussions of readings and audiovisual media, and a research project related to the course topic.

Prerequisite(s): INT 200 or permission of instructor.

INT 380 - Selected Topics in International Studies Comparative & Global Cultures Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 381 - Selected Topics in International Studies Global Political Relations Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 382 - Selected Topics in International Studies Global Business & Economics Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 383 - Selected Topics in International Studies Africa & Middle East Studies Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 384 - Selected Topics in International Studies Asian Studies Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 385 - Selected Topics in International Studies European Studies Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 386 - Selected Topics in International Studies Latin American & Caribbean Studies Credits: 3-6

Opportunity to offer interdisciplinary international studies courses not covered by the regular courses.

INT 390 - International Studies Internship - Comparative & Global Cultures Credits: 3-6

Opportunity to apply knowledge of international studies to practical applications at an internship site.

Prerequisite(s): INT 200 and 6 additional credits of International Studies courses or permission of the Director of International Studies.

INT 391 - International Studies Internship - Global Political Relations Credits: 3-6

Opportunity to apply knowledge of international studies to practical applications at an internship site.

Prerequisite(s): INT 200 and 6 additional credits of International Studies courses or permission of the Director of International Studies.

INT 392 - International Studies Internship - Global Business & Economics Credits: 3-6

Opportunity to apply knowledge of international studies to practical applications at an internship site.

Prerequisite(s): INT 200 and 6 additional credits of International Studies courses or permission of the Director of International Studies.

INT 393 - International Studies Internship - African & Middle Eastern Studies Credits: 3-6

Opportunity to apply knowledge of international studies to practical applications at an internship site.

Prerequisite(s): INT 200 and 6 additional credits of International Studies courses or permission of the Director of International Studies.

INT 394 - International Studies Internship - Asian Studies Credits: 3-6

Opportunity to apply knowledge of international studies to practical applications at an internship site.

Prerequisite(s): INT 200 and 6 additional credits of International Studies courses or permission of the Director of International Studies.

INT 395 - International Studies Internship - European Studies Credits: 3-6

Opportunity to apply knowledge of international studies to practical applications at an internship site.

Prerequisite(s): INT 200 and 6 additional credits of International Studies courses or permission of the Director of International Studies.

INT 396 - International Studies Internship - Latin American & Caribbean Studies Credits: 3-6

Opportunity to apply knowledge of international studies to practical applications at an internship site.

Prerequisite(s): INT 200 and 6 additional credits of International Studies courses or permission of the Director of International Studies.

MGT 305 - Organizational Behavior Credits: 3

Emphasizes contributions of many disciplines to management practices considering the interrelationship among individual, group, and organization with an international focus added. Examines analytical and behavioral skills necessary to enhance managerial potential and facilitate individual contributions to organizational effectiveness. Applies concepts of learning, motivation, intra- and inter-group behavior, leadership, decision making, power, conflict, and politics to an understanding of teamwork and the issues of quality within and among organizations.

Prerequisite(s): Requires junior standing or permission of department.

MGT 331 - Principles of Management Credits: 3

Provides the student with a basic background of the field of management in the private sector. Emphasis is placed on the evolution of management thought, identification and analysis of the major managerial functions and the use of managerial techniques in decision-making. Also introduces the student to the application of behavioral science concepts in management.

MGT 340 - Human Resource Management Credits: 3

Investigates the role of organization as it pertains to the attraction, selection and retention of human resources. Human resource strategies, methods, techniques, and procedures are examined with emphasis on job analysis, human resource planning and forecasting, recruitment, selection, training and development, compensation, and benefits. Impact of state and federal legislation on human resource techniques discussed.

Prerequisite(s): MGT 305 with minimum grade of D or permission of department.

MGT 342 - Labor Relations and Collective Bargaining Credits: 3

Introduction to employee-management organizational relations in the private and public sectors in both union and non-union settings. Topics such as negotiation, administration and content of labor agreements, dispute resolution, and organizational relations abroad may be included. Students cannot receive credit for both MGT342 and PLS 381 .

Prerequisite(s): Requires upper division standing or permission of department.

MGT 346 - Human Resource Management Law Credits: 3

Investigates in-depth federal and state legislative, judicial, and administrative regulation of the employer/employee relationship in the private sector. Presents overview of labor law. Topical coverage may include equal employment opportunity, affirmative action, wage-hour law, employee pension and benefits, workers' compensation, unemployment compensation, privacy, occupational health and safety, and legal basis for collective bargaining.

Prerequisite(s): BSL 261 or permission of department.

MGT 348 - Compensation Administration Credits: 3

Emphasizes an in-depth analysis of the equity issues as they relate to human resource compensation and organizational effectiveness. Topical coverage includes internal equity, external equity, individual equity, legal framework, and cost.

Prerequisite(s): MGT 340 or permission of department.

MGT 349 - International Human Resource Management Credits: 3

Examines major social, legal, political, and economic forces impacting the international human resource administration. Emphasis placed on the response of the international human resource specialist to these forces. Discussion, cases, and outside readings among the course materials used.

Prerequisite(s): MGT 340 or permission of department.

MGT 370 - International Business Credits: 3

Overview of the issues facing managers of import-export firms, trading companies, international service companies, and multinational corporations. Topics include international trade, exchange rates, government relations, international organization, economic integration, and the impact of culture on the various functions of management.

Prerequisite(s): Requires junior standing or permission of department.

MGT 393 - Selected Topics in Management Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

MGT 394 - Leadership and Decision-Making Credits: 3

Designed to provide a theoretical and conceptual understanding of leadership, with particular emphasis on decision-making; develop a knowledge framework of leadership and decision-making that will contribute to growth as a management professional; and develop the skills necessary to be an effective leader and decision-maker.

Prerequisite(s): MGT 305

MGT 447 - Business and Society Credits: 3

Examines role of business in a social system including interrelationships with government, the community, employees, and other major publics. A major focus is social responsibility of business. Consideration given to such areas as international business, business ethics, pollution, and impact of governmental regulations.

Prerequisite(s): Requires senior standing or permission of department.

Graduate Credit: This course is not available for graduate credit.

MGT 450 - Negotiation Credits: 3

Course is designed to provide students with skills needed to approach negotiation and bargaining situations with confidence. This includes providing frameworks for the analysis conflict and its origins, knowledge about one's own tendencies in negotiation, and a chance to experiment with negotiating techniques in a variety of contexts. Topics include: integrative and distributive negotiations, individual differences in bargaining styles, coalitions, team negotiations, negotiating through agents, and ethical issues in negotiation. Course content is delivered through readings, cases, and lecture, however, considerable emphasis is placed on inside and outside class negotiation simulations and subsequent classroom discussion.

Prerequisite(s): (MKT 305 and FIN 311 and MGT 305) and senior standing.

Graduate Credit: This course is available for graduate credit.

MGT 470 - International Management Credits: 3

Study of the unique problems associated with the management of firms operating in an international environment. Focus on the strategic and comparative issues.

Prerequisite(s): MGT 370 or permission of department.

Graduate Credit: This course is not available for graduate credit.

MGT 490 - Selected Topics in Management Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

MGT 491 - Selected Topics in Management Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

MGT 497 - Strategic Management Credits: 3

Examines strategic decision making under conditions of dynamic uncertainty, with focus on integrating the domains of the various majors in the college to facilitate understanding of each employee's and each discipline's role in the total organization. Importance of achieving a fit between the internal and external environment for organizational survival and success is a central issue. Consideration given to influence of social, demographic, technological, political/legal, economic, and global environments, as well as industry environment of competitors, buyers, suppliers, and substitutes. Course is cross-functional capstone course for all business majors. All students expected to participate in designated AACSB International student learning outcome assessments.

Prerequisite(s): MKT 305 and FIN 311 and SCM 330 and MGT 305 and senior standing

Graduate Credit: This course is not available for graduate credit.

MGT 498 - Strategy Implementation Credits: 3

Examines the challenges of implementing strategies in multinational firms (MNEs). Successful firms today are distinguished not by those whose planning is stellar but those who are able to implement a stellar plan. This course is designed to provide students with a more detailed application of strategy concepts and organizational challenges that impact the implementation process. Course is cross-functional capstone course for management concentration business students.

Prerequisite(s): MKT 305 and FIN 311 and SCM 330 and MGT 305 and MGT 497 (may be taken concurrently) and senior standing

Graduate Credit: This course is not available for graduate credit.

MIS 142 - Business Computer Systems Credits: 3

Examines role of information systems within the functional areas of an organization. Characteristics of the different types of business information systems, such as transaction processing, management reporting, division support, etc., will be discussed. Software exposure will include selected features of the Windows operating system and selected applications software packages.

MIS 240 - Introduction to Programming Concepts Credits: 3

Introduces the process of application programming through exploration of programming syntax, object creation, and logic structures. Characteristics of object vs. non-object orientation also discussed. Additional topics include arrays, file processing, data base interfacing, graphics, object linking and embedding, dynamic link libraries, screen design, and front-end application development through languages such as Visual Basic.

Prerequisite(s): MIS 142

MIS 242 - Design and Development of User Information Systems Credits: 3

Emphasizes the theory and concepts of end-user computing. Topics include study of formal and informal information systems; evolution of end-user computer systems; role and impact of end-user computing on Enterprise Resource Planning (ERP) software. Concepts and techniques of modeling and decision support systems will be incorporated in development and implementation of end-user applications using Internet development tools.

Prerequisite(s): MIS 142 or permission of department chair.

MIS 300 - Information Technology and Business Operations Credits: 3

Designed to address the challenging role of information technology and management information systems in today's global business organizations. Deals with different types of information systems, planning and developing databases, and other organizational issues dealing with information technology.

MIS 340 - Business Programming Credits: 3

Introduces the fundamental principles of structured computer programming techniques using the C++ programming language. Topics include basic C++ syntax, conditional statements, loops, arrays, functions, and file I/O. Students create programs for a wide range of business scenarios, debug the programs, and test the results for correctness.

Prerequisite(s): MIS 142 or permission of department chair.

MIS 344 - Business Systems Analysis and Design Credits: 3

Provides an in-depth study of the tools and techniques of systems analysis, including feasibility, preliminary and detail systems investigations. Provides the framework necessary for design, development, and implementation of a business information system.

Prerequisite(s): Requires upper division standing.

MIS 355 - Database Applications Credits: 3

Designed to provide the fundamentals of a database environment and addresses data and information management issues. Students develop understanding of the various roles within the data administration function of an organization. Covers the fundamental design of relational database management systems and applications.

Prerequisite(s): MIS 240

MIS 393 - Selected Topics in Business Information Systems Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

MIS 399 - Introduction to Corporate Cybersecurity Credits: 3

The primary goal of this course is to provide students with a broad view of cybersecurity and information assurance. Managerial, technical, and practical aspects of information system security are integral to the course. Students will develop an understanding of how cybersecurity fits into their personal lives, business enterprises, and society. Real-world scenarios and hands-on activities are used extensively to explore tools and techniques used in cyberattacks and for defending systems against attacks. Topics covered include cybersecurity fundamentals, an overview of threat, attack and adversary models, social engineering, essentials of cryptography, traditional computing security models, malicious software, legal, privacy and ethical issues, computer forensics, wireless security, and mobile device security.

Prerequisite(s): Upper division status, strong technology background.

MIS 420 - Telecommunications and Distributed Processing Credits: 3

Examines technology, organization, and operations of telecommunications and distributed data processing systems. Topics discussed include hardware/software facilities, transmission systems, system design considerations, and network configurations. Hands-on exercises and case studies used to illustrate the application of telecommunication and distributed processing technology.

Prerequisite(s): MIS 344 or permission of instructor

Graduate Credit: This course is not available for graduate credit.

MIS 442 - Electronic Commerce and Technology Integration Credits: 3

Covers the Internet and electronic commerce concepts related to three specific areas: business operations and management, technology utilization, and industry-specific applications such as finance and marketing. Class lectures and hands-on application development applied to the examination of business and technical issues involved in designing, implementing, and managing business operations and commerce via electronic means, including the Internet.

Prerequisite(s): MIS 355 and upper division standing.

Graduate Credit: This course is not available for graduate credit.

MIS 446 - Applied Project Management Credits: 3

This senior capstone course provides an in-depth coverage of the analysis, design, and development of projects within the various environments including business. Cooperative project teams will propose, design and build solutions for selected academic or business applications. Coverage includes: analysis of current project requirements, management of project activities; design of proposed solution; activity scheduling; establishment of practical quality controls; publication of project documentation; project delivery and closure. Project management concepts, earned value management, and brainstorming techniques will be covered with related software introduced.

Prerequisite(s): Requires senior standing.

Graduate Credit: This course is not available for graduate credit.

MIS 490 - Selected Topics in Business Information Systems Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

MKT 305 - Principles of Marketing Credits: 3

Introduction to language and issues of marketing with emphasis on learning to develop responsive marketing strategies to meet consumer needs. Topics include market segmentation, product development, promotion, distribution, and pricing. Introduction to such topics as the external environment, marketing research, international marketing, ethics, and careers in marketing may be included.

Prerequisite(s): Business majors prerequisite: Upper division standing. Non-Business Majors: ECO 102 or ECO 113 or HON 166 and junior standing.

MKT 306 - Buyer Behavior Credits: 3

Presents comprehensive, systematic and conceptual framework for understanding buyer behavior. Models from behavior sciences are studied. Topics such as demographics, lifestyle, information processing, and individual and group decision-making are also studied.

Prerequisite(s): MKT 305 or departmental permission

MKT 310 - Personal Selling Credits: 3

The course is an introduction to the concepts and best practices of personal selling. The personal selling process and its applications, understanding, and communicating with customers, and achieving success in personal selling are emphasized.

Prerequisite(s): MKT 305 or departmental permission

MKT 315 - Sales Management Credits: 3

Emphasis on all aspects of managing a sales force. Topical coverage includes the sales process, recruiting, selection, compensation, training, and evaluation of salespeople. Other topics may include sales forecasting, sales quotes, number of sales territories needed, routing, and analysis of sales volume. Students exposed to sales careers they can pursue.

Prerequisite(s): MKT 305 or departmental permission

MKT 325 - Advertising and Promotional Strategy Credits: 3

Studies the increasing importance of this marketing communication activity in contemporary society. Students consider persuasive communications efforts beyond advertising and become involved in real-life projects to experience and understand the relationship between theory and practice.

Prerequisite(s): MKT 305 or departmental permission

MKT 335 - E-Marketing Credits: 3

Examines use of electronic data and applications for planning and executing the conception, distribution, promotion and pricing of ideas, goods, and services to create exchanges that satisfy individual and organizational objectives. Covered are e-business models, e-commerce, business intelligence, customer relationship management, supply chain management, enterprise resource planning, on-line issues, and Internet marketing strategies.

Prerequisite(s): MKT 305 or departmental permission

MKT 340 - Tourism and Events Planning Credits: 3

The course will provide an introduction to marketing tourism and events planning. Students will investigate basic elements of good marketing in the tourism industry through reading, discussions, and hands-on experience. Students will study and practice the basics of events planning.

Prerequisite(s): MKT 305 or departmental permission

MKT 342 - Business-to-Business Marketing and Analysis Credits: 3

Focuses on marketing products and services to other businesses. Examines organizational buying, market planning and analysis, and business marketing mix/strategy development. Emphasizes differences between consumer and business marketing management. Role of salespersons as consultants to business customers such as manufacturing firms, transportation companies, banks, retailers, and management advisory service firms is covered. Explores electronic business applications in customer relationship management.

Prerequisite(s): MKT 305 or departmental permission

MKT 352 - Principles of Retailing Credits: 3

In-depth analysis of store operation and management, merchandising techniques, methods for promotion, advertising and selling, pricing methods, and ways of controlling inventories. Examines current trends in retailing.

Prerequisite(s): MKT 305 or departmental permission

MKT 360 - International Marketing Credits: 3

The socio-political-legal-economic environment of international marketing operations, which may include cross-cultural consumer behavior, international marketing research, forms of regional market agreements, international product, pricing, distribution and promotion policies, multinational corporations, and world trade patterns.

Prerequisite(s): MKT 305 or departmental permission

MKT 365 - Relationship Marketing Credits: 3

An introduction to the theoretical and applied perspectives of relationship marketing. Focuses on the driving forces that cultivate relationships between customer and company. Relationship marketing topics include (but are not limited to) brand and supplier loyalty/commitment, relationship-based buying, psychological relationship theory (with emphasis on applying such theory to marketing practices), and applications of customer relationship management (CRM).

Prerequisite(s): MKT 305 or departmental permission

MKT 370 - Services Marketing Credits: 3

Examines marketing theory and methods applied to profit and nonprofit service industries such as health care, finance, transportation, retailing, tourism, sports, arts and consulting. Conceptual understanding of services and the analytical tools used in solving services marketing problems are discussed.

Prerequisite(s): MKT 305 or departmental permission

MKT 380 - Sports Marketing Credits: 3

Analysis of sports, especially as marketing tools affect the performance, participants, spectators and society in general. Internal and external factors analyzed as they affect marketing and management actions.

Prerequisite(s): MKT 305 or departmental permission

MKT 390 - Selected Topics in Marketing Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires senior standing.

MKT 391 - Selected Topics in Marketing Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

MKT 393 - Selected Topics in Marketing Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

MKT 399 - Independent Study in Marketing Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

MKT 430 - Marketing Research Credits: 3

In-depth study of the tools of marketing research, including methodology and techniques used in measuring characteristics of markets for products and services. Topics include the research process, data collection, sampling, data analysis, and presentation of results. Contains hands-on development of capabilities to study characteristics of the marketplace.

Prerequisite(s): MKT 305 and MKT 306 and SCM 200 or departmental permission

Graduate Credit: This course is not available for graduate credit.

MKT 490 - Selected Topics in Marketing Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires senior standing.

Graduate Credit: This course is not available for graduate credit.

MKT 493 - Selected Topics in Marketing Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

MKT 495 - Marketing Analysis and Strategy Development Credits: 3

Capstone synthesis course for marketing majors. Requires students to apply information and skills learned in business core and marketing courses to case situations and research projects. Critical thinking, use of marketing research, and strategic decision making are stressed. Emphasizes the use of written and oral communication skills as part of the marketing core requirements.

Prerequisite(s): MKT 305 and MKT 306 and MKT 430 or departmental permission

Graduate Credit: This course is not available for graduate credit.

MAT 050 - Developmental Mathematics Credits: 3

Studies real operations, factoring, rational expressions, exponents, roots, radicals, quadratic equations, simultaneous equations, word problems, formula manipulations. Emphasis on drill in computational algebra. Students exempted from, or placed in, this on the basis of an examination. Open only to students with level 1 or level 2 mathematics placement. Students must earn a C or better in MAT 050 to be eligible to take a college-level mathematics class. Developmental course credits do not count toward the total number of credits required for graduation.

Prerequisite(s): Math placement level of 1

MAT 105 - Mathematics for Liberal Studies Credits: 3

Examines mathematical structures and applications in a way designed to emphasize the creative and cultural aspects of mathematics. Topics may include voting systems, fair division problems, game theory, coding, networks, critical paths, linear programming, symmetry and patterns. Not open to math majors.

Prerequisite(s): Math placement level of 2 or MAT 050 with minimum grade of C

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 107 - Mathematical Models Applied to Money Credits: 3

An introductory level course designed to cover deriving mathematical formulas arising in Finance and Economics. Mathematical models are constructed and used to calculate simple and compound interest, annuities and payments calculations, amortization, sinking funds, perpetuities, installment buying, calculation of premiums of life annuities and life insurance, and the time value of money. Not open to math majors.

Prerequisite(s): Math placement level of 2 or MAT 050 with minimum grade of C

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 110 - Fundamentals of Mathematics I Credits: 3

Designed to satisfy the mathematical needs of students in elementary education and related curricula. Topics covered include a study of problem solving strategies, mathematical reasoning, elementary set theory, number systems other than base 10, elementary number theory, and an axiomatic development of the real number system. Students solve mathematical problems using hands-on materials and electronic technologies. Emphasizes goals and procedures addressed in current state and national standards for school mathematics.

Prerequisite(s): Math placement level of 2 or MAT 050 with minimum grade of C

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 111 - Fundamentals of Mathematics II Credits: 3

Designed to strengthen mathematical content knowledge of students majoring in elementary education. Focus on topics such as proportional reasoning, data analysis and probability, geometry, measurement, and algebraic reasoning. Students solve mathematical problems using hands-on materials and electronic technologies. Emphasizes goals and procedures addressed in current state and national standards for school mathematics.

Prerequisite(s): MAT 110 or permission of departmental chair.

Category: Basic Skills and Competencies

MAT 117 - Applied Statistics Credits: 3

A first course in the concepts and methods of statistics with illustrations from across the humanities and the social, behavioral, and biological sciences. Specific topics include numerical and graphical descriptions of data, association between two variables, normal distribution, correlation and simple linear regression, and inference methods such as confidence intervals and hypothesis tests for one sample mean and one sample proportion, chi-squared test of independence, and ANOVA. A graphing calculator with statistical capabilities (such as TI-83+) is required. Recommended as a general education statistics course for students majoring in social and life sciences, but not limited to students in those majors. Not open to students who have passed SCM 200 or MAT 217; or math majors.

Prerequisite(s): Math placement level of 2 or MAT 050 with minimum grade of C

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 140A - College Algebra Credits: 4

Provides algebraic background knowledge necessary for success in MAT 175 - Precalculus Credits: 3 or MAT 181 - Applied Calculus Credits: 3. Studies algebraic expressions; linear and quadratic equations, functions and graphs; polynomial functions; rational functions; exponential and logarithmic functions; and systems of equations. Students cannot earn credit for both MAT 140A and MAT 140B. Not open to students who have successfully (C or better) completed MAT 175, MAT 181 or MAT 211.

Prerequisite(s): Math placement level of 3 or MAT 050 with minimum grade of C

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 140B - College Algebra Credits: 3

Provides algebraic background knowledge necessary for success in MAT 175 - Precalculus Credits: 3 or MAT 181 - Applied Calculus Credits: 3. Studies algebraic expressions; linear and quadratic equations, functions and graphs; polynomial functions; rational functions; exponential and logarithmic functions; and systems of equations. Students cannot earn credit for both MAT 140A and MAT 140B. Not open to students who have successfully (C or better) completed MAT 175, MAT 181 or MAT 211.

Prerequisite(s): Math placement level of

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 175 - Precalculus Credits: 3

Designed to prepare students for MAT 211. Provides intense study of the topics which are fundamental to the study of calculus. Emphasis placed on functions and their graphs with special attention to polynomial, rational, exponential, logarithmic and trigonometric functions, and analytic trigonometry. Upon completion, students should be able to solve practical problems and use appropriate models for analysis and prediction. Not open to students who have successfully (C or better) completed MAT 211.

Prerequisite(s): MAT 140A with minimum grade of C or MAT 140B with minimum grade of C or math placement level of 5

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 181 - Applied Calculus Credits: 3

Topics include differentiation and integration of a single variable functions, an introduction to multi-variable functions and partial differentiation, and applications including graphing and simple optimization. Course not open to students who have successfully (C or better) completed MAT 211 .

Prerequisite(s): MAT 140A with minimum grade of C or MAT 140B with minimum grade of C or MAT 175 with minimum grade of C or math placement level of 5

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 185 - First Year Mathematics Seminar Credits: 1

This course will provide a cohort experience for new majors in the mathematics department and will include exploration of diverse areas of mathematics and related fields; focused building of problem-solving skills; and demonstrated mastery of pre-college mathematics.

Prerequisite(s): Math placement level of 5

MAT 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 191 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 205 - Conceptual Mathematics for Middle-Level Teachers Credits: 3

Designed to strengthen mathematical content knowledge of students majoring in middle-level (grades 4 to 8) education. Focus on topics such as the rational and real number systems; number theory; two- and three-dimensional shapes; spatial reasoning; and the display, interpretation, and use of data representations.

Prerequisite(s): Math placement level of 2 or MAT 050 with minimum grade of C

Category: Basic Skills and Competencies

MAT 211 - Calculus I Credits: 4

Introduction to study of differential and integral calculus from algebraic, numerical, and graphical points of view. Concept of limit and applications of derivatives will be covered.

Prerequisite(s): MAT 175 with minimum grade of C or math placement level of 6

Category: Basic Skills and Competencies & Cat A - Logic and Numbers

MAT 212 - Calculus II Credits: 4

Continuation of Calculus I. Will include methods of integration, applications and infinite series.

Prerequisite(s): MAT 211 with minimum grade of C

Category: Basic Skills and Competencies

MAT 213 - Calculus III Credits: 4

Generalization of single-variable calculus to higher dimensions. Parametric curves and applications covered.

Prerequisite(s): MAT 212

Category: Basic Skills and Competencies

MAT 217 - Statistics I Credits: 4

Topics include exploratory data analysis, basic probability, the Central Limit Theorem, confidence intervals, hypothesis testing, linear regression, experimental design, analysis of variance and goodness of fit tests. A statistical software package will be utilized throughout course.

Prerequisite(s): Math placement level of 5

Category: Basic Skills and Competencies

MAT 219 - Data Science I Credits: 3

This is the first semester of a two-semester sequence in Data Science. Using real-world examples of wide interest and a popular programming language such as R or Python, we introduce methods for key facets of a data-driven investigation. These include obtaining data from a variety of sources, wrangling the data to get a manageable data set, exploratory data analysis to generate hypotheses and intuition about the data, and communication of results through interpretable summaries that are both transparent and reproducible.

Prerequisite(s): (CSC 104 or CSC 110 or MIS 240) and (MAT 117 with minimum grade of C or MAT 217 with minimum grade of C or SCM 200 with minimum grade of C)

MAT 225 - Discrete Mathematics Credits: 4

Study of topics usually associated with analysis of discrete and/or finite mathematical models. Topics from logic, set theory, Boolean algebra, mathematical proof, recursion, induction, combinatorics, discrete probability, matrices and graph theory covered.

Prerequisite(s): MAT 140A or math placement level of 4 or MAT 140B or MAT 175 or MAT 211 or MAT 181

Category: Basic Skills and Competencies

MAT 317 - Statistics II Credits: 3

Study of statistical methods and their application to various data sets. The entire statistical process of data collection, fitting data to a model, analysis of the model, verification of the model, and inference will be covered. Topics include non-parametric statistics, multiple linear regression, ANOVA, experimental designs, categorical data analysis, logistic regression, time series, and survival analysis. Examples taken from a variety of disciplines. Concepts reinforced through class projects. A statistical software package will be utilized throughout the course.

Prerequisite(s): MAT 217 with minimum grade of C

Category: Basic Skills and Competencies

MAT 318 - Elementary Linear Algebra Credits: 3

Introduction to the study of matrices, linear systems, determinants, eigenvalues, and the geometry of linear operators. Topics from Euclidean n -space include linear transformations, linear independence, span, bases, inner product, and vector spaces. An introduction to structural proof techniques will be a part of the key concepts for the course.

Prerequisite(s): MAT 212 with minimum grade of C or MAT 225 with minimum grade of C

Category: Basic Skills and Competencies

MAT 319 - Data Science II Credits: 3

This is the second semester of a two-semester sequence in Data Science. Using real-world examples of wide interest and a popular programming language such as R or Python, we introduce methods for key facets of a data-driven investigation. These may include using statistical inference to infer properties of a population, using regression analysis to estimate the relationship among variables, using machine learning to make predictions, and creating interactive data products.

Prerequisite(s): MAT 219 with minimum grade of C and MAT 317 with minimum grade of C

MAT 320 - Introduction to Abstract Algebra Credits: 3

Introduction to abstract algebraic structures and formal mathematical proof. Structures may include groups, rings, or fields.

Prerequisite(s): MAT 225 with minimum grade of C and MAT 318 with minimum grade of C

Category: Basic Skills and Competencies

MAT 322 - Differential Equations Credits: 3

Study of first order differential equations. Topics include modeling with differential equations, initial value problems, first and second order linear differential equations, systems of linear differential equations and numerical methods, as well as material chosen from the following topics: Laplace transforms, advanced numerical methods, and partial differential equations.

Prerequisite(s): MAT 212 with minimum grade of C

Category: Basic Skills and Competencies

MAT 326 - Mathematical Modeling Credits: 3

Study of construction of mathematical models to solve real world problems. Entire modeling process from construction of the model, fitting data to the model, analysis, and verification of the model covered. Both continuous and discrete models examined. Examples taken from a variety of disciplines.

Prerequisite(s): MAT 211 with minimum grade of C and (MAT 225 with minimum grade of C or MAT 318 with minimum grade of C) or permission of instructor.

Category: Basic Skills and Competencies

MAT 333 - Geometry Credits: 3

Rigorous treatment of foundations of Euclidean geometry and an introduction to spherical and hyperbolic geometries. Topics may include transformational geometry, coordinate geometry, congruence, similarity and constructions. Also provides an historical development of attempts made through the centuries to clarify and expand upon the geometric axioms.

Prerequisite(s): MAT 225

Category: Basic Skills and Competencies

MAT 375 - Probability and Statistics for Engineers Credits: 4

Course topics will include basic probability rules, conditional probability and independence, Bayes' rule, discrete and continuous random variables, joint distributions, expectation and variance, probability distributions to include binomial, geometric, hypergeometric, Poisson, Gaussian, exponential, lognormal, t, F, and Chi-square, correlation and covariance, Central Limit Theorem and sampling distributions, simple linear regression, and inference procedures for means and proportions. A statistical software package will be used throughout the course.

Prerequisite(s): MAT 211 and MAT 225

MAT 393 - Selected Topics in Mathematics Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Category: Basic Skills and Competencies

MAT 395 - Mathematics Internship Credits: 3

Contact the department for further information on internships.

MAT 396 - Mathematics Internship Credits: 3

Contact the department for further information on internships.

MAT 399 - Independent Study in Mathematics Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

MAT 400 - History of Mathematics Credits: 3

Focuses on the development of mathematical ideas relevant to K-12 mathematics. Some examples include episodes in the development of number systems, algebra, geometry, trigonometry, number theory, and analytic geometry. Some time spent on multicultural issues, sometimes referred to as 'ethnomathematics'.

Prerequisite(s): MAT 320

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 410 - Numerical Analysis Credits: 3

Primarily methods of numerical approximation to the value of functions, polynomials, and systems of equations. Topics include accuracy of approximate calculations, interpolation and interpolating polynomials, solution of algebraic and transcendental equations. Numerical solution of simultaneous linear and nonlinear equations, principle of least squares, difference equations, and quadrature formulas are studied.

Prerequisite(s): (MAT 212 and (CSC 180 or CSC 110))

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 421 - Number Theory and Cryptography Credits: 3

Introduction to a selection of topics from the related fields of Number Theory and Cryptography. Topics may include congruence arithmetic, primitive roots, quadratic residues, perfect numbers, Pythagorean triples, sums of squares, Fermat's Last Theorem, and primality testing, various substitution ciphers including affine, Vigenere, and Hill ciphers and the RSA public key encryption system with several variations. Algorithms for each encryption scheme discussed will be introduced and implemented.

Prerequisite(s): MAT 320

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 422 - Partial Differential Equations Credits: 3

Introduction to Partial Differential Equations, a fundamental branch of applied mathematics. Three classical equations from mathematical physics are discussed: the wave equation, the heat equation and Laplace's equation. Techniques which include separation of variables, Fourier series and fundamental solutions are introduced to address these equations. An introduction to numerical methods is also included.

Prerequisite(s): (MAT 213 and MAT 322)

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 425 - Advanced Algebraic Structures Credits: 3

Detailed study of one or more of the higher level algebraic structures such as groups, rings, fields, or abstract vector spaces. Emphasis on structure theorems such as the fundamental theorem of group homomorphisms and uses the sophistication developed in MAT 320 .

Prerequisite(s): MAT 318 and MAT 320)

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 430 - Complex Analysis Credits: 3

Introductory course in the theory of functions of a complex variable. Topics include complex numbers, analytic functions, contour integration, Cauchy's Theorem, and infinite series. Methods of a logical proof are developed and used throughout.

Prerequisite(s): (MAT 213 and MAT 320)

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 441 - Real Analysis I Credits: 3

Designed to give a fundamental understanding of the concepts used in elementary calculus. Methods of a logical proof are developed and used throughout. Topics include real numbers, sequences, limits, continuity, derivatives and the Riemann integral.

Prerequisite(s): (MAT 212 and MAT 320)

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 450 - Combinatorics Credits: 3

Concerned with computing within discrete mathematical structures and combinatorial problem solving. Topics include sets and graphs; counting and enumeration techniques including recurrence relations and generating functions; and graph theory algorithms.

Prerequisite(s): MAT 320

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 456 - Deterministic Methods of Operations Research Credits: 3

After a brief historical introduction, presents a detailed study of mathematics related to linear programming. The theory includes the simplex method, duality theory, sensitivity analysis, and matrix games. Some applications will be given.

Prerequisite(s): MAT 212 MAT 318

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 476 - Probability Credits: 3

In-depth development of probability and distribution theory. Topics include counting techniques, Bayes' Theorem, random variables, moment-generating functions, univariate and multivariate probability distributions, and the Central Limit Theorem.

Prerequisite(s): MAT 213 and MAT 318

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 486 - Mathematical Statistics Credits: 3

Continuation of MAT 476 . Topics include transformations of random variables, order statistics, convergence in distribution, point and interval estimation, likelihood ratio tests, hypothesis testing, linear models, analysis of enumerative data, and analysis of variance.

Prerequisite(s): MAT 476 with minimum grade of C

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 490 - Selected Topics in Mathematics Credits: 3

Opportunity to offer experimental courses at the senior level in areas of mathematics not covered by regular courses. Topics such as foundations of mathematics, number theory, graph theory, cryptography, and advanced applications of mathematics are appropriate at this level.

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 491 - Topics in Applied Mathematics Credits: 3

Opportunity to offer experimental courses at the senior level of mathematics not covered regularly in the applied mathematics curriculum. Topics such as Mathematical Biology, Linear Programming, Computational Mathematics and Computational Modeling are appropriate at this level.

Prerequisite(s): (MAT 212 and MAT 318)

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 492 - Selected Topics in Mathematics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Category: Basic Skills and Competencies

Graduate Credit: This course is available for graduate credit.

MAT 493 - Topics in Applied Mathematics Credits: 3

Opportunity to offer experimental courses at the senior level of mathematics not covered regularly in the applied mathematics curriculum. Topics such as Mathematical Biology, Linear Programming, Computational Mathematics and Computational Modeling are appropriate at this level.

Prerequisite(s): MAT 212 and MAT 318

Category: Basic Skills and Competencies

Graduate Credit: This course is not available for graduate credit.

MAT 499 - Independent Study in Mathematics Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

Graduate Credit: This course is available for graduate credit.

MECH 200 - Statics Credits: 3

Statics is the analysis of forces acting on physical systems that remain at rest. Students will extend their knowledge of classical mechanics and calculus to two and three dimensional systems of particles and rigid bodies. The goal of this course is to study mechanical systems that must hold their shape or position under some sort of load, such as frames, structures, beams, trusses, and cables.

Prerequisite(s): MAT 212 with minimum grade of C or PHY 206 with minimum grade of C

MECH 210 - Dynamics Credits: 4

Dynamics is the study of systems in motion. Topics include study velocity and acceleration in three dimensions, introduction to frames of reference rotation matrices, angular momentum, impact, and work-energy analysis.

Prerequisite(s): MECH 200 with minimum grade of C

MECH 220 - Fluids Credits: 4

Fluid Mechanics is the study of the flow of fluids. This course extends the topics of statics and dynamics to fluids. Topics include dimensional analysis, density, viscosity, surface tension, control volume analysis, differential fluid flow, laminar and turbulent flow, and a study of flow in pipes.

Prerequisite(s): MECH 210 with minimum grade of C and MAT 322 with minimum grade of C

MECH 300 - Engineering Materials Credits: 4

This course examines how materials perform under different types of mechanical loads. This includes deformation, yielding, fracture, fatigue, and wear. The course also analyzes how materials change with heat, age, and repeated loading. Students will learn about possible failure modes and develop maximum safety specifications. Students will learn about the basic materials science that influences materials the properties of materials. Students will also learn how to engineer different materials to meet design specifications.

Prerequisite(s): MECH 200 with minimum grade of C

MECH 310 - Manufacturing Processes Credits: 4

Introduces the fundamental processes for manufacturing parts. This includes forming, forging, cutting, welding, joining, gluing, casting of materials including metals, plastics, and other materials. Other topics include rapid prototyping methods, including CNC machines, 3D printing technologies, and composite materials.

Prerequisite(s): MECH 300 with minimum grade of C

MECH 400 - Design Methods Credits: 4

This course is designed to provide a mechanical design experience, moving from general product ideas to completed product. The course is structured around a series of design experiences, moving from user descriptions through design documents, actual design and simulation, user-acceptance, production plans, and final delivery. Students will learn about the different phases of the design process, how to select materials for a project, differences between developing a prototype versus preparing for efficient mass-production, how test and verify the component complies with its design specifications.

Prerequisite(s): MECH 300 with minimum grade of C and MAT 322 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

MECH 410 - Mechanics of Thermodynamics Credits: 4

This course is a study of the relationship between machines and thermodynamics. The course reviews the basic thermodynamic concepts and provides an emphasis on the relationships between work, energy, and efficiency. Students will model various mechanical devices and develop heat transfer models. Students will study nozzles, diffusers, throttles, engines, heat exchangers, pistons, refrigeration, compressors, and chemical thermodynamics.

Prerequisite(s): MECH 300 with minimum grade of C and MAT 322 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

MIL 131 - Military Science I (2 crs.) Credits: 2

Introduces fundamentals of the U.S. Army through individual skills training and group exercises. Meets two hours per week each semester. Offers opportunity to participate in several different types of adventure training, on and off campus.

MIL 132 - Military Science I Credits: 2

Introduces fundamentals of the U.S. Army through individual skills training and group exercises. Meets two hours per week each semester. Offers opportunity to participate in several different types of adventure training, on and off campus.

MIL 231 - Military Science II Credits: 2

Provides instruction in basic tactics and military skills and the opportunity to participate in field training exercises. Highlights various leadership skills necessary to overcome management problems. Meets two hours per week each semester. Includes numerous voluntary sessions of adventure training, on and off campus.

MIL 232 - Military Science II Credits: 2

Provides instruction in basic tactics and military skills and the opportunity to participate in field training exercises. Highlights various leadership skills necessary to overcome management problems. Meets two hours per week each semester. Includes numerous voluntary sessions of adventure training, on and off campus.

MIL 331 - Military Science III Credits: 2

Emphasizes leadership and managerial skills development. Participants set well-defined goals and develop procedures for goal attainment. Meets three hours per week each semester; also requires participation in three 45-minute physical training sessions per week and weekend seminars. Offers a wide range of adventure training opportunities, both on and off campus.

Prerequisite(s): Successfully met basic course requirements.

MIL 332 - Military Science III Credits: 2

Emphasizes leadership and managerial skills development. Participants set well-defined goals and develop procedures for goal attainment. Meets three hours per week each semester; also requires participation in three 45-minute physical training sessions per week and weekend seminars. Offers a wide range of adventure training opportunities, both on and off campus.

Prerequisite(s): Successfully met basic course requirements.

MIL 350 - Military Science IV Credits: 3

Emphasizes leadership and managerial skills. Develops decision-making capabilities in military operations, logistics, and administration. Students will plan, organize, conduct, and evaluate selected training events. Meets four hours per week. Offers a variety of adventure training and leadership opportunities.

Prerequisite(s): Successfully met basic course requirements.

MIL 351 - Military Science IV Credits: 3

Emphasizes leadership and managerial skills. Develops decision-making capabilities in military operations, logistics, and administration. Students will plan, organize, conduct, and evaluate selected training events. Meets four hours per week. Offers a variety of adventure training and leadership opportunities.

Prerequisite(s): Successfully met basic course requirements.

MIL 398 - Selected Topics in Military Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

MIL 399 - Seminar in Military Leadership Topics Credits: 3

Emphasizes leadership and managerial skills as they apply to the military contemporary operating environment. Develops decision making skills in military environment. Students will meet with department head. Students will develop a topic to present and complete a comprehensive information paper on their chosen topic. Expect to write at least three analytic papers and one term paper.

Prerequisite(s): Must gain Department Head of Military Science Department approval and have completed the MSIV curriculum).

MUS 101 - Brass Ensemble Credits: 1

Select group of brass instrumentalists who perform in concert and on tour.

MUS 103 - Marching Band Credits: 1

Group of musicians, silks and majorettes who perform at all home football games, several away games, parades, and exhibitions.

MUS 104 - Concert Band Credits: 1

Select group of wind and percussion instrumentalists who perform several concerts on campus and throughout the mid-Atlantic region.

MUS 105 - Concert Choir Credits: 1

Mixed vocal ensemble of 80-90 voices who perform a variety of literature from the different periods of music history. Activities include on-campus concerts and an annual tour.

MUS 107 - Women's Chorale Credits: 1

Women's chamber choir who perform a variety of treble-voice literature from the different periods of music history. Activities include on-campus concerts and an annual tour.

MUS 109 - String Ensemble Credits: 1

String Ensemble is primarily made up of students who play instruments of the bowed string family: violin, viola, cello, and bass. Students who play instruments other than bowed strings and who are able to collaborate with string instruments, particularly pianists, are also welcome to participate in the string ensemble. The course is intended to be both instructional and recreational. Students will develop technique while learning music together in preparation for performances. Repertoire will range from chamber orchestra pieces for the entire ensemble to chamber music, such as duets, trios, and quartets. Styles of music learned may range from standard classical repertoire to contemporary popular genres.

Prerequisite(s): Strings Class or permission of instructor.

MUS 110 - Fundamental Music Skills Credits: 3

Develops both knowledge and performance skills in music. Presents the rudiments of music including notation, scales and tonality, intervals and chords, rhythm and meter and phrases. Participants sight-sing, sing in harmony, perform simple piano accompaniments, learn to play a melody instrument, and read rhythm patterns. Regular performance proficiencies required. Content particularly geared to needs of aspiring elementary teachers.

MUS 113 - Jazz Ensemble Credits: 1

Group provides performing opportunities for students interested in jazz literature from the big band era to present. Several concerts on campus and in the mid-Atlantic region are performed each year.

MUS 117 - Madrigal Singers Credits: 1

Select vocal ensemble comprised of mixed voices. Ensemble performs music of the renaissance as well as works for chamber choir from various periods. They perform a holiday Madrigal dinner, two campus concerts, and an annual spring tour.

MUS 121 - Introduction to Music Credits: 3

Assists the non-music major in developing an aesthetic sensitivity toward music. Objectives are to assist the student in becoming perceptively aware of the components of music and musical form; and to acquaint the student with great musical literature that makes up the nucleus of our Western heritage. Listening to music and developing listening skills emphasized. May have a concert attendance requirement.

Category: Cat B - Humanities

MUS 129 - American Popular Music Credits: 3

This course is a survey of American Popular Music of the 20th century and the early 21st century. A particular emphasis will be placed on following the threads from styles such as blues, country, jazz, and rock and roll as they grow and develop through the 20th century and are affected by the growth of sound technology and ever more sophisticated forms of mass communication.

Category: Cat B - Humanities

MUS 132 - University-Community Orchestra Credits: 1

Group introduces members to significant masterworks of the western orchestral literature. The ensemble offers two or three concerts per year.

MUS 140 - Class Piano, Level I Credits: 3

Group instruction and guided practice at the piano for students who have not studied piano, or who have studied less than one year. Students develop beginning skills in reading, technique, accompanying, and applying theoretical principles to the piano (harmonization, transposition, improvisation), and perform solo and ensemble works.

Prerequisite(s): Requires permission of instructor.

MUS 150 - Basic Guitar Credits: 3

Involves study of fundamental techniques of guitar performance with a focus on reading music notation and fret board knowledge. Students learn chords and scales, as well as physical approaches to the instrument such as posture, left hand position, and use of the pick. Students will read music that is on an easy to intermediate level from folk, classical, and popular styles of music and will also be introduced to techniques of improvisation that will help improve technique and creativity. Students will be divided into small groups for focused instruction and performance projects. Prospective students need to show ability to progress based on either a prior experience playing guitar or music reading skills apart from the guitar and should own an acoustic (steel or nylon string) guitar.

Prerequisite(s): Requires permission of instructor.

MUS 158 - Woodwind Ensemble Credits: 1

Group is comprised of woodwind instrumentalists who perform in concert on campus and throughout the mid-Atlantic region.

MUS 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

MUS 212 - Music Theory I Credits: 3

A first course for the student who wishes to increase knowledge of the elements of music: melody, harmony, rhythm, texture, and form. Designed to give students basic skills in the use of these elements through written and aural exercises, sight-singing, keyboard musicianship, analysis of short works, and simple composition.

Prerequisite(s): Requires permission of instructor.

MUS 227 - Opera and Music Theatre Credits: 3

Explores major points in the development of music drama from grand opera to musical comedy. When scheduling permits, class will attend a live production of an opera or musical comedy, either on campus or in a nearby city.

Category: Cat B - Humanities

MUS 260 - Voice Class, Level I Credits: 3

Studies the human voice in artistic singing, with practical application of the basic principles needed to prepare and perform: an understanding of the anatomy of the voice, proper breath support, tone quality, diction, and interpretation of solo vocal music of varied styles. Students identify and begin to develop a repertoire suitable for their voice types while they apply this knowledge of the fundamental principles through singing experiences in class. Music of the art song, folk and musical theater repertoires emphasized, along with general care of the voice in all styles of singing.

Prerequisite(s): Requires permission of instructor.

MUS 261 - World Music Credits: 3

Develops an understanding of music in the culture of selected countries. A wide range of videos and recordings assist in the analysis of musical styles, forms, and practices.

Category: Cat B - Humanities

MUS 270 - Brass Instrument Class Credits: 3

Opportunity for guided practice and study of the performance characteristics of the five brass instruments. Emphasizes perfecting performance skills while gaining some repertoire as appropriate to serve university and community music organizations. Examines various instruction books, teaching methods, and diagnostic techniques.

Prerequisite(s): Requires permission of instructor.

MUS 272 - Strings Class Credits: 3

An opportunity for guided practice and study of the performance characteristics of the four string instruments. Each student will study only one instrument during the semester and will observe students who play the others. Emphasizes perfecting performance skills while gaining some repertoire as appropriate to serve university and community music organizations. Students will examine various instruction books, teaching methods, and diagnostic techniques.

Prerequisite(s): Requires permission of instructor.

MUS 312 - Music Theory II Credits: 3

Builds upon the knowledge and skills developed in Music Theory I. Includes work in advanced harmony, form and analysis and beginning counterpoint through aural and written exercises, composition, and analysis of larger works.

Prerequisite(s): MUS 212

MUS 315 - Music in the United States Credits: 3

Presents major genres of American music from the colonial period to present. Presents a balanced perspective of the origins, culture and the development of American music. Unique American contributions such as minstrel music, Tin Pan Alley, musical theater, ragtime, blues, jazz, country, rock and art music are presented along with the music of Billings, Gottschalk, MacDowell, Ives, Copland, Bernstein, and others.

Prerequisite(s): MUS 121 or permission of instructor.

MUS 320 - Masterpieces of Music Credits: 3

Masterpieces of Music introduces students to the great music that have been composed throughout the centuries. Using selected works from each period as examples, compositional trends can be examined by observing similarities and differences in compositional techniques, which occur from era to era.

Prerequisite(s): MUS 121 and MUS 212

MUS 340 - Class Piano, Level II Credits: 3

Builds upon skills developed in Class Piano I. Emphasizes more advanced solo and ensemble performance and advance skills in sight reading, harmonization (through an increased harmonic vocabulary), transposition, improvisation, and accompaniment.

MUS 380 - Basic Conducting Credits: 3

Presents fundamental procedures of directing vocal and instrumental ensembles. Includes studies in score reading and audiation, meter and beat patterns, tempo and mood as they all relate to conducting gestures.

Prerequisite(s): Requires permission of instructor.

MUS 393 - Selected Topics in Music Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular offerings.

MUS 399 - Selected Topics in Music/Theater Arts Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

MUS 490 - Selected Topics in Music Credits: 1-3

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

PHL 101 - Introduction to Philosophy Credits: 3

Acquaints student with range of subject matter and some of the methods employed in philosophy. Some basic questions concerning the nature of reality, knowledge, and morality are raised and alternative answers philosophers have given are analyzed and evaluated.

Category: Cat A - Logic and Numbers

PHL 102 - Critical Thinking Credits: 3

Course in informal logic aimed at developing the ability to analyze and evaluate short argumentative passages as well as entire articles. Arguments are found in a wide range of contexts while the articles are those typically appearing in philosophical periodicals and anthologies.

Category: Cat A - Logic and Numbers

PHL 105 - Ethical Theories and Problems Credits: 3

Examines and assesses theories of right and wrong, good and bad; and attempts to apply such theories to some contemporary moral issues. Overall aims at developing the ability to formulate, analyze, and evaluate moral arguments and to work out a consistent reasoned moral personal viewpoint.

Category: Cat A - Logic and Numbers

PHL 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat A - Logic and Numbers

PHL 230 - The Ethics of War and Terrorism Credits: 3

Examines some basic ethical concepts and the natures of war and terrorism. The concepts are applied to some cases or examples of wars and terrorism. The course investigates whether there can be such a thing as an ethical war or act of terrorism.

PHL 240 - Ethical Issues and the Media Credits: 3

This course examines several approaches to ethics and applies them to some issues connected to the media (newspapers, magazines, television, radio, movies, and the internet) and society. Some of the specific issues investigated relate to truth, objectivity, advertising, privacy, and public relations. The main course objectives are developing the student's ability to understand and morally evaluate media cases and working out a consistent, reasoned moral viewpoint related to the media.

PHL 248 - History of Ancient and Medieval Philosophy Credits: 3

Examines the important philosophical themes up to approximately 1500. Among the philosophers examined are Parmenides, Plato, Aristotle, Epicurus, Augustine, and Anselm. Goal is to appreciate the historical environment of these philosophers and to understand how their radically different world views relate to their environments.

PHL 249 - History of Modern Philosophy Credits: 3

Examines important philosophical themes since approximately 1500. Among the philosophers studied are Descartes, Locke, Berkeley, Hume, and Kant. Focus on how philosophical skepticism, humanism, idealism, empiricism, and rationalism affected, and were effects of, the prevailing political, religious, and scientific elements of the times.

PHL 285 - Philosophy of Science Credits: 3

Careful examination of concepts and methods used in the sciences with a view to their proper place in the structure of human knowledge. Examination encompasses both the rapidly developing fields of behavioral sciences and the more established physical sciences.

PHL 295 - Comparative Religions Credits: 3

Considers the great religions of the world and their relationship to the cultures and civilizations of which they are a part, including a look at their position in the contemporary world. Study is made of the philosophy, theology, and ethical systems of these great faiths and of the lives of the great leaders and scholars of these religions. Investigates the literature they have produced.

PHL 301 - Formal Logic Credits: 3

Deals with the study of argumentation and presenting of evidence by means of formal deductive systems such as propositional logic and predicate logic. Application of formal methods is supplemented by the study of philosophical problems about their effectiveness and limitations.

PHL 332 - Ethical Issues and Computer Technology Credits: 3

Studies some of the approaches to ethics and their application to individual decisions and questions of social policy related to computer technology. Some specific issues discussed are professional ethics, property rights, privacy, and the social implications of computer technology.

PHL 336 - Concepts in Buddhism Credits: 3

Investigates the religion of Buddhism and some of its essential concepts. History, development, nature, and contemporary relevance of these essential concepts are examined. Concepts are considered from the perspective of the different forms of Buddhism, such as Zen, Theravada, and Mahayana. Included are avidya (spiritual ignorance), anatta (no-self), anicca (impermanence), dukkha (suffering), and nirvana (extinction, enlightenment).

PHL 337 - Existentialism Credits: 3

Aims to understand and appreciate contemporary expressions of existentialism. Examines historical sources of this world view, including Nietzsche, Kierkegaard, and Husserl. Within this framework, the richly rewarding works of Sartre and others can be developed meaningfully. Given the nontraditional tone of existentialism, looks beyond theoretical writings to the existential fiction of Kafka, de Maupassant, de Beauvoir, Hemingway, and Camus.

PHL 340 - Contemporary Ethics Credits: 3

Examines and assesses some recent approaches to ethics, including ethical theories and anti-theoretical viewpoints. Investigation of relation between recent ethical discourse and some contemporary moral issues included.

Prerequisite(s): PHL 105 or permission of instructor.

PHL 391 - Selected Topics in Philosophy Credits: 3

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

PHL 393 - Selected Topics in Philosophy Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Vary depending on topic.

PHL 394 - Selected Topics in Philosophy Credits: 3

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

PHL 399 - Independent Study in Philosophy Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

PHL 490 - Selected Topics in Philosophy Credits: 1-3

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

PHY 107 - 1st Year Seminar for Physics Majors Credits: 2

Intended for 1st year physics majors. Offers an overview of major sub-fields of physics; develops some of the problem solving skills necessary to start a rigorous Physics curriculum; and encourages students to develop and refine career and education goals, including researching and securing internships.

Prerequisite(s): MAT 175 (may be taken concurrently) or MAT 211 (may be taken concurrently) or MAT 212 (may be taken concurrently)

PHY 108 - Astronomy Credits: 3

Introductory, non-mathematical course on astronomy and astrophysics. Main goal is to provide a qualitative but extensive survey of what is known about planets, stars, galaxies, black holes, pulsars, quasars, and the origin of the universe. Topics such as Newton's laws of motion, gravitation, radiation spectra, and thermodynamics are discussed and treated quantitatively.

Category: Cat C - Bio and Phys Sciences

PHY 110 - Physics for Society Credits: 3

Introductory non-mathematical course about modern physics with emphasis on those topics having great influence upon our present society. Topics typically covered include space travel, Einstein's relativity, radioactivity, nuclear energy, elementary particles of matter, solid state properties of matter, lasers, and low temperature phenomena.

Category: Cat C - Bio and Phys Sciences

PHY 121 - Introductory Physics I - Lecture Credits: 3

Introductory course in dynamics, thermodynamics, and kinetic theory. Some topics introduced are the description of motion, Newton's laws of motion, equilibrium conditions, concept of work and energy, momentum, periodic phenomena, rotational motion, the concepts of heat and temperature, kinetic theory of gases and the behavior of real and ideal gases. Origin, characteristics, transmission, and detection of sound also studied. Strongly recommended students take concurrently PHY 123 .

Prerequisite(s): MAT 117 (may be taken concurrently) or math placement level of

Category: Cat C - Bio and Phys Sciences

PHY 122 - Introductory Physics II - Lecture Credits: 3

Introductory course in electricity and magnetism, optics, atomic physics and nuclear physics. Topics introduced are behavior of electric charges, the electric field, D.C. circuits resistance, capacitance, inductance, electromagnetic induction, geometric and physical optics, wave and particle analysis of light, optical spectra, X-rays, atomic structure, and radioactivity. Strongly recommended students take concurrently PHY 125 .

Prerequisite(s): PHY 121 and (MAT 117 (may be taken concurrently) or math placement level of 3)

Category: Cat C - Bio and Phys Sciences

PHY 123 - Physics I Laboratory Credits: 1

Provides an experimental approach to concepts developed in its lecture counterpart PHY 121 . Two periods/week.

Prerequisite(s): PHY 121 (may be taken concurrently) or PHY 205 (may be taken concurrently)

PHY 125 - Physics II Laboratory Credits: 1

Provides an experimental approach to concepts developed in its lecture counterpart PHY 122 . Two periods/week.

Prerequisite(s): PHY 122 (may be taken concurrently) or PHY 206 (may be taken concurrently)

PHY 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat C - Bio and Phys Sciences

PHY 205 - Intermediate Physics I Credits: 3

Introductory study of the laws of mechanics governing motion of objects acted upon by forces. Beginning spent on kinematics (the study of motion in terms of position, velocity, and acceleration). Newton's laws, which determine how forces generate motion, studied next. Remainder spent on direct applications of Newton's laws. These include the description of motion in terms of energy, the description of collisions and a brief study of rotational dynamics. Also presents a brief introduction to some of the elementary concepts involved in theories of special and general relativity. Vectors and differential calculus used.

Prerequisite(s): MAT 211 (may be taken concurrently)

Corequisite(s): PHY 123

Category: Cat C - Bio and Phys Sciences

PHY 206 - Intermediate Physics II Credits: 3

Introduces the study of electricity and magnetism. Also provides an introduction to optics. Topics covered include: electricity: electric force, E-field, Gauss' law, conductors, E- potential, capacitors and dielectrics; currents and circuits: resistance and Ohm's Law, e.m.f's, RC circuits; magnetism: magnetic force, Ampere's Law, solenoids, Biot-Savart Law, motion in magnetic fields; electromagnetic induction: e.m.f's, Faraday's Law, inductance, RL circuits, AC Circuits; EM waves: Maxwell's equations, EM waves and the EM spectrum; and optics: reflection, refraction, interference and diffraction of light.

Prerequisite(s): PHY 205 and MAT 211

Corequisite(s): PHY 125

PHY 221 - Fundamentals of Physics I Credits: 5

An introductory study of the laws of Mechanics. Topics covered include: Kinematics; Newton's laws; Energy: The Work-energy theorem, Potential Energy, Power, conservation of Energy; Momentum: Center of Mass, Collisions, Momentum Conservation; Rotational Dynamics; Fluids; Oscillations (Simple Harmonic Oscillator) and Waves. Four hours lecture/two hours lab/week.

Prerequisite(s): MAT 211 (may be taken concurrently)

PHY 222 - Fundamentals of Physics II Credits: 5

Second course in a required series for physics majors. An introductory study of electricity and magnetism. Topics covered include: electric force, E-field, Gauss' law, E-potential; currents and circuits, capacitors, RC circuits; magnetic fields, inductance; AC circuits; EM waves; interference and diffraction of light; geometrical optics: Snell's law, refracting lenses, mirrors. Four hours lecture/two hours lab/week.

Prerequisite(s): MAT 211 (may be taken concurrently) and PHY 221 (may be taken concurrently)

PHY 301 - Mathematical and Numerical Techniques in the Sciences Credits: 4

Introduces common mathematical and computational tools used extensively in the undergraduate physics curriculum, including: linear algebra; vector analysis; Fourier series; differential and partial differential equations and their solutions; numerical integration and solutions to ordinary and partial differential equations; and Introduction to chaos. Four hours lecture/four hours lab/week.

Prerequisite(s): PHY 221 and PHY 222 and MAT 322 (may be taken concurrently)

PHY 311 - Quantum I Credits: 4

First of two courses aimed at providing students with a solid grounding in quantum mechanics. Follows a historical approach to the development of QM at the beginning of the 20th century. Topics include: Blackbody Radiation: classical and Plank's law; waves as particles: photoelectric effect, particle nature of wave; particles as waves: electron diffraction, deBroglie's relation; Bohr model; Schrodinger's equation and simple potentials, including tunneling; Nuclear physics and nuclear decays; fission and fusion reaction; Overview of elementary particles. Three hours lecture/week, two hours lab/biweekly. Recommended co-requisite for physics and applied physics majors: PHY 301

Prerequisite(s): PHY 221 and PHY 222 and MAT 322 (may be taken concurrently)

PHY 321 - Electricity and Magnetism I Credits: 4

First of two courses aimed at providing a solid grounding in electricity and magnetism. Topics include: electrostatics: Coulomb's law, Gauss' law, electric potential, energy and conductors. Electric fields in matter; magnetostatics: Lorentz force, Biot-Savart law, magnetic fields in matter; Maxwell's equations; radiation by charges. Three hours lecture/week, two hours lab/biweekly. Recommended co-requisite for physics majors: PHY 331 .

Prerequisite(s): PHY 221 and PHY 222 and (PHY 301 with minimum grade of C or ELEC 210 with minimum grade of C)

PHY 325 - Semiconductor Devices Credits: 4

Lecture/Lab course covers modern topics in Solid State Physics with an emphasis on semiconductor devices and device fabrication. Topics covered include the free electron gas, carrier modeling, the band model, pn-junction diodes, bipolar junction transistors, field effect transistors and optoelectronic devices. The techniques for fabricating and characterizing semiconductor devices are also covered in both the lecture and the laboratory.

Prerequisite(s): (PHY 311 and MAT 322) or (CHM 363 and PHY 461) or permission of instructor

PHY 331 - Mechanics I Credits: 4

First of two courses aimed at providing students with a solid grounding in classical mechanics. Topics include: rotational dynamics: angular variables in 3d, I , fixed and CM axis dynamics, angular momentum, moments of Inertia, rotational kinetic energy; simple harmonic oscillator

including driven and driven-damped oscillators; resonance and chaos; central force motion, planetary orbits, Kepler's laws; non-inertial coordinate system including the Coriolis force; and special relativity (SR): Invariant interval, 4-vectors, 4-velocity, energy-momentum 4-vector, Lorentz transforms, SR paradoxes. Three hours of lecture/week, two hours lab/biweekly.

Prerequisite(s): PHY 221 and PHY 222 and PHY 301 (may be taken concurrently) and MAT 322 (may be taken concurrently)

PHY 341 - Classical and Statistical Thermodynamics Credits: 4

Covers the traditional approach to thermodynamics as well as a more fundamental introduction to the subject using statistical mechanics. Topics include: ideal gases, equation of state; 1st Law, various thermo processes calculation of work; 2nd Law Cycles, engines and refrigerators. Reversible and irreversible processes; thermodynamic potentials; kinetic theory; statistical thermo: micro and macro states, entropy, quantum description of the ideal gas; heat capacities, paramagnetism; Boltzmann statistics; quantum statistics. Three hours lecture/week, two hours lab/biweekly.

Prerequisite(s): PHY 221 and PHY 222 and PHY 301 (may be taken concurrently)

PHY 355 - Electronics Credits: 4

Provides an introduction to electronics with an emphasis on practical knowledge required for modern experimental work. Topics include: electrical quantities and their measurement; linear components and circuit theory; diodes and simple transistors, FET circuits; signal conditioning with Op-amps; Instrumentation amplifiers; transducers: e.g. PIN photodiodes; regulated power supplies; other analog integrated circuits (e.g. multipliers); and A/D conversion and computer interfacing: microcontrollers. Three hours lecture, two hours lab/week.

Prerequisite(s): PHY 222 and MAT 212

PHY 390 - Internship Physics I Credits: 3

Contact the department for further information on internships.

PHY 393 - Selected Topics in Physics Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PHY 395 - Internship II Credits: 3

Contact the department for further information on internships.

PHY 397 - Intro to Research Credits: 3

Students of junior or senior status engage in a research project under the supervision of a faculty member of the Physics department. Credit hours are to be arranged between the student and the research supervisor, according to the amount of work required by the research project.

PHY 398 - Research II Credits: 3

Students of senior status engage in a research project under the supervision of a faculty member of the Physics department. Credit hours are to be arranged between the student and the research supervisor, according to the amount of work required by the research project.

PHY 399 - Independent Study in Physics Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

PHY 411 - Quantum II Credits: 3

Introduction to physical concepts and mathematical formulations of nonrelativistic quantum mechanics. Enables a detailed study of the Schrodinger Equation and its properties. The Schrodinger Equation is solved exactly for the particle in a square well potential, the simple harmonic oscillator, and the hydrogen atom. Both perturbation theory and variational calculation are developed as methods for handling more complicated systems. Spin is introduced as an ad hoc concept and the properties of simple magnetic systems studied. Heavy emphasis on applications to simple systems. Three periods lecture/week.

Prerequisite(s): PHY 311 and MAT 318 and MAT 322 (may be taken concurrently)

Graduate Credit: This course is not available for graduate credit.

PHY 421 - Electricity and Magnetism II Credits: 3

A continuation of Electricity and Magnetism I, treating some of the same topics but with an increased sophistication. Provides a solid foundation in one of the core subjects of the discipline. Topics include: electrodynamics and Maxwell's equations; conservation laws; electromagnetic waves and relativistic electrodynamics; electromagnetic waves; potentials and fields of moving charges; radiation by moving charges; special relativistic treatment of electrodynamics; electromagnetic radiation by a point charge.

Prerequisite(s): PHY 321 and MAT 322

Graduate Credit: This course is not available for graduate credit.

PHY 431 - Mechanics II Credits: 3

Intermediate course in the treatment of Newton's laws of motion, vector analysis, and rectilinear and curvilinear motion in a plane, as well as study in areas of statics and dynamics, including concurrent and non-concurrent forces, movements and torques, energy, rotational motion, moments of inertia and oscillatory motion. Three periods of lecture/week.

Prerequisite(s): PHY 331 and MAT 213 and MAT 318 and MAT 322 (may be taken concurrently)

Graduate Credit: This course is not available for graduate credit.

PHY 450 - Quantum Materials Credits: 4

Lecture/lab course covers material topics in modern solid state physics with an emphasis on applications to nanotechnology. Topics covered include carbon nanotubes, organic conductors and semiconductors, photonic crystals and microfluidics. Topics in Biological and self-assembled systems including, biomolecular motors, motor proteins and the organic-to-silicone interface are also covered. Techniques for manipulating and characterizing materials at the nanoscale are also covered in both the lecture and the laboratory.

Prerequisite(s): (PHY 311 and MAT 322) or (CHM 363 and PHY 461) or permission of instructor

Graduate Credit: This course is not available for graduate credit.

PHY 461 - Mathematical Physics Credits: 3

Introduces some of the many mathematical concepts used routinely by theoretical physicists. Specific topics are left to the discretion of the instructor but can include such subjects as elements of differential geometry, complex analysis, or methods for solving integral and differential equations.

Prerequisite(s): PHY 301

Graduate Credit: This course is not available for graduate credit.

PHY 471 - Computational Physics Credits: 4

Introduces the use of sophisticated numerical techniques to solve physical problems. Topics include: approximation methods; numerical integration; ordinary and partial differential equations; random processes; spectral analysis; and Monte Carlo methods.

Prerequisite(s): PHY 301 and CSC 110 and MAT 322

Graduate Credit: This course is not available for graduate credit.

PHY 481 - Atoms and Photons Credits: 3

Investigates the structure of matter at the atomic level, the free photon field and their mutual interaction. Possible topics are: hydrogen atom review; generalized angular momentum theory; radial wave functions and self-consistent field solutions; coupling schemes and atomic eigenstates; general excitation and decay dynamics; quantization of the free EM field; coherent and incoherent states of the photon field; atom-photon interaction terms, gauge representations; 1st order process: e.g. absorption and emission; and higher order processes: e.g. 2-photon decay.

Prerequisite(s): PHY 301 and PHY 311 and PHY 321

Graduate Credit: This course is not available for graduate credit.

PHY 485 - Optics Credits: 4

Both geometrical and physical optics and applications. Optical instruments, wave propagation, interference diffraction, polarization, and atomic molecular spectra are studied. Spectrascopes, spectrometers, polariscopes, photometers, and interferometers are some of the instruments used. Three periods lecture and two periods lab/week.

Prerequisite(s): MAT 213 and MAT 318 and MAT 322 and PHY 321

Graduate Credit: This course is not available for graduate credit.

PHY 491 - Selected Topics in Physics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

PHY 493 - Selected Topics in Physics Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is not available for graduate credit.

PHY 495 - Independent Study in Physics Credits: 2

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

Graduate Credit: This course is not available for graduate credit.

PLS 100 - U.S. Government and Politics Credits: 3

Foundation for understanding the philosophical heritage, constitutional principles, civil rights and liberties, and the formal and informal institutions that form the U.S. government. Focus on political factors and dynamics of democracy, the Constitution, political parties, interest groups, the media, elections, and the branches of U.S. government.

Category: Cat D - Polit, Eco and Geo Sci

PLS 141 - World Politics Credits: 3

Deals with the nation state, international institutions, global issues and the international political system in a contemporary context. Attention given to the formulation and execution of foreign policy; political, economic, military and cultural interactions among states; and the organization and maintenance of the international community.

Category: Cat D - Polit, Eco and Geo Sci

PLS 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat D - Polit, Eco and Geo Sci

PLS 201 - Foundations of Political Science: Concepts and Critical Analysis Credits: 3

Examines the philosophical foundation of the discipline of political science. Examines the theoretical foundations of contemporary political regimes. Introduces political science theories and theory building. Introduces students to the tools to conduct critical literature reviews, access professional-level information, assess political arguments using systematic logical analysis, and use the analytical tools to develop independent research.

PLS 202 - Applications in Public Affairs Credits: 3

The objectives of this course are to provide students with the opportunity to develop information literacy, to develop the ability to properly apply information to answer open-ended and/or controversial questions, to organize that information in such a way that convincingly answers open-ended or controversial questions, to develop oral communication skills so as to gain confidence and rhetorical power when delivering a speech or engaging in vigorous deliberation. An additional set of objectives of the course are to facilitate the professionalization of students through career counseling, creation of resumes, post-college planning, among others.

Prerequisite(s): PLS 100 or HON 279

PLS 231 - State and Local Government Credits: 3

Study of the organization and functions of government at the state, county, township, and city levels. State-local and national-local relations are stressed.

Prerequisite(s): PLS 100 or HON 279 or permission of Instructor

PLS 251 - Introduction to Comparative Politics Credits: 3

Cross-national study of the principles, forms, and functions of democratic, fascist, and communist governments. Political parties and electoral systems, legislative representation, federalism, constitutional order, bureaucracy, and dictatorship are examined in the functional and comparative manner.

Prerequisite(s): PLS 100 or HON 279 or permission of Instructor

PLS 252 - Costa Rica: Politics, Economy and Society Credits: 3

This course explores Costa Rican culture through intensive study on campus and field experience in Costa Rica. Classroom topics include an overview of linguistic, historical, geographical, sociopolitical, economic, and/or cultural themes of the areas visited. This course will combine readings, lecture and discussion with a field-based learning experience. Upon completion, students should be able to exhibit first-hand knowledge of issues pertinent to the host area and demonstrate understanding of cultural differences.

PLS 271 - Introduction to Public Administration Credits: 3

Basic introductory course in field of management in governmental offices. Includes organization of executive offices, controls over administration, budgeting and personnel procedures and methods to achieve administrative objectives.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 291 - Contemporary Issues Credits: 3

Focuses on political or policy issues. Covers background of the issues, current developments, and prospects for change. Topics vary from semester to semester.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 300 - Advanced American Government and Public Policy Credits: 3

In-depth description of the structure, functions, and public policy making involvement of U.S. governmental institutions. Focuses on legislative, executive, administrative, and judicial institutions and process, the impact of interest groups, political parties, public opinion, and federalism. Examines the policy-making process, both in general and with reference to specific types of public policies.

Prerequisite(s): PLS 100 or HON 279

PLS 301 - Political Science Research Methods Credits: 3

Evaluates the process of research in political science, focusing on research design; discusses ethical issues in research; trains students in techniques of data collection and processing; provides computer-based training in quantitative analysis and interpretation of statistics.

Prerequisite(s): PLS 202 or PLS 201 or PLS 271

PLS 302 - Public Policy Analysis Credits: 3

Examines the policy making process(es) and implications for the conduct of policy analysis. Reviews the policy implementation process(es) and implications for the conduct of policy analysis. Focuses upon specific quantitative and qualitative policy analysis/program evaluation techniques.

Prerequisite(s): PLS 301

PLS 307 - Applied Research in Political Science Credits: 1-3

This course provides Political Science majors with the opportunity to engage in an independent research project. The topic chosen with the consultation of a department faculty member. Each credit should reflect a minimum of 40 hours of research. Students are expected to present their research finding in writing and orally in an appropriate professional setting.

Prerequisite(s): PLS 301 or permission of instructor.

PLS 311 - The Legislative Process Credits: 3

Analyzes the powers and rules of legislatures and legislators in modern democracies with special reference to the American Congress. Emphasis placed on the decision-making process, including internal and external pressures upon legislators.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 312 - The American Presidency Credits: 3

Analyzes the structure and functions of the American institutionalized presidency, including an examination of the power and roles of the president and the decision-making process.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 313 - The Judicial Process Credits: 3

Describes the operation of the federal and state court systems; evaluates the processing of cases; examines the mechanisms of judicial recruitment; discusses the impact of decisions on the political process.

PLS 321 - Public Opinion and Political Media Credits: 3

Deals with the nature of public opinion and its role in the political process. Explores how the American political system operates in an age of mass communication, how citizens and politicians are affected by the media, and how the media influences the political process.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 322 - Interest Groups in American Society Credits: 3

Studies the origins, organizations, opportunities, tactics of interest groups (pressure groups) and an assessment of the legitimacy of their role in democratic and quasi-democratic politics. Investigates problems connected with the existing incentive to join groups, the iron law of oligarchy, access points to government decision-making functions to private interest pressure groups.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 323 - Campaigns, Elections & Political Parties Credits: 3

Explores operation of the electoral system both theoretically and practically, and examines the roles of citizens in the electoral process. Reviews the development and status of political parties in American society.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 324 - Women in American Politics Credits: 3

Intended and designed for males and females, examines the changing political role of women in the United States and compares women across American subcultures. Investigates political attitudes and values, voting behavior, and recruitment of women for political leadership.

PLS 325 - African American Politics Credits: 3

Examines the relationship between African American citizens and the American political system in order to gain a broader perspective of the American political process. Representation and strategies for empowerment discussed. Provide consideration of the behavior of African Americans within the political institutional settings and at various levels of government. Also addresses the positive and negative impact of the Civil Rights Movement, the Supreme Court, and Affirmative Action as it relates to the integration of African Americans in the American political system.

Prerequisite(s): PLS 100 or ETH 101 or HON 279

PLS 331 - Urban Politics & Administration Credits: 3

This course is designed to provide an understanding of the development of urban politics in the United States, and issues confronting the urban political structure. The course analyzes problems found in urban politics such as funding, education, law enforcement, land use, health, housing, and development of urbanization.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 333 - Applications in State and Local Public Policy Credits: 3

This course features a hands-on approach which maximizes experiential learning and student participation. This course provides an in-depth professional experience that involves research and writing on public policy topics, and interacting with General Assembly, Commonwealth agency and judiciary staff, and advocacy organizations such as associations, including visits to public officials' offices. Students will study concepts in public policy, apply them in practical situations, and discuss public policy matters with public officials, including conducting interviews and writing public policy papers. Pre-requisite: PLS 100 .

Prerequisite(s): PLS 100 or HON 279

PLS 341 - International Law and Organization Credits: 3

Analyzes the role and dynamics of international law and organizational political system. Includes the scope and nature of international law and organization, the concepts and procedures for maintaining international peace and security, substantive rules, and international law and the function of the United Nations and regional organizations.

Prerequisite(s): PLS 141 or HON 274 or permission of instructor

PLS 342 - American Foreign Policy Credits: 3

Study of the principles of American foreign policy including process and policy formulation and execution. Roles of the president, Congress and the State Department and other governmental agencies are investigated.

Prerequisite(s): PLS 100 or PLS 141 or HON 279 or HON 274 or permission of instructor

PLS 343 - Global Economic and Political Conflict Credits: 3

This course is designed to provide students with an understanding of global political, economic, security and social relationships. The key focus of the course is contemporary global cooperation and conflict.

PLS 347 - Applied Diplomacy Credits: 3

Uses an off-campus education experience to facilitate learning about international organizations, diplomacy, negotiations, and the politics of a region of the world. Students will represent a country at a regional, national or international simulation such as the Model United Nations, Model Organization of American States or Model European Union. Students may be responsible for additional expenses associated with off-campus travel and activities. Permission of the instructor is required.

Prerequisite(s): Requires permission of instructor.

PLS 348 - Applied Diplomacy Credits: 3

Uses an off-campus education experience to facilitate learning about international organizations, diplomacy, negotiations, and the politics of a region of the world. Students will represent a country at a regional, national or international simulation such as the Model United Nations, Model Organization of American States or Model European Union. Students may be responsible for additional expenses associated with off-campus travel and activities.

Prerequisite(s): Requires permission of instructor.

PLS 349 - Applied Diplomacy Credits: 3

Uses an off-campus education experience to facilitate learning about international organizations, diplomacy, negotiations, and the politics of a region of the world. Students will represent a country at a regional, national or international simulation such as the Model United Nations, Model Organization of American States or Model European Union. Students may be responsible for additional expenses associated with off-campus travel and activities.

PLS 351 - European Politics Credits: 3

Examines the politics, institutions, and political culture of European countries. The course focuses both on the internal dynamics of European societies as well as integration of the continent.

PLS 356 - Politics of Developing Regions Credits: 3

Examines the forces that shaped and continue to impact the governments and politics of the Third World. Emphasizes two lines of inquiry: colonialism and patterns of post-colonial relations between north and south; and the challenges faced by Third World nations in their efforts for political, economic and social advancement in an increasingly integrated world.

Prerequisite(s): PLS 141 or HON 274

PLS 357 - Comparative Revolutions Credits: 3

The course examines the theory and practice of revolution over time and across the world. Close focus is maintained on the conditions, causes, strategies, mobilizing techniques, and ideologies of revolution with particular attention on the strategies each employs in establishing and maintaining legitimacy as the 'true voice' of the people.

Prerequisite(s): PLS 100 or HON 279

PLS 358 - European Political Economy and Security Credits: 3

This is a study abroad course that features an in-depth focus on European Governmental and Non-Governmental decision-making and organizations, both from a contemporary and historical perspective. A major focus will be on understanding the workings of international institutions such as NATO, European Union and ICC. The course also examines Europe in the context of trends of globalization, localization and human rights. The course meets in Europe and has a substantial online component.

PLS 359 - European Political Integration and Identity Credits: 3

This course is designed to provide the student with a background to current and historical trends in Europe by participating in briefings and observing politics in Europe. A core theme of the course is a discussion of how the political culture and historical events shape current national politics. Additionally, students will consider how trends of globalization impact political developments in Europe in the second decade of the twenty-first century. The course meets in Europe and has a substantial online component.

PLS 361 - Political Theory from Ancient Times through the 19th Century Credits: 3

Surveys the major political ideas of the world from ancient times to the present. Consists of critical appraisal of the ideas and thinkers and their impact on modern political institutions.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 362 - Contemporary Political Ideologies Credits: 3

Explores some of the most important concepts of political science taken up by contemporary philosophers. Course content can range from theories of justice, power, punishment, and leadership to representation, human rights, and democracy.

Prerequisite(s): PLS 100 or HON 279

PLS 363 - American Political Thought Credits: 3

Critical study of the political ideas underlying and associated with personalities and institutions in the United States from colonial times.

PLS 365 - Constitutional Law: The Federal System Credits: 3

Analyzes leading American constitutional decisions relating to national legislative, executive, and judicial powers and to the position of the states.

Prerequisite(s): PLS 100 or HON 279 or permission of instructor

PLS 366 - Constitutional Law: First Amendment Freedoms Credits: 3

Examines body of constitutional law associated with the First Amendment including establishment and free exercise of religion; and the freedom of speech, press, and assembly. Discusses issues surrounding the freedom of expression and the right to privacy.

PLS 367 - Constitutional Law: Criminal Law and Equal Protection Credits: 3

Examines body of constitutional law associated with the Fourth, Fifth, Sixth and Eighth Amendments and evaluates the protection of criminal defendants' rights in the United States today. Discusses case law surrounding the Fourteenth Amendment's Equal Protection Clause.

PLS 371 - Public Management Credits: 3

Studies the principles and functions of public managers. Covers traditional as well as new patterns of organization theory and management and the fundamentals and theory of planning.

Prerequisite(s): PLS 271 or permission of instructor

PLS 372 - Public Personnel Administration Credits: 3

Studies the development and functions of public personnel administration. Roles of various levels of management in the development and implementation of personnel policy and administration covered as well as those of the functional specialist. Impact of American culture and public policy upon public personnel administration also emphasized.

Prerequisite(s): PLS 271 or permission of instructor

PLS 373 - Public Financial Administration Credits: 3

Deals with fiscal policy determination, accountability, and management of financial resources. Administrative and political aspects of the budgetary process covered. Appropriate references made to the impact of federal programs upon state and local governments and the fiscal relations existing between various levels of government.

Prerequisite(s): PLS 271 or permission of instructor

PLS 374 - Public Service Ethics Credits: 3

Explores the historical and specific contemporary issues concerning ethics in the public sector. Ethical problems and their relationship to politics surveyed. Emphasizes ethical questions encountered by individuals who enter public service and will evaluate attempts to enforce ethical conduct among public servants by statutes and codes of conduct.

Prerequisite(s): Nine hours in political science or permission of instructor. PHL 105 and/or PHL210 recommended.

PLS 381 - Principles of Labor Relations Credits: 3

Introduction to labor-management relations in private and public sectors. Topics such as domestic industrial relations systems; institutional labor movements; negotiation, administration and contents of labor agreements; contract dispute resolution; and labor relations abroad may be included. Students taking PLS381 cannot enroll in MGT 342 and vice versa.

Prerequisite(s): PLS 271 or MGT 340

PLS 389 - Selected Topics in Public Administration Credits: 3

Opportunity to offer regular classes in Public Administration in areas of department major interest not covered by regular courses.

Prerequisite(s): PLS 100

PLS 390 - Selected Topics in Political Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PLS 391 - Selected Topics in Political Science Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PLS 392 - Selected Topics in Political Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PLS 393 - Selected Topics in Political Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PLS 394 - Selected Topics in International Politics Credits: 3

Opportunity to offer regular classes in International Politics in areas of department major interest not covered by regular courses.

PLS 395 - Internship I Credits: 3

Contact the department for further information on internships.

PLS 396 - Internship II Credits: 3

Contact the department for further information on internships.

PLS 397 - Internship III Credits: 3-6

Contact the department for further information on internships.

PLS 398 - Independent Study in Political Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PLS 399 - Senior Seminar Credits: 3

Required senior capstone course. Review of important concepts and advances in the field undertaken through original readings and discussion. Students complete an independent research project that integrates knowledge of the content and methods specific to the study of political systems and processes. Evaluation includes a senior thesis, oral presentation, and career development statement with resume.

Prerequisite(s): (PLS 100 or HON 279) and PLS 201 and PLS 300 and PLS 301 and two (2) additional courses in major and senior standing.

PLS 431 - Pennsylvania Local Government Credits: 3

Concerns the structure and administrative functions of local governments in Pennsylvania. Extensive emphasis placed on analyzing local governmental functions and problems emanating from the jurisdictions' political, social, and economic environments.

Prerequisite(s): 9 hours in political science or permission of instructor.

Graduate Credit: This course is available for graduate credit.

PLS 490 - Selected Topics in Political Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

PLS 491 - Selected Topics in Political Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

PLS 492 - Selected Topics in Political Science Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

PSY 101 - General Psychology Credits: 3

Survey of major principles, research results, and applications of contemporary psychology. Topics traditionally covered include learning, memory, perception, motivation, personality and social behavior.

Category: Cat E - Soc and Behav Sciences

PSY 105 - Research Design and Statistics for the Behavioral Sciences I Credits: 3

Primarily for psychology majors and the first in a two-semester sequence of courses in research design and statistics as applied to the behavioral sciences. Topics include background research skills, hypothesis development, research methodology, descriptive statistics (using calculator and computer), and an introduction to probability.

Prerequisite(s): Restricted to psychology majors or B.S.Ed. majors. PSY 101 (may be taken concurrently) or HON 151 (may be taken concurrently)

PSY 205 - Research Design and Statistics for the Behavioral Sciences II Credits: 3

Designed to provide a collection of principles, methods and strategies useful in planning, designing, writing, and evaluating research studies in the behavioral sciences. Topics include research designs, measurements, hypothesis testing, statistical significance, estimation and the analysis of data. Use of computer statistical packages to analyze data emphasized.

Prerequisite(s): Restricted to psychology majors. PSY 105 with minimum grade of C and PSY 101 (or HON 151) or permission of instructor.

PSY 235 - Conditioning and Learning Credits: 3

Designed to teach the basic principles of conditioning and learning. Emphasis on classical and operant conditioning in laboratory research and applied situations.

Prerequisite(s): PSY 101 or HON 151

PSY 240 - Psychology of Personality Credits: 3

Basic theories concerning the structure, dynamics, and development of personality are discussed. Viewpoints covered include psychodynamic cognitive, humanistic and behavioral approaches to understanding personality.

Prerequisite(s): PSY 101 or HON 151

PSY 250 - Psychology of Life Span Development Credits: 3

Provides a basic understanding and appreciation of the interrelated growth processes of development across the life span. Includes discussion of physical, interpersonal, social, peer, self-developmental, emotional, and cognitive processes. Credit earned in this course is not applicable to

credits required of the psychology major or minor. Please note that credits earned count as free electives for psychology majors or minors who choose to take this course. Recommended for pre-health professions and exercise science students. (Offered winter and summer terms).

Prerequisite(s): PSY 101 or HON 151

PSY 265 - Childhood and Adolescence Credits: 3

Provides understanding and appreciation of the interrelated growth processes of child development. Includes physical, interpersonal, social, peer, self-developmental, emotional, and cognitive processes.

Prerequisite(s): PSY 101 or HON 151

PSY 270 - Social Psychology Credits: 3

Examines theories, research, and everyday life in an effort to understand how people perceive and influence each other.

Prerequisite(s): PSY 101 or HON 151

PSY 301 - Experimental Psychology Credits: 3

Introduction to the execution of planned laboratory experiments. Deals with problems in designing experiments, data collection and analysis, and the writing of research reports. Experiments may be conducted in the areas of sensation, perception, motivation and learning.

Prerequisite(s): Restricted to psychology majors. PSY 205 with minimum grade of C or permission of instructor.

PSY 311 - Applied Behavior Analysis Credits: 3

The course is an overview of applied techniques for assessing and modifying behavior known as ABA (applied behavior analysis). Techniques examined within the course will include descriptive and functional assessment, functional analysis, differential reinforcement, response prevention, environmental enrichment, punishment, extinction, and stimulus control.

Prerequisite(s): PSY 235 with minimum grade of C

PSY 315 - Psychology of Prejudice and the Minority Experience Credits: 3

Examines the psychological roots of prejudice and discrimination in modern society, including the nature, prevalence, causes, and consequences of discriminatory behavior. Specifically, the class addresses the underlying psychological processes that influence prejudice towards underrepresented minority groups. Topics include racism, sexism, heterosexism, ageism, weight bias, and other forms of prejudiced attitudes and discriminatory behaviors.

Prerequisite(s): PSY 101 or HON 151

PSY 320 - Behavioral Neuroscience Credits: 3

Explores the relationship between biological and psychological processes by examining nervous system anatomy and physiology as it relates to problems of emotion, motivation, cognition, perception, and mental illness.

Prerequisite(s): PSY 101 or HON 151 or permission of instructor.

PSY 323 - Sensation and Perception Credits: 3

Includes study of human senses, sensory coding, neurological basis of sensation, perceptual processes in vision and hearing, perceptual development, theories of perceptual experience, adaptation level theory, person perception, self-perception, and the physiological basis of perception. Some experiments performed in the area of sensation and perception.

PSY 325 - Psychology of Human Cognition Credits: 3

Designed to teach the underlying principles of human cognition (i.e., attention, thinking, perception, comprehension, memory), experimentation and research in cognition, application of cognitive principles to applied settings (i.e., schools).

Prerequisite(s): PSY 101 or HON 151

PSY 330 - Abnormal Psychology Credits: 3

Characteristics, causes and treatment of the major types of maladaptive behavior are discussed. Topics include current mental disorder classification system and contemporary forms of psychotherapy.

Prerequisite(s): PSY 101 or HON 151

PSY 335 - Psychology of Social Influence Credits: 3

Introduction to principles of social influence. These principles applied to understanding topics such as attitude change, recruitment and retention in religious cults and other cult-like groups, product advertising, political advertising, fundraising techniques, public service campaigns, initiations and group loyalty, brainwashing.

Prerequisite(s): PSY 270 with minimum grade of C or permission of instructor.

PSY 340 - Introduction to Clinical Psychology Credits: 3

Includes discussion of how clinical psychologists assess symptoms of psychopathology, diagnose mental disorders, conceptualize clients' symptom reports and develop treatment plans. Students not taught how to do assessment or psychotherapy but will learn about assessment and psychotherapy approaches used by clinical psychologists. Purpose is to provide opportunity to integrate material learned in other courses and to learn more about the field of clinical psychology.

Prerequisite(s): PSY 240 with minimum grade of C and PSY 330 with minimum grade of C

PSY 350 - Psychology of Sustainability Credits: 3

This course will highlight examples of how psychology makes contributions to the sustainability field through a variety of perspectives (behavioral, cognitive, social). We will read and discuss primary source articles that discuss intersections between psychology and sustainability. In addition, students will gain hands-on experience with sustainability initiatives through a Research/Service project.

Prerequisite(s): PSY 101 or HON 151

PSY 352 - Adulthood and Aging Credits: 3

Providing the student with an understanding of the main developmental processes occurring during the stages of adulthood and old age. Discusses theories of aging, social implications of the recent extensions in longevity, age-related physiological processes and their implications in terms of physical and mental health, changes in cognition, personality, and psychopathology. Also discusses the impact of important life events and developmental tasks on the individual. Thus, marriage and divorce, work and retirement, and finally death, dying, and bereavement, will be discussed, and major empirical results will be presented and analyzed.

Prerequisite(s): PSY 101 or HON 151

PSY 355 - Psychology of the Exceptional Child Credits: 3

Psychological investigation into the nature of human differences as manifested in children and youth. Concerned with scientific study of physical, intellectual, social, and emotional development in unique children, as well as individual, institutional, and cultural response to the exceptional child. Cultural, social, and scientific procedures for the definition of deference emphasized. Treatment and educational systems touched upon.

Prerequisite(s): PSY 101 or HON 151

PSY 361 - Psychology of Group Interaction Credits: 3

Surveys and analyzes psychological constructs, research, and principles of group interaction. Through participation and observation of face-to-face groups, implications are drawn for work groups in education, industry, and other social situations.

Prerequisite(s): (PSY 101 or HON 151 and junior standing) or permission of instructor.

PSY 365 - Multicultural Psychology Credits: 3

Focuses on recent psychological research concerning understanding the differences in the way we think, feel, and behave. Designed to introduce psychological issues concerning gender, cultural values, race/ethnicity, religion, individualism-collectivism, self-identity, group identity and group conflict, environmental ecology, culture and development, culture and communication/relationships. Discussions are geared toward promoting an understanding of human experience in a multicultural context.

Prerequisite(s): PSY 101 or HON 151

PSY 374 - Advanced Research in Psychology I Credits: 3

Psychology majors provided with opportunity to engage in a research project in psychology. Typically includes the selection of a topic, background research on topic, and writing of a research proposal. The stages of collection of data and analysis of data may be included, depending on the nature of the project.

Prerequisite(s): PSY 301 with minimum grade of C or PSY 305 and permission of instructor.

PSY 375 - Advanced Research in Psychology II Credits: 3

Second of a two-semester sequence of courses designed to provide psychology majors with an opportunity to engage in research. Typically, in this second course, students gather data, do appropriate statistical analysis, and make an oral presentation of the project and its results. Students encouraged to attend scientific conventions and submit proposals to conventions for poster and/or paper presentations.

PSY 379 - Capstone Seminar in Psychology Credits: 3

Capstone seminar designed to allow students to apply a number of theoretical approaches and models to real-life examples and to familiarize students with some of the current debates in the field of psychology. Based in large part on group work that will be conducted by students in an attempt to explore in more depth issues and topics originally discussed in class in relatively broad terms. Short papers and oral presentations provide opportunity for integration, application and polishing of writing and oral communication skills.

Prerequisite(s): Requires at least junior standing and at least 15 credits from psychology courses.

PSY 381 - Honor Thesis I Credits: 3

First of a two-semester sequence of courses designed to provide students in the Psychology Honors Program an opportunity to develop and conduct a major research project.

PSY 382 - Honor Thesis II Credits: 3

Second of a two-semester course designed to provide students in the Psychology Honors Program an opportunity to develop and conduct a major research project.

PSY 383 - Children's Understanding of Their Social World Credits: 3

This course will explore children's developing understanding of the social world. An emphasis will be placed on the development of social cognition. Various forms of social learning (ways children learn from others) will be discussed. Broad theories of developmental social cognition including Bandura's Social Cognitive Theory and Dodge's Social Information Processing Theory will be studied. Empirical research investigating topics related to how children learn from others and how they learn about themselves and others will be examined.

Prerequisite(s): PSY 101 or HON 151

PSY 384 - Psychology of Person-to-Person Interaction Credits: 3

Focuses on the development of basic helping skills. Topics include modes of response, creating a positive relationship, problem solving, effective feedback, and applications to special populations. Skill enhancing activities include role playing, video taping, and small group exercises.

Prerequisite(s): Restricted to psychology majors only.

PSY 385 - Internship in Psychology Credits: 1-4

Provides a variety of internship experiences that provide opportunity to broaden the psychology major's preparatory background. Contact the internship coordinator of the department for further information.

PSY 386 - Internship in Psychology Credits: 3

Provides a variety of internship experiences that provide opportunity to broaden the psychology major's preparatory background. Contact the internship coordinator of the department for further information.

PSY 389 - Internship in Psychology III Credits: 3

Provides a variety of internship experiences that provide opportunity to broaden the psychology major's preparatory background. Contact the internship coordinator of the department for further information.

PSY 393 - Selected Topics in Psychology Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PSY 394 - Seminar in Selected Topics I Credits: 3

Studies concepts and research in areas of psychology not covered by the regular courses of study. Areas covered will be those in which instructors have special expertise and there is a special student request.

PSY 395 - Seminar in Selected Topics Credits: 3

Studies concepts and research in areas of psychology not covered by the regular courses of study. Areas covered will be those in which instructors have special expertise and there is a special student request.

Prerequisite(s): PSY 101 or HON 151 and senior standing and permission of instructor.

PSY 398 - Independent Study in Psychology Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

PSY 399 - Independent Study in Psychology Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

PSY 410 - Psychology and Women Credits: 3

Focus on views of women in early psychology, then turns to an in-depth analysis of the psychological aspects of issues affecting women. Topics include: current and historical psychological theories about women and sex differences; achievement motivation; women and mental illness; psychological aspects of menstruation; female sexuality; women's romantic relationships and friendships; reactions to victimization (rape, domestic violence; obsessive relationships and stalking, sexual abuse); psychological consequences of women's physical appearance; body image and eating disorders; prejudice and discrimination against women; consequences of inclusive vs. noninclusive language; improving communication and cooperation between men and women.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 420 - Health Psychology Credits: 3

Study of psychological processes that help and hinder the maintenance of health. Health is viewed in a framework of positive aspects beyond just the absence of pathology. Holistic and allopathic systems are compared and seen as complimentary. The organism is considered as a process of coordinated hierarchical self-regulating structures. Maintenance of proper psychophysical balance is seen as a means for management of stress and the immune system. Opportunity to practice some wellness skills.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 432 - The Psychology of Computers and the Internet Credits: 3

Examines the psychological implications of computers and their related Internet technologies on social interactions and behaviors. Topics include the influence of technology on self-concept and identities, norm development in CMC and virtual communities, cyber-support, Internet addiction, the influence of gender and status in on-line social interactions and the digital divide. Format a combination of discussion, using classic and current articles from the field, as well as hands on interaction using the department computer lab.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 435 - Psychopharmacology Credits: 3

Examines the absorption, distribution, metabolism, and elimination of psychoactive drugs. The mechanism of drug action, addiction, tolerance, and physical dependence for drugs of abuse and therapeutic drugs is studied.

Prerequisite(s): PSY 320 with minimum grade of C or permission of instructor.

Graduate Credit: This course is not available for graduate credit.

PSY 440 - History and Systems of Psychology Credits: 3

Explores the philosophical background, historical development, contemporary systems, and possible directions of psychology. This course may be used to satisfy the Capstone Requirement in Psychology.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 445 - Psychology of Thinking Credits: 3

Deals with the higher mental processes including problem solving, judgment, decision-making, reasoning, language, and intelligence. The aim is to inform the student of theories and research in these areas as well as to improve their thinking skills.

Prerequisite(s): PSY 325 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

PSY 447 - Multicultural Health Psychology Credits: 3

Investigates health and illness in traditionally under-represented groups. Psychological models of behavior and social interaction discussed to explain how health and illness impact different populations. Possible areas of coverage will be the role of health psychology in understanding epidemics worldwide. Other topics include the impact of ethnicity, gender, and age on health in the United States and in a global context. Includes readings, opportunities to problem solve, and to apply knowledge gained in the course to real-world examples. Goal is to increase appreciation of a world-view of health.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 450 - Crisis Intervention Credits: 3

Conceptual and practical frameworks for providing crisis intervention presented. Topics include the theory and philosophy of crisis intervention, problem solving, service delivery, community relations, burnout prevention, and evaluation of intervention efforts. Applications discussed include working with groups, crime victims, suicidal individuals, and bereaved persons.

Prerequisite(s): PSY 384

Graduate Credit: This course is not available for graduate credit.

PSY 470 - Legal Psychology Credits: 3

Informs student about relationship between psychology and law by introducing contemporary psychological knowledge as it applies to the legal system. Topics include psychology of evidence, social psychology of the jury, the psychologist as an expert witness, psychology of jury selection, and research methods used by legal psychologists.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 475 - Industrial and Organizational Psychology Credits: 3

Surveys theoretical and empirical research relevant to the behaviors and experiences of individuals in relation to the human constructs called organizations and the economic activities called work.

Prerequisite(s): PSY 205 with minimum grade of C (may be taken concurrently) or MAT 117 with minimum grade of C or SCM 200 with minimum grade of C and junior standing or permission of instructor.

Graduate Credit: This course is not available for graduate credit.

PSY 485 - Tests and Measurements Credits: 3

Focuses on the statistical and psychological theory of tests and measurements.

Prerequisite(s): PSY 205 with minimum grade of C (may be taken concurrently) or MAT 117 with minimum grade of C or SCM 200 with minimum grade of C and junior standing or permission of instructor.

Graduate Credit: This course is not available for graduate credit.

PSY 490 - Selected Topics in Psychology Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 491 - Selected Topics in Psychology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 492 - Selected Topics in Psychology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

PSY 493 - Selected Topics in Psychology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): Requires at least junior standing.

Graduate Credit: This course is not available for graduate credit.

RDG 050 - Developmental Reading and Study Skills Credits: 3

Designed to aid in mastery of reading and study skills necessary for success in nearly all academic fields. Individual attention given to areas needing improvement in reading efficiency and flexibility, vocabulary, comprehension of specific types of content materials, outlining, test-taking, note-taking and allied activities. All work based on careful diagnosis of strengths and weakness.

RDG 232 - Reading in the Elementary School Credits: 3

Emphasizes nature of the reading process, general principles of instruction and learning theory into sound classroom practice in a Middle Level (Grades 4-8) classroom. Instructional principles include instruction embedded in content-area text. Participation in an educational field experience required.

RDG 323 - Processes of Word/Text/Comprehension in Grades 1-4 Credits: 3

Focuses on reading development as it pertains to work and text comprehension for emergent to fluent readers. Pre-service teachers will learn effective and research-based literacy strategies for planning and implementing literacy lessons in grades 1-4. Participation in an education field experience will be required.

Prerequisite(s): ECH 253 with minimum grade of C

RDG 329 - Reading in the Content Areas Credits: 3

Opportunity to view reading instruction as it applies to content areas. Specifically, course will deal with: vocabulary development, development of cognitive skills, application of the D.R.A./D.R.T.A., application of reading/study skills, test administration, interpretation and evaluation, application of research findings to reading methodology, readiness as applied to reading in the content areas.

RDG 330 - Content Area Reading in the Primary Grades Credits: 3

Content Area Reading in the Primary Grades offers students the opportunity to view reading instruction as it applies to the content areas in grades 2-4. This course will deal with reading and comprehending text, developing vocabulary, developing cognitive skills, applying reading and study skills, assessing and evaluating textbooks, and applying research findings to reading methodology in the intermediate grades 2-4. This course will focus on the development of instructional strategies, concepts, and techniques for teaching reading in the various content areas. The application of reading, writing, speaking, listening, viewing, and visual representation across the curriculum will be the focus for this course. Also, the use of a wide variety of picture books and trade books for teaching content area reading will be addressed.

Prerequisite(s): RDG 323 with minimum grade of B

RDG 334 - Classroom Based Literacy Assessment Credits: 3

Explores concepts of assessment and evaluation in literacy development and their connection to instruction. Enhances awareness of current assessment strategies. Classroom experience with children required.

Prerequisite(s): RDG 232 with minimum grade of C

RDG 340 - Seminar in Literacy Tutoring Credits: 3

Enables students to learn and practice effective teaching techniques for helping at-risk readers and writers. College students implement classroom practices in a tutoring situation with local K-8 students.

Prerequisite(s): RDG 232 with minimum grade of C and RDG 334 with minimum grade of C

RDG 345 - Teaching Language Arts in PreK-4 Classroom Credits: 3

This course presents an integrated approach to teaching language arts based on current research of best practices, tested instructional methodologies, materials, assessment techniques for language arts instruction PreK-4, and the application of contemporary media and computer technology for the elementary grades. Course content focuses on the interrelatedness of all language arts areas.

Prerequisite(s): RDG 323 with minimum grade of B and RDG 363 with minimum grade of B

RDG 350 - Text Accessibility and Comprehension in the PK-4 Classroom Credits: 3

This course presents an integrated approach to teaching language arts based on current research of best practices, tested instructional methodologies, materials, assessment techniques for language arts instruction PreK-4, and the application of contemporary media and computer technology for the elementary grades. Course content focuses on the interrelatedness of all language arts areas.

Prerequisite(s): RDG 323 with minimum grade of B and RDG 363 with minimum grade of B

RDG 363 - Reading and Writing in PK-4 Credits: 3

This course focuses on theoretical content knowledge and pedagogical skills necessary to plan and implement the reading and writing process and effective principles of literacy instruction in the PK-4 literacy lessons, including emphasis on a comprehensive literacy framework for reading, writing and word study. Participation in an education field experience will be required.

Prerequisite(s): ECH 253 with minimum grade of C and RDG 323 with minimum grade of C

RDG 383 - English Language Learners in PK-4 Credits: 2

This course is designed to address teaching reading and writing to the grades 1-4 English language learners in a non-ESL classroom; address the concerns of teachers who encounter students in their classrooms who are learning English; explore the theories about first-and second-language acquisition; introduce classroom best practices in literacy as they relate to learners of English; and support teachers in developing an understanding of the basic principles of teaching and assessing English language learners with practical suggestions for assisting students in learning to cope in their new culture.

Prerequisite(s): ECH 253 with minimum grade of C and RDG 323 with minimum grade of C

RDG 393 - Selected Topics in Reading Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

RDG 413 - Teaching Reading to English Language Learners Credits: 3

Designed to address teaching reading and writing to the English language learner in a non-ESL classroom; address the concerns of teachers who encounter students in their classrooms who are learning English; explore theories about first-and second-language acquisition; introduce classroom best practices in literacy as they relate to learners of English; and support teachers in developing an understanding of the basic principles of teaching and assessing English language learners with practical suggestions for assisting students in learning to cope in their new culture. Course is reserved for reading minors and master's of reading students.

Graduate Credit: This course is available for graduate credit.

RDG 422 - Studies in Children's Literature Credits: 3

Designed to incorporate children's literature as a method for examining the relationships between authors' writing processes, curriculum, and pedagogy in the elementary classroom. Emphasizes current literacy research related to writers' craft in order to demonstrate a wide range of purposes and styles of writing and how various genres can be used to develop literacy skills.

Graduate Credit: This course is available for graduate credit.

RDG 431 - Seminar on Selected Topics in Reading Credits: 3

Focuses on a critical and in-depth analysis of topics in reading related to the following specific areas: the reading process and methodology; research findings; evaluation of materials and techniques; and practical application of theory and research to classroom procedures.

Graduate Credit: This course is not available for graduate credit.

RDG 443 - Reading Measures and Interventions in PK-4 Credits: 4

Focuses on assessment methods, including observation, informal, and formal assessment measures to diagnosis and describes stages of reading development among readers, specifically prekindergarten through fourth grades. Uses assessment data to identify and implement literacy instruction for small groups and individual learners. Participation in an education field experience will be required.

Prerequisite(s): (RDG 323 and RDG 363)

Graduate Credit: This course is available for graduate credit.

RDG 490 - Selected Topics in Reading Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

RDG 491 - Selected Topics in Reading Credits: 1

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

RDG 492 - Selected Topics in Reading Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

RDG 493 - Selected Topics in Reading Credits: 1

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SWK 102 - Social Work in Social Welfare Credits: 3

Examines the social work profession within the social welfare system. Develops an understanding of contemporary social work practice by examining its history, knowledge base, values, skills, methods, and fields of practice. Introduces the generalist model for practice which serves as a base for subsequent social work courses. Provides initial understanding of the needs and issues of special populations in relation to social welfare policies and services and social work practice. Requires a volunteer experience. Provides introduction to the profession and serves as resource to make an informed decision about social work as a career.

SWK 150 - Human Relations Lab Credits: 3

Develops effective generic interpersonal skills. Uses a laboratory design which has a variety of experiential and didactic experiences to understand components of effective interaction; develop self awareness about your own strengths and limitations; gain feedback about others' perception of you; establish personal goals for growth and development; and evaluate ongoing progress in communication competencies.

SWK 250 - Assessing Individuals in the Social Environment Credits: 3

Focuses on assessment skills to understand human behavior of individuals in the social environment. Using conceptual and theoretical frameworks, assessments are based on knowledge of human behavior across the life course and biological, psychological, sociological, cultural and spiritual factors as well as life cycle or situational specifics that may influence behavior. Requires a volunteer experience.

SWK 262 - Social Work Elective: Introduction to Child Welfare Practice Credits: 3

Provides knowledge and understanding of some of the primary problems in the field of child welfare. Improves students' ability to identify and assess various types of child maltreatment and neglect. Family relationships, social, cultural, legal, and other environmental influences are included in the assessment. Introduces the child welfare system and current best practices in child welfare treatment and intervention through interactive and experiential course work. Requires observation in a child-welfare related organization.

Prerequisite(s): SWK 102 with minimum grade of C

SWK 265 - Understanding Diversity for Social Work Practice Credits: 3

Helps students develop tools for increased understanding of and sensitivity to human diversity and cultures different from their own. Students are asked to identify areas where differing customs or values could have an impact. The generalist approach to social work practice, which encompasses the ethic sensitive model for intervention and management of human diversity issues, is emphasized. Includes work with, but not limited to, populations of people who are oppressed due to race, culture, religion, ability, gender, sexual orientation, gender identity or other minority status groups in society.

SWK 270 - Social Work Practice with Individuals Credits: 3

Presents entry-level social work students with basic social work principles, values and generic skills needed for work with individuals utilizing a direct-service generalist approach to social work practice. Provides the foundation of evidence based practice skills deemed applicable to all practice contexts, i.e., individual, family, group organization and communities. Range of competencies and skills covered includes, but not limited to, the use of the ecological perspective, developing the social history, problem-solving/critical thinking, the four phases of the Interactional Approach to Helping Model and service planning. These skills are studied in the classroom and made operational via classroom and lab exercises, simulated experiences and external assignments.

Prerequisite(s): SWK 102 with minimum grade of C and SWK 250 with minimum grade of C and SWK 150 with minimum grade of C (may be taken concurrently) and SWK 265 with minimum grade of C (may be taken concurrently)

SWK 327 - Social Work Practice with Families Credits: 3

Offers a skills foundation for generalist practice with families. As mediators with families, students learn intervention skills which enable development of family in environment processes for improving social functioning.

Prerequisite(s): SWK 270 with minimum grade of C

SWK 340 - Assessing Organizations and Communities in Society Credits: 3

Examines human behavior concepts in organization and community systems. Builds upon the ecological/system's framework introduced in SWK 250 to extend this approach to larger systems in the social environment context. Considers the implications of system resources and configuration for meeting human needs. The role and function of generalist social workers to understand and advocate for system development and change is emphasized. Requires a group service learning project.

Prerequisite(s): SWK 250 with minimum grade of C and SWK 360 with minimum grade of C

SWK 347 - Special Fields of Social Work: Behavioral Health Credits: 3

Extends and elaborates the generalist approach to social work practice to a specific field of practice. The special field is studied through the examination of curricular areas: human behavior, practice, policy and services, research and special populations. Special field courses include, but are not limited to: Behavioral Health (SWK347), Substance Abuse (SWK 348), Aging (SWK 351), Developmental Disabilities (SWK 356), Health Care (SWK 357), Schools (SWK 358), and Violence in Interpersonal Relationships (SWK 359).

Prerequisite(s): SWK 270 with minimum grade of C

SWK 348 - Special Fields of Social Work: Substance Abuse Credits: 3

Extends and elaborates the generalist approach to social work practice to a specific field of practice. The special field is studied through the examination of curricular areas: human behavior, practice, policy and services, research and special populations. Special field courses include, but are not limited to: Behavioral Health (SWK 347), Substance Abuse (SWK348), Aging (SWK 351), Developmental Disabilities (SWK 356), Health Care (SWK 357), Schools (SWK 358), and Violence in Interpersonal Relationships (SWK 359).

Prerequisite(s): SWK 270 with minimum grade of C

SWK 351 - Social Work Elective: Aging Credits: 3

This course introduces students to the roles, and functions, of 21st Century direct-practice, generalist social workers in the field of gerontology and the sub-fields of social gerontology and gerontological social work and to begin to prepare students for the issues, challenges and opportunities they will experience in the field of practice with older persons. This course introduces students to the social, psychological, biological, economic, cultural and spiritual factors that impact older persons and will also offer students the opportunity to become acquainted with current social work research and gerontological issues in social work practice with older persons.

Prerequisite(s): Social Work prerequisite: SWK 270 with minimum grade of C. Gerontology minor prerequisite: GRN 100 .

SWK 356 - Social Work Elective: Intellectual and Developmental Disabilities Credits: 3

This course introduces students to various practice settings in which they work with clients with intellectual and developmental disabilities of different age groups. Students gain knowledge about the medical, social, economic and political factors that impact the quality of life of people

with intellectual and developmental disabilities and acquire competencies in various roles played by helping professionals in the context of the service provision.

Prerequisite(s): Social Work prerequisite: SWK 270 with minimum grade of C. Disability Studies minor prerequisite: DS 100 . Gerontology minor prerequisite: GRN 100 .

SWK 357 - Special Fields of Social Work: Health Care Credits: 3

Extends and elaborates the generalist approach to social work practice to a specific field of practice. The special field is studied through the examination of curricular areas: human behavior, practice, policy and services, research and special populations. Special field courses include, but are not limited to: Behavioral Health (SWK 347), Substance Abuse (SWK 348), Aging (SWK 351), Developmental Disabilities (SWK 356), Health Care (SWK357), Schools (SWK 358), and Violence in Interpersonal Relationships (SWK 359).

Prerequisite(s): SWK 270 with minimum grade of C

SWK 358 - Special Fields of Social Work: Schools Credits: 3

Extends and elaborates the generalist approach to social work practice to a specific field of practice. The special field is studied through the examination of curricular areas: human behavior, practice, policy and services, research and special populations. Special field courses include, but are not limited to: Behavioral Health (SWK 347), Substance Abuse (SWK 348), Aging (SWK 351), Developmental Disabilities (SWK 356), Health Care (SWK 357), Schools (SWK358), and Violence in Interpersonal Relationships (SWK 359).

Prerequisite(s): SWK 270 with minimum grade of C

SWK 359 - Social Work Elective: Violence in Interpersonal Relationships Credits: 3

This course examines the issues of interpersonal violence from a generalist perspective. In this course, students learn to integrate the social work curriculum components as they apply to interpersonal violence. Our study will include the dynamics of human behavior, the policy and services factors, guidelines for practice principals, and review of the current research findings and trends.

Prerequisite(s): Social Work major prerequisite: SWK 270 with minimum grade of C. Women's and Gender Studies minor prerequisite: WST 100 .

SWK 360 - Research Techniques for Social Workers Credits: 3

Introduces basic research concepts, procedures for conducting research, and their application to social work practice. Basic knowledge of scientific inquiry, the ethics that guide research, and the roles of social workers as researchers is also covered. Both qualitative and quantitative methods of collecting and analyzing data are given major attention. Students learn the procedure for developing a research proposal.

Prerequisite(s): SWK 250 with minimum grade of C and MAT 117 (may be taken concurrently)

SWK 370 - Social Work Practice with Organizations and Communities Credits: 3

Content is an essential, integral part of the generalist approach to social work practice. Extends the generic and direct service generalist frameworks learned in previous classes to practice interventions with organizations and communities, and helps students develop competencies related to engagement, planning, intervention and evaluation through the prevailing social work approaches for organization and community development and change. The theory and skills of these approaches are studied in the classroom and made operational in simulated and service learning experience.

Prerequisite(s): SWK 270 with minimum grade of C and SWK 340 with minimum grade of C

SWK 375 - Social Work Skills for Working with Groups Credits: 3

Expands the assessment and intervention skills learned in SWK 270 to working with groups. Students learn how group theories should inform their development of group leadership skills. Emphasizes the planning, facilitating, and evaluating of groups often used in social work practice. Observation of groups outside of class time is required.

Prerequisite(s): SWK 270 with minimum grade of C

SWK 383 - Selected Topics in Social Welfare Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

SWK 384 - Selected Topics in Social Work Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

SWK 385 - Selected Topics in Social Work Credits: 1

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

SWK 388 - Preparation for Practicum Credits: 1

Explores some professional aspects of social work. Combines new and practical information to help bridge the gap between the classroom and the field practicum experience. Offers seminars and individual consultation about the field practicum process. Includes topics about field work objectives, procedures, and roles and responsibilities of all parties involved. Addresses a wide range of practice issues related to the field practicum. All preliminary procedures for establishment of a field practicum will be met through this course. Required of all social work majors in the semester prior to registering for field practicum.

Prerequisite(s): SWK 270 with minimum grade of C

SWK 399 - Independent Study in Social Work Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

SWK 420 - Gender Issues for Helping Professionals Credits: 3

Examines institutionalized gender socialization, current gender issues and controversies, feminist theory for understanding behavior, and guiding principles and practices for helping professionals. Students encouraged to develop heightened self-awareness about their gender-related attitudes and values for functioning as a helping professional. May be taken for under-graduate or graduate credit.

Prerequisite(s): SWK 270 with minimum grade of C or junior standing.

Graduate Credit: This course is available for graduate credit.

SWK 450 - Social Welfare Policies and Services Credits: 3

Presents framework for developing and analyzing contemporary social policies and programs. Focuses on current issues and social problems by examining policy and service implications with an emphasis on realistic development and change strategies.

Prerequisite(s): SWK 270 with minimum grade of C and PLS 100

Graduate Credit: This course is not available for graduate credit.

SWK 460 - Field Work in Social Work I Credits: 6

Majors in social work must take all of these, (SWK460, SWK 461 & SWK 462) concurrently for a total of 15 credit hours. Provides experience in social work practice in a community-based agency under supervision and instruction from agency staff. Involves supporting agency services while further developing and enhancing social work practice skills by supplementing and reinforcing classroom learning. Practicum includes a minimum of 450 clock hours in placement and training. The program competencies and practice behaviors are the evaluation criteria for successful completion of the field work. Students must have earned a C or better in all required social work courses before enrolling.

Prerequisite(s): Restricted to Social Work majors. SWK 102 with minimum grade of C and SWK 150 with minimum grade of C and SWK 250 with minimum grade of C and SWK 265 with minimum grade of C and SWK 270 with minimum grade of C and SWK 375 with minimum grade of C and SWK 327 with minimum grade of C and SWK 340 with minimum grade of C and SWK 360 with minimum grade of C and SWK 370 with minimum grade of C and SWK 388 with minimum grade of C and SWK 420 with minimum grade of C and SWK 450 with minimum grade of C and (SWK 262 with minimum grade of C or SWK 347 with minimum grade of C or SWK 348 with minimum grade of C or SWK 351 with minimum grade of C or SWK 356 with minimum grade of C or SWK 357 with minimum grade of C or SWK 358 with minimum grade of C or SWK 359 with minimum grade of C)

Graduate Credit: This course is not available for graduate credit.

SWK 461 - Field Work in Social Work II Credits: 6

Majors in social work must take all of these, (SWK 460 , SWK461, SWK 462) concurrently for a total of 15 credits. Provides experience in social work practice in a community-based agency under supervision and instruction from agency staff. Involves supporting agency services while further developing and enhancing social work practice skills by supplementing and reinforcing classroom learning. Practicum includes a minimum of 450 clock hours in placement and training. The program competencies and practice behaviors are the evaluation criteria for successful completion of the field work. Students must have earned a C or better in all required social work courses before enrolling.

Prerequisite(s): Restricted to Social Work majors. SWK 102 with minimum grade of C and SWK 150 with minimum grade of C and SWK 250 with minimum grade of C and SWK 265 with minimum grade of C and SWK 270 with minimum grade of C and SWK 375 with minimum

grade of C and SWK 327 with minimum grade of C and SWK 340 with minimum grade of C and SWK 360 with minimum grade of C and SWK 370 with minimum grade of C and SWK 388 with minimum grade of C and SWK 420 with minimum grade of C and SWK 450 with minimum grade of C and (SWK 262 with minimum grade of C or SWK 347 with minimum grade of C or SWK 348 with minimum grade of C or SWK 351 with minimum grade of C or SWK 356 with minimum grade of C or SWK 357 with minimum grade of C or SWK 358 with minimum grade of C or SWK 359 with minimum grade of C)

Graduate Credit: This course is not available for graduate credit.

SWK 462 - Seminar in Social Work Methods Credits: 3

Builds on the field work experience and must be taken concurrently with Field I-II to integrate the concepts and skills of the program for entry-level social work practice. Emphasis on the generalist approach covering the basic elements of assessment and intervention as applied to field learning. In conjunction with the field experience, integrates theory with practice across systems (i.e., individual, family, group organizations and community processes). Major research project required.

Prerequisite(s): Restricted to Social Work majors. SWK 102 with minimum grade of C and SWK 150 with minimum grade of C and SWK 250 with minimum grade of C and SWK 265 with minimum grade of C and SWK 270 with minimum grade of C and SWK 375 with minimum grade of C) and SWK 327 with minimum grade of C and SWK 340 with minimum grade of C and SWK 360 with minimum grade of C and SWK 370 with minimum grade of C and SWK 388 with minimum grade of C and SWK 420 with minimum grade of C and SWK 450 with minimum grade of C and (SWK 262 with minimum grade of C or SWK 347 with minimum grade of C or SWK 348 with minimum grade of C or SWK 351 with minimum grade of C or SWK 356 with minimum grade of C or SWK 357 with minimum grade of C or SWK 358 with minimum grade of C or SWK 359 with minimum grade of C)

Graduate Credit: This course is not available for graduate credit.

SWK 490 - Selected Topics in Social Welfare Credits: 1-3

Provides the opportunity for a range of topics to explore issues and concerns for the helping professions. Designed for advanced undergraduate and graduate students.

Graduate Credit: This course is available for graduate credit.

SWK 491 - Selected Topics in Social Work Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SWK 492 - Selected Topics in Social Work Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SOC 101 - Introduction to Sociology: Society and Diversity Credits: 3

Reviews basic sociological concepts, theories and research methods. Shows relationship to other social sciences and provides an overview of specific content areas in sociology with a focus on structural and cultural influences on behavior. Defines diversity discusses its functional and dysfunctional consequences, and analyzes its relationship to social structure and culture.

Category: Cat E - Soc and Behav Sciences

SOC 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat E - Soc and Behav Sciences

SOC 201 - Sociological Practice Credits: 3

Prepares students for the critical reading and writing skill requirements of upper division electives in sociology through the examination of major social problems. Introduces the process of using the sociological imagination to address such problems as poverty, crime, deviance, racism, and sexism. Students will practice making an evidence-based argument by investigating sociological databases and analyzing sociological research, and will build competencies in writing literature reviews. Also includes a career planning component.

Prerequisite(s): Restricted to Sociology majors and Sociology minors by permission. SOC 101 or HON 161

SOC 220 - Social Stratification Credits: 3

Examines the attributes by which individuals are hierarchically ranked (stratified) in society, the extent to which these rankings inhibit or promote opportunity for success in life, and the degree to which movement between these social strata is possible. Emphasis on using current empirical data to describe and explain the role of gender, race, and class in the stratification of American society. Basis and extent of stratification in other developed and less-developed countries also explored.

Prerequisite(s): SOC 101 or HON 161

SOC 243 - Minority Groups Credits: 3

Defines the concept of minority. Looks at the impact of prejudice and discrimination. Reviews some of the major minority groups in the United States and provides some cross-cultural comparisons. Major problems and possible solutions discussed.

Prerequisite(s): SOC 101 or HON 161

SOC 244 - Criminology Credits: 3

Explores the evolution of criminological theory as a story of ideas rooted in and subject to both history and biography. Special attention is placed on the explanatory powers of structure versus agency. Process of criminalization and the prison industry are also addressed.

Prerequisite(s): SOC 101 or HON 161

SOC 245 - Juvenile Delinquency Credits: 3

Explores the history of delinquent behavior among juveniles through a socio-historical and structural perspective. The social context within which juveniles behave and society's response to this behavior particularly the implementation and evolution of the juvenile justice system is critically analyzed.

Prerequisite(s): SOC 101 or HON 161

SOC 248 - Sociology of Religion Credits: 3

Examines the structure and functions of religious organizations and phenomena with an emphasis on comparing the varieties of religious expression in the United States. Also studies the role of religion in global change and what the future of religion will be. Models for understanding the development of personal faiths examined.

Prerequisite(s): SOC 101 or HON 161

SOC 257 - Sociological Patterns of Courtship and Marriage Credits: 3

Provides a systematic and analytical approach to the study of social relations in the area of mate choice, marriage and its alternatives. Considers development of gender roles, marital behavior in a changing society, social and interpersonal factors in mate selection, engagement, social factors in marital success, fertility control, marriage and parenthood, divorce, remarriage, and the role of marriage counseling.

SOC 258 - Women's Roles and Status Credits: 3

Explores the position of women in American society, with emphasis on the social, cultural, economic, and political forces contributing to women's contemporary roles, statuses, and self images. Stress is on the socialization process, role conflicts, and images of women current in the larger society.

Prerequisite(s): SOC 101 or HON 161

SOC 265 - Global Society Credits: 3

Globalization is profoundly reshaping social structure and transforming the lives of people in this world. Our personal lives are linked to increasingly dense networks of global interrelations, as the integration of societies, economies, and cultures fundamentally transforms human life. It is impossible to understand the world in the early 21st century without understanding globalization and its consequences. With this in mind, the objective of this course is to explore what has come to be known as globalization studies, and in particular, to survey the distinct themes sub-areas that make up the sociology of globalization.

SOC 275 - Sociology of Sport and Leisure Credits: 3

Examines the development of sport and leisure and how they reflect social life. Emphasis on socialization and social differentiation in sport and leisure.

Prerequisite(s): SOC 101 or HON 161

SOC 320 - Sociology of Disability Credits: 3

This course explores our understandings and practices regarding ability and disability through time, especially in the United States. We emphasize how and why we construct particular bodies and bodily practices as desirable or undesirable and consider the factors that shape inclusion and exclusion of people based on ideas of ability/disability. In so doing, we discuss how disability intersects with topics such as inequality, poverty, globalization, social movements, civil rights, social policy, stigma and identity, and a broad range of social roles.

Prerequisite(s): SOC 101 or HON 161

SOC 331 - Internship I Credits: 3

Contact the department for further information on internships.

SOC 332 - Internship II Credits: 3

Contact the department for further information on internships.

SOC 335 - Internship III Credits: 6

Contact the department for further information on internships.

SOC 344 - Sociology of Death Credits: 3

Studies sociological aspects of death and dying primarily in industrial societies, although some cross-cultural analysis will be presented. Emphasis on death as a societal and institutional phenomena; the ability/inability of certain societal institutions (medicine, family, religion) to adjust or adapt to death of a member will be critically evaluated.

Prerequisite(s): SOC 101 or HON 161

SOC 345 - Deviance and Social Control Credits: 3

Explores classical and contemporary theoretical and empirical works explaining the concept of deviance, deviant behavior and social stigma. Social construction of deviance and the evolution and management of deviant identities emphasized.

Prerequisite(s): SOC 101 or HON 161

SOC 346 - City and Community Credits: 3

Analysis of the process of urbanization with major emphasis upon contemporary urban society. Approach centered around urbanism as a way of life, with emphasis on people and their actions and relationships. Course also concerned with social ecology, the dynamic system of spatial patterns and relationships that make up the structure of city growth.

Prerequisite(s): SOC 101 or HON 161

SOC 351 - Race Relations Credits: 3

Studies sociological principles underlying race relations with emphasis on black-white relations in the United States. Concepts of race and patterns of interaction between racially and culturally diverse groups also highlighted.

Prerequisite(s): SOC 101 or HON 161

SOC 354 - Social Movements and Social Change Credits: 3

Studies the nature of collective action and protest as catalysts for social change. Explores causes, tactics and achievements of specific social movements. Class will complete an active learning project on mobilizing for social change. .

Prerequisite(s): SOC 101 or HON 161

SOC 359 - Selected Topics in Sociology Credits: 3

In-depth examination of selected theoretical and research topics in sociology, with the study subject announced in advance of scheduling. Primarily for advanced students.

Prerequisite(s): SOC 101 or HON 161 . Specific course prerequisites may be set by the instructor.

SOC 360 - Sociology Special Topics II Credits: 3

In-depth examination of selected theoretical and research topics in sociology, with the study subject announced in advance of scheduling. Primarily for advanced students.

SOC 363 - Population Problems Credits: 3

Introduces basic demographic methods and theories to study the social causes and consequences of population size, composition, and distribution. Special attention given to impact of population change on resources, the environment, public policy, and personal lifestyles now and in the future.

Prerequisite(s): SOC 101 or HON 161

SOC 365 - Elites in Society Credits: 3

Concerned with how social, economic, and political elites acquire, exercise and maintain power in American society. Emphasis on the composition, cohesion, organization and homogeneity of elites. Class, education, lifestyle, political activity, and deviance of elites explored.

Prerequisite(s): SOC 101 or HON 161

SOC 369 - Medical Sociology Credits: 3

Addresses the contributions and relationships of sociology to medical and health care. Examines such topics as: social factors involved in illness, social epidemiology, social behavior of patients and health professionals, the social organization of health care, and social policy and health care.

Prerequisite(s): SOC 101 or HON 161

SOC 370 - Sociology of the Arts Credits: 3

Focuses on elite and popular culture through an examination of the structure, personnel, and patronage of the visual and performing arts. Explores linkages with other social institutions such as the economic and political order. Original student research will examine a selected area in depth.

Prerequisite(s): SOC 101 or HON 161

Category: Cat B - Humanities

SOC 371 - Social Dynamics of Aging Credits: 3

Oriented to those periods or stages of life generally designated as middle-age or elderly. Examines the dynamics of social organization and aging social groups and possible effects on social interaction and social behavior. Various topics may be considered such as socialization, self concept and life changes, attitude development and changes, social role development and changes, reference group behavior and collective behavior. Additionally, will examine a few issues in depth, regarding aging and some or all of the concepts mentioned above.

Prerequisite(s): SOC 101 or HON 161

SOC 375 - Sociology of Media & Culture Credits: 3

This course looks at the social role and influences of media and culture from a sociological perspective. We will focus on both elite and popular culture by examining the structure, personnel, and consumption of media of all types, including social media. Emphasis is placed on the role of media as reflections of society and as agents of social change. Representations of gender, race, ethnicity, sexual orientation, disability, and social class will be explored.

Prerequisite(s): SOC 101 with minimum grade of C or HON 161 with minimum grade of C

SOC 380 - Classical Social Theory Credits: 3

Provides a critical and comparative study of the classical theories significant in the development of the field of sociology. Stresses the application of classical theories to contemporary social issues, an evaluation of the theories covered, and the development of skills in writing and critical thinking. Course is writing-intensive.

Prerequisite(s): SOC 101 or HON 161

SOC 385 - Introduction to Social Research Credits: 3

Deals with philosophy and methods of science as they apply to sociology. Primary emphasis is on data analysis using computer technology. Students will construct composite measures, manage data, and test hypotheses.

Prerequisite(s): Restricted to Sociology majors; other students admitted by permission of instructor. ((SOC 101 or HON 161) and SOC 201) and (MAT 117 or PSY 105)

SOC 386 - Data Collection and Analysis Credits: 3

Provides extensive computer analysis skills and questionnaire design experience expected of sociologists. Design of questionnaires, sampling techniques and ethical concerns are covered as well as computer-based techniques for data entry, data management, and statistical analysis.

Prerequisite(s): SOC 385

SOC 391 - Violence: A Sociological Perspective Credits: 3

Explores social violence in communities from a socio-historical, social psychological, and structural perspective. Particular attention is given to understanding the impact violence has on individual lives.

SOC 394 - Selected Topics in Sociology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

SOC 398 - Independent Study in Sociology I Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

SOC 399 - Independent Study in Sociology II Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

SOC 410 - Family and Society Credits: 3

Focuses on the family as a social institution, a social process, and as an interacting system. Includes emphasis on historical development and interrelationship between the family and society. Major theoretical perspectives are applied to the study of the family. Cross cultural and utopian (U.S.) family movements included.

Prerequisite(s): (SOC 101 or HON 161 or SOC 257)

Graduate Credit: This course is available for graduate credit.

SOC 415 - Senior Seminar Credits: 3

Capstone course required for sociology majors in their senior year. Students will review basic sociological concepts, explore career options, study current primary research, read and discuss works of contemporary social theory, and apply a sociological perspective in a final paper. Evaluation includes a concepts examination, several group projects, an oral report, a written career plan, and a final comprehensive essay.

Prerequisite(s): SOC 101 or HON 161 and senior standing.

Graduate Credit: This course is not available for graduate credit.

SOC 421 - Impact of International Migration Credits: 3

This course is a sociological survey of immigration and ethnicity, with a primary focus on originating countries of immigrants and their experiences in the contemporary United States. The causes of immigration will be studied. Various assimilation patterns will be compared and analyzed. We will examine the needs of immigrants including housing, employment, education and medical care, and what kind of impacts they will cause on receiving society.

Prerequisite(s): SOC 101 or HON 161

Graduate Credit: This course is not available for graduate credit.

SOC 435 - Gender, Organizations, and Leadership Credits: 3

Examines the dynamics of gender and leadership in broader social contexts with particular focus on organizational settings. Focuses on the larger realm of women and men working, together or otherwise, in leader-follower situations framed by organizational constraints and concerns. The course examines a wide range of survey data and literature on gender and leadership." Students will learn how to promote a workplace culture of equality, diversity, and inclusion.

Prerequisite(s): (SOC 101 or HON 161)

Graduate Credit: This course is available for graduate credit.

SOC 440 - Global Leadership for Global Society Credits: 3

Examines leadership across the social settings and organizational cultures embedded in differing global perspectives on leadership. Many organizations in a variety of social settings and cultural contexts have developed formal leadership expectations in response to emerging global issues. Students will analyze leadership perspectives seen at the organizational, institutional, and social structural level beyond US borders and come to understand how the discipline of leadership in social and organizational settings requires a multi-faceted approach.

Prerequisite(s): SOC 101 or HON 161 or INT 200

Graduate Credit: This course is available for graduate credit.

SOC 445 - Sexuality and Sexual Orientation: A Social Approach Credits: 3

Examines the interrelationship of sexuality and the broader social structure in a variety of settings. Analyzes some of the critical theory on gender and sexuality and applies the lessons learned to issues such as the globalization of sexuality, transgendered and intersexed individuals, sexual exploitation, and sex trafficking. Intentionally not a course on just sexual orientation; also examines the specific issues, opportunities and threats surrounding the social experiences of G/L/B/T/Q and their allies. Students work together to develop better strategies for female/male sexuality and sexual interaction.

Prerequisite(s): SOC 101 or HON 161

Graduate Credit: This course is available for graduate credit.

SOC 486 - Qualitative Social Research Credits: 3

Students will learn techniques of qualitative interviewing and participant observation. Involves basics of ethnographic research, writing field notes, coding and analyzing qualitative data, and writing an ethnographic report. Each student selects individual research question and conducts a field research project of own choice that will reflect own academic interests. Skills learned will be transferable to many disciplines and occupations.

Prerequisite(s): (SOC 101 or HON 161)

Graduate Credit: This course is available for graduate credit.

SOC 490 - Selected Topics in Sociology Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SOC 491 - Selected Topics in Sociology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SOC 493 - Selected Topics in Sociology Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SWE 200 - Design Patterns Credits: 4

Provides an advanced study of the concepts of object-oriented programming, with an emphasis on applying those concepts to software development. Many object design patterns have emerged as proven ways to structure object-oriented solutions to a wide range of key problems. This course provides hands-on experience with using object design patterns to solve a number of problems that recur in computer science. Students will develop a number of medium to large programs individually.

Prerequisite(s): CSC 111 with minimum grade of C

SWE 300 - Crafting Quality Code Credits: 4

This course will explore the differences between code that works and good code. This will include: designing during development, characteristics of interfaces, naming conventions, defensive programming, selecting data types, organizing code, controlling loops, unusual control structures, table driven methods. Students will explore open source projects to practice evaluating the quality of code.

Prerequisite(s): CMPE 220 with minimum grade of C

SWE 400 - Large Scale Architectures Credits: 4

This course will cover the issues associated with enterprise size systems including: layered and tiered architectures, view patterns, input controller patterns, concurrency, session states, distribution strategies, domain logic patterns, object-relational patterns, web presentation patterns, and distribution patterns.

Prerequisite(s): SWE 200 with minimum grade of C and CSC 371 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

SWE 415 - Interdisciplinary Development Credits: 4

The course is focused on building a product for a non-engineering customer. The class will be paired with another course or activity on campus which will act as the customer. The students will work with that customer initially to define a product and then throughout the semester, they will revise that definition and use agile development techniques to deliver the product to the customer.

Prerequisite(s): SWE 300 with minimum grade of C or CSC 371 with minimum grade of C

Graduate Credit: This course is available for graduate credit.

SWE 420 - Extreme Programming Credits: 4

The study of testing software including test case design, automated testing, and test coverage in unit, integration and system test phases. Differences in strategies for white and black box testing. How testing fits into the traditional life cycle and how it can be used to drive the life cycle as in Extreme Programming. Through a series of testing labs, debugging techniques will be practiced. This course is a continuation of Traditional Life Cycle. The team projects started in that course will be tested and then enhanced using Extreme Programming methods. A continuation of the projects developed in CSC 490 which is required. Department approval for scheduling is required.

Prerequisite(s): SWE 300 with minimum grade of C and CSC 111 with minimum grade of C

Graduate Credit: This course is not available for graduate credit.

SPN 101 - Beginning Spanish I Credits: 3

Designed for students who have never studied the language before. Both textbook and authentic materials used to enable students to express themselves on personalized topics.

Category: Cat B - Humanities

SPN 102 - Beginning Spanish II Credits: 3

Continuation of SPN 101 . Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self, family and friends.

Prerequisite(s): SPN 101 or departmental placement.

Category: Cat B - Humanities

SPN 103 - Intermediate Spanish Credits: 3

Continuation of SPN 102 . Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self, family, friends, and their communities. Reading, writing, listening, and speaking combined to explore the history, geography, music, arts, and film of Hispanic society.

Prerequisite(s): SPN 102 or departmental placement

Category: Cat B - Humanities

SPN 150 - Spanish Civilization and Culture Credits: 3

This course focuses on different historical, social and artistic aspects of Spain and several Latin American countries. The course requires completing several readings and active participation in discussions about historical and literary texts, along with appreciation of different forms of art (paintings, movies, dances) from the regions mentioned above. This course only counts as General Education (Category B) or as a free elective. It is completely taught in English.

Category: Cat B - Humanities

SPN 152 - Latino Literature Credits: 3

Study of important texts by Latinos of Mexican, Cuban, Puerto Rican, and Dominican descent living in the U.S. Emphasis on the historical, political and social context of literary works. Taught in English.

SPN 153 - Latino Pop Culture Credits: 3

A Latino culture course for non-Spanish majors. It addresses a series of topics pertaining to contemporary products, practices and perspectives within the Latino pop culture. The course will focus on the exploration of written and audio-visual texts to draw conclusions on the characteristics and customs of the Latino people living in the USA and in Latino America.

Category: Cat B - Humanities

SPN 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

SPN 202 - Intermediate Conversation Credits: 3

This course offers conversational activities that will prepare the students to interact in social situations and to handle simple transactions. The students in this course will be able to ask and answer simple questions demonstrating good control of the language and using communicative strategies. The students will be required to read, to view or to listen to authentic materials and produce oral and short written reports. This course follows the ACTFL proficiency standards and therefore, at the end the students should demonstrate proficiency at the Intermediate-Mid level through an oral interview. This course will be taught in Spanish.

Prerequisite(s): SPN 103 or departmental placement

Category: Cat B - Humanities

SPN 204 - Ideas and Cultures from the Spanish-Speaking World Credits: 3

This course is an introduction to Spanish and Latin American culture that illustrates the richness and diversity of the Hispanic cultural products, practices, and perspectives at various historical points. The students will be required to read authentic materials and produce written and oral reports. This course follows the ACTFL proficiency standards and therefore, at the end the students should demonstrate proficiency at the intermediate mid level. This course will be taught in Spanish.

Prerequisite(s): SPN 202 (may be taken concurrently) or permission of instructor.

Category: Cat B - Humanities

SPN 211 - Intermediate Contextualized Grammar Credits: 3

This course places an emphasis on the development of grammatical concepts through the analysis and interpretation of different authentic texts that will enable the students to use the language in real-life situations. This course follows the ACTFL proficiency standards and therefore, at the end the expected level of proficiency should be at the intermediate high level. This course will be taught in Spanish.

Prerequisite(s): SPN 204 or permission of instructor.

SPN 215 - Intermediate Spanish For Heritage and Native Speakers Credits: 3

Spanish 215 is a communicative course, which provides exercises and activities that will enable the heritage and native speakers to learn the foundations of Spanish as a language that they speak in their home and/or community, as their first language (while they have also an important level of fluency in English). We will study the Spanish grammar, linguistic structures, while reading and speaking in Spanish and practicing writing and differentiating between different levels of Spanish. We will also study different texts, movies and culture of the Spanish-speaking world. This course will be offered online.

Prerequisite(s): Restricted to Native and/or Heritage speakers.

Category: Cat B - Humanities

SPN 302 - Advanced Spanish Conversation Credits: 3

Designed to improve and refine communicative skills, this course emphasizes listening comprehension and fluency in speaking. Provides students the opportunity to practice the language through discussion of topics of interest and exploration of a variety of authentic materials. Spanish 302 prepares students to express opinions and points of view in order to attain the ACTFL proficiency level of Advanced Low. With this

goal in mind, this course will also provide exposure to other languages skills important to the development of fluency in speaking. The course is taught in Spanish.

Prerequisite(s): SPN 202 or SPN 204 or permission of instructor.

SPN 309 - Spanish Phonetics Credits: 3

Presents practical study of Spanish sounds, aimed to instill proper speech habits. Individual remedial drill on accent, intonation, and stress are conducted along with readings in recent studies of Spanish phonology.

Prerequisite(s): SPN 202 or SPN 204 or permission of instructor.

SPN 312 - Advanced Contextualized Grammar Credits: 3

Examines in detail the structure of the Spanish language. Extensive oral and written exercises are designed to provide the more advanced student with a mastery of those elements of Spanish which pose the greatest difficulties for the American students.

Prerequisite(s): SPN 204 or SPN 204 or SPN 211 or permission of instructor.

SPN 313 - Advanced Composition and Stylistics Credits: 3

Designed to refine and perfect the use of the Spanish language through analytical study of stylistics and syntax and through extensive practice and application of these principles in writing.

Prerequisite(s): SPN 202 or SPN 204 or permission of instructor.

SPN 330 - Spanish for the Professions Credits: 3

Emphasizes communication skills in the daily world of business health professions, social work, and law enforcement. May include a study of the economic and business systems in the Hispanic world and extensive practice in using forms and expressions frequently used in correspondence of above mentioned professions. Content may be adapted to students' needs.

Prerequisite(s): SPN 202 or SPN 204 or permission of instructor.

Category: Cat B - Humanities

SPN 343 - Introduction to Literary Studies Credits: 3

A survey course on the literature of the Spanish-speaking world, from the Middle Ages to the 21st century. Combining lectures and discussions, this course presents Spanish historical and cultural issues as a background to the study of major literary movements and genres.

Prerequisite(s): SPN 202 or SPN 204 or permission of instructor.

SPN 360 - Masterpieces of Spanish Literature Credits: 3

Designed to read and study in depth selective work of Spanish literature in all genres from the medieval period to the present day framing literature in its social and historical context. Texts will be analyzed considering socio-political and cultural trends dominant at the time the masterpieces were written and published.

Prerequisite(s): SPN 202 or SPN 204 or SPN 343 or SPN 260 or permission of instructor.

Category: Cat B - Literature

SPN 361 - Masterpieces of Spanish-American Literature Credits: 3

Designed to read and study in depth selective works of Spanish-American literature in all genres from the pre-colonial period to the present day framing the works in their social and historical context. The purpose is to do close readings of both the selected texts and the socio-political and other cultural trends that were dominant at the time they were written and published.

Prerequisite(s): SPN 260 or SPN 343

Category: Cat B - Literature

SPN 385 - Aspectos De La Civilizaci3n Hispana Credits: 3

This course is designed to critically explore selective topics, historical or political events as well as artistic movements that have assisted in fashioning Hispanic cultures.

Prerequisite(s): SPN 202 or SPN 204 or permission of instructor.

Category: Cat B - Humanities

SPN 388 - Spanish Internship I Credits: 3

Contact the department for further information on internships.

SPN 389 - Spanish Internship II Credits: 3

Contact the department for further information on internships.

SPN 399 - Independent Study in Spanish Credits: 3

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

SPN 400 - Seminar: Advanced Studies in Spanish Language and Literature Credits: 3

Detailed examination of specific aspects of Spanish linguistics, Hispanic literature, history and culture. The seminar may be taken more than once provided that a specific topic is not repeated.

Prerequisite(s): Requires permission of instructor to enroll.

Graduate Credit: This course is not available for graduate credit.

SPN 401 - Seminar: Advanced Studies in Spanish Language and Literature II Credits: 3

Detailed examination of specific aspects of Spanish linguistics, Hispanic literature, history and culture. The seminar may be taken more than once provided that a specific topic is not repeated.

Prerequisite(s): Requires permission of instructor to enroll.

Graduate Credit: This course is not available for graduate credit.

SPN 406 - Seminar: Advanced Studies in Spanish Language and Literature Credits: 3

Detailed examination of specific aspects of Spanish linguistics, Hispanic literature, history and culture. The seminar may be taken more than once provided that a specific topic is not repeated.

Prerequisite(s): Requires permission of instructor to enroll.

Graduate Credit: This course is not available for graduate credit.

SPN 410 - Internship for Students of Spanish Credits: 1

Contact the department for further information on internships.

Graduate Credit: This course is not available for graduate credit.

SPN 420 - Theory and Practice of Translation Credits: 3

Introduces various types and tools of oral and written translation and provides extensive practice in translating in professional contexts (such as business, education, criminal justice, medicine and international politics) and in translating works of literature. A theoretical approach to the problems of translation is also applied.

Graduate Credit: This course is not available for graduate credit.

SPN 425 - Advanced Oral Interpreting Credits: 3

Exercises in oral interpreting in situations related to international politics, business, journalism, health care, education, and social work. Students will practice translating from Spanish to English and from English to Spanish, both in-person and via recording.

Prerequisite(s): SPN 302 with minimum grade of C or permission of instructor.

Graduate Credit: This course is not available for graduate credit.

SPN 490 - Selected Topics in Spanish Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SPN 491 - Selected Topics in Spanish Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SPN 492 - Selected Topics in Spanish Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SPN 493 - Selected Topics in Spanish Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SPN 494 - Selected Topics in Spanish Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

SPN 495 - Selected Topics in Spanish Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

EEC 273 - Introduction to Exceptionalities: Understanding Diverse Learners Credits: 3

Provides a background in the field of special education and the nature of exceptionality in children and youth. Designed to address the definitions, characteristics, and educational, social, and emotional needs of diverse learners. Emphasis on legal rights and responsibilities inherent in the field of special education. In addition, societal attitudes and practices in relation to individuals with exceptionalities, current practices in identifying and classifying children and youth with exceptionalities, characteristics of all exceptional population groups, programmatic needs of individuals with exceptionalities, and issues and trends in the various fields that impact on diagnosis, classification, and programming. Covers the role of the general education teacher and other ancillary service providers in the IEP (Individualized Education Program) process. The knowledge base for this course content comes out of social, cognitive, and developmental psychology, medical aspects, educational law and policy, and special education. An important foundation for being an effective and efficient general educator. This course requires 9 contact hours in an educational setting for individuals with exceptionalities. Students must have completed all clearances, as specified by the Office of Field Placement Services.

EEC 280 - Best Practices in Collaboration: Educators, Families, & Related Service Providers Credits: 3

In order to effectively implement the guiding principles of current special education federal legislation, it is critical for educators to collaborate with all appropriate stakeholders in a given multidisciplinary, Individualized Family Services Plan (IFSP), and Individualized Education Program (IEP) team. This course addresses essential elements of effective collaboration and communication with a variety of stakeholders.

Prerequisite(s): Requires Admission into the Prek-4/Special Education Dual Certification Program and EEC 273 with minimum grade of B or HON 411 with minimum grade of B

EEC 320 - Interventions for Students with Communication Impairments Credits: 3

This course is to prepare preservice special education teachers to work with students who have been identified with a speech/communication impairment. Preservice special education teachers will develop an understanding of (a) basic concepts related to communication impairments, (b) effects communication impairments have on academic, social, and behavioral outcomes, (c) how to design and adapt instruction for students affected by communication impairments, and (d) how to program for students identified with a communication impairment.

Prerequisite(s): EEC 273 with minimum grade of B

EEC 325 - Interventions for Students with Social/Emotional and Behavioral Impairments Credits: 3

Understanding how to address atypical development in social/emotional and/or behavioral development is critical to educating young children with exceptionalities. This course will prepare preservice special education teachers to (a) identify and assess young students with social/emotional and/or behavioral impairments; (b) develop, implement, and monitor individualized education programs (IEP) for young students with social/emotional and/or behavioral impairments; and (c) design, provide, and adapt instruction for young students with social/emotional and/or behavioral impairments. This course will also focus on developing and implementing classroom-wide behavior management systems. Teacher candidates will become familiar with current trends in proactive behavior management approaches used within classrooms and schools. This course will also address connections of challenging behaviors to aspects of the learner's (a) environments, (b) cultural diversity, (c) developmental and academic skills, and (d) physiological needs.

Prerequisite(s): EEC 273 with minimum grade of B

EEC 330 - Teaching Students with Exceptionalities in a Standards-Aligned System Credits: 3

This course will prepare teacher candidates to design and implement standards-based instruction and Individualized Education Programs (IEPs) for Pk-8 students with disabilities within the general curriculum or adapted curriculum. Teacher candidates will learn how to identify current content standards, design specialized instruction for students with exceptionalities, and implement appropriate accommodations and/or modifications, as needed.

Prerequisite(s): Requires admittance into the Pk-4/Special Education Dual Certification Program and EEC 273 with minimum grade of B

EEC 335 - Interventions for Students with Cognitive and/or Physical Impairments Credits: 3

This course will prepare preservice teachers to identify and use the most current and evidence-based instruction for students identified with cognitive and/or physical impairments. Preservice teachers will also learn about atypical cognitive and physical development, as well as how to design, implement, and monitor individual educational programs for students identified with cognitive and/or physical impairments.

Prerequisite(s): EEC 273 with minimum grade of B

EEC 423 - Effective Instructional Strategies for Children with Exceptionalities Credits: 3

Designed to prepare both general and special education teachers to effectively teach students with disabilities in general education settings. Emphasis given to utilizing evidence based instructional practices for students with varying disabilities, creating a positive learning environment, collaborating and communicating with other school personnel and parents, and implementing positive behavioral interventions.

Prerequisite(s): (EEC 273 or EEC 411 or HON 411)

Graduate Credit: This course is available for graduate credit.

EEC 445 - Proactive Approaches for Classroom and Behavior Management Credits: 3

Provides instruction and experience in individual and group aspects of classroom management. Provides instruction on proactive versus reactive interventions, defining and prioritizing behaviors, collecting and interpreting observational data, and methods for increasing desirable behaviors and decreasing undesirable behaviors. Discusses generalization and maintenance of behaviors, and self-management. Writing effective behavior management plans emphasized while focusing on ethical, legal, and proactive practices.

Prerequisite(s): (EEC 273 or EEC 411 or HON 411)

Graduate Credit: This course is available for graduate credit.

EEC 447 - Special Education Processes in a Standards Aligned System Credits: 3

EEC 447 is an advanced study in planning and delivering instructional content to students with disabilities in a standards aligned system. The course will focus on: 1) the major principles of IDEA emphasizing evaluation, identification, and writing legally correct Evaluation Report's (ER) and Individualized Education Programs (IEP), 2) the principles of Least Restrictive Environment, Due Process, and Parent Involvement, 3) Behavior management of students with disabilities.

Prerequisite(s): (EEC 273 or EEC 411 or HON 411)

Graduate Credit: This course is available for graduate credit.

EEC 483 - Assessing Children with Exceptionalities for Curricular Decision-Making Credits: 3

Designed to provide teacher candidates with a comprehensive overview of the skills, processes, and research-based interventions for linking assessment and instructional decision-making in inclusive settings for students with disabilities. The academic core areas of literacy, writing, math, and behavior will focus on preparing candidates to participate in pre-referral data collection, contribution to the identification of students with disabilities, IEP writing, progress monitoring, and curriculum based assessment.

Prerequisite(s): (EEC 273 or EEC 411 or HON 411)

Graduate Credit: This course is available for graduate credit.

EEC 490 - Selected Topics in Special Education Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): EEC 273 or EEC 411 or HON 411

Graduate Credit: This course is not available for graduate credit.

EEC 491 - Selected Topics in Special Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Prerequisite(s): EEC 273 or EEC 411 or HON 411

Graduate Credit: This course is not available for graduate credit.

SCM 200 - Statistical Applications in Business Credits: 3

Topical coverage includes estimation of parameters and test of hypotheses for a variety of populations based on large and small sample sizes. May include coverage of analysis of frequencies, analysis of variance, quality control, linear regression. Taught in a spreadsheet environment and emphasis placed on critical thinking and business reasoning skills. Students typically carry out projects and submit results in the form of written and oral reports.

Prerequisite(s): MIS 142 and (MAT 140B with minimum grade of C or MAT 140A with minimum grade of C or math placement level of 5)

SCM 315 - Strategic Procurement Credits: 3

Designed to provide an understanding of strategic procurement issues in today's business environment. Students will learn a variety of procurement strategies, processes, and tools. Utilizes case studies to understand better both the academic and practical aspects of procurement issues.

Prerequisite(s): SCM 330

SCM 330 - Supply Chain and Operations Management Credits: 3

Applies knowledge the students obtain in lower division course work to managing the operations of a firm as they apply to manufacturing a product or providing a service. Deals with issues such as managing, forecasting, planning, and designing manufacturing or service facilities. In addition, strategies for their efficient operations such as production and inventory control as well as quality management are also covered. Also deals with supply chain management issues such as globalization, relationships between partners, strategies for efficient operation, and organization and management of partners.

Prerequisite(s): SCM 200

SCM 355 - Managing Quality and Continuous Improvement Credits: 3

Covers the basic concepts of managing quality in either a manufacturing or a service environment. The role of quality to enhance productivity and maintain a competitive position is the central focus. Principles and methodology needed to design systems that assure quality from both customer and manufacturer perspectives discussed. Managerial and technical skills and tools provide a comprehensive approach to the implementation and maintenance of quality systems. Principles of continuous improvement and their impact on quality management explored.

Prerequisite(s): SCM 330 (may be taken concurrently)

SCM 370 - Integrated Supply Chain Systems Credits: 3

Covers concepts in designing, planning, and operating a supply chain. Considers the role e-business plays and how role varies based on product and industry characteristics. Also discusses how firms can integrate e-business when formulating strategy and designing their supply chains to improve supply chain performance.

Prerequisite(s): SCM 330 or permission of instructor.

SCM 380 - Data Mining for Supply Chain Management Credits: 3

Emphasizes the process of discovering hidden patterns and relationships in large amounts of data. Topical coverage includes techniques such as data visualization, decision tree, forecasting, neural network, and Kohonen network. Covers a wide range of applications in the areas of supply chain such as fraud detection, tracking vendor performance, examining distribution network efficiency, and forecasting demands in goods.

Prerequisite(s): SCM 330

SCM 390 - Strategic Warehouse Management Credits: 3

Addresses warehouse operations, warehouse management systems, material handling systems, and the warehouse work force. Warehousing minimizes the effects of supply chain inefficiencies and allows product accumulation, consolidation, and customization. Students learn a variety of principles and systems inherent in world-class warehousing. Uses individual and group projects to teach the principles of warehousing.

Prerequisite(s): SCM 330

SCM 393 - Selected Topics in Supply Chain Management Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

SCM 410 - Distribution Systems in Supply Chains Credits: 3

This course introduces students to the contributions that distribution systems make to value driven supply chains, the impact of distribution systems imperatives on the strategic management of supply chains, and the integration of these systems with manufacturing and service operations. Strategies for effective and efficient decision-making and management of distribution systems that augment and support the supply chain as well as deliver customer value are explored. Models of distribution systems that minimize or reduce system wide costs are investigated. The course also explores advances in information technology and its role in distribution systems.

Prerequisite(s): SCM 330 or permission of instructor.

Graduate Credit: This course is available for graduate credit.

SCM 420 - Global Logistics Systems Credits: 3

Studies the impact of operations management decisions in order to fulfill demand e.g. location, production, and transportation on a global scale. Investigates how logistical systems impact operations strategies to open new markets for supply and demand. Delves into the implications of international operations and logistics strategies based on enhanced information systems and their impact on transportation costs and value added activities. This course provides participants with an examination of the preconditions of globalization and its effects on logistics operations management decisions with regard to performance measures, risk management, and organizational structures. In addition to being exposed to the theory, case studies will be used to further reinforce the material's application in practice.

Prerequisite(s): SCM 330 or permission of instructor.

Graduate Credit: This course is available for graduate credit.

SCM 481 - Decision Models for Supply Chain Management Credits: 3

Introduces a variety of models to aid decision making in supply chain management focusing on the integration of business processes from end user through original suppliers. Additional issues covered are concerned with the value added by the supply chain to customers from products, services, and information. Emphasis on applying tools and skills in the areas of spreadsheets, database languages, and statistics to gain insights into the integrated nature of the supply chain. Analysis will focus on optimization, risk analysis, decision analysis, forecasting, resource allocation, new product introduction and production, and inventory planning and control. Role of information systems in supply chain management also discussed.

Prerequisite(s): SCM 330

Graduate Credit: This course is available for graduate credit.

SCM 490 - Selected Topics in Supply Chain Management Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 205 - The American School Credits: 3

Focuses on the contemporary school. Introduces in perspective philosophies, functions, and structures that have shaped American education. Examines present educational practices and conceptions of learning as they relate to changing scientific, social, and technological realities.

Studies American youth in relation to the school, the world of work, and contemporary diversity in ethical and aesthetic positions. Some of the most disturbing issues confronting the American school are defined and analyzed.

TCH 206 - Social Foundations of Middle Level Education Credits: 3

Middle level teaching candidates will focus on historical and contemporary models of schooling for young adolescents, examining the principles, theories and research underlying the philosophical foundations of developmentally responsive middle schools. Philosophies, functions and structures that shaped the American middle level school and how these organizational components assist in making the young adolescent more successful in a developmentally safe environment will be examined. Theories, principles, and research along with practical approaches in planning, instruction, assessment and student management will be examined, observed, discussed and reflected upon as they relate to the success of young adolescents. This course will require visitation, observations, and participation in local middle level programs. (3 credits: 3 observation hours, 3 assisting hours).

TCH 207 - Organizational and Psychological Foundations in Secondary Education Credits: 3

Secondary education teacher candidates require a knowledge base and working understanding of the organizational structure of the high school in that it is central to the daily work of teachers. Students will develop an understanding of the philosophical, historical, and social foundations of the American high school as well as the diverse needs of this population. Furthermore, within this structure, a working knowledge of adolescent development is required for the successful planning and implementation of instruction. This course will also focus on historical and contemporary models of schooling for adolescents; examine the principles, theories and research underlying the developmental needs of secondary students in America including cognitive, social, sexual, emotional and moral development. This course will require visitation, observations, and participation in local secondary school programs. (3 credits: 10 stage one observation hours required as part of the course)

TCH 250 - Elements of Instruction Credits: 3

Emphasis on introducing current validated instructional models of teaching, and developing technical skills needed for effective classroom management. The teacher as decision maker and growing professional stressed. Theoretical and practical applications to the classroom presented.

TCH 251 - Elements of Middle Level Instruction Credits: 3

Emphasis in this course will be on the understanding and practice of validated instructional models for the use in middle school classrooms. A variety of teaching/learning strategies that consider the developmental characteristics of young adolescents are considered. The implications of the difference in adolescent learning styles, along with the need for differentiation of instruction for ELL students and students with special needs will be explored. The interconnected nature of managing behavior, motivating students, designing activities that are exploratory in nature, the use of multiple instructional strategies, the integration of technology, and the need to meet different kinds of intelligence and higher level thinking will be part of the learning done in this course.

TCH 255 - Multicultural Issues and Strategies in Basic Education Credits: 3

Examines topics and methodologies for development of instructional strategies that promote multicultural content with existing curricula. Topics include cross-cultural communication through education, cultural influences in learning, and assessment. Techniques for teaching LEP (Limited English Proficient) and ESOL (English for Speakers of Other Languages) students also explored.

TCH 260 - Educational Psychology Credits: 3

Focuses upon dynamic learning situations. Alternative theories of the learning process are reviewed with attention given to the application of behavioral and cognitive techniques in the classroom, agency or industrial teaching program. Topics include problem solving and creativity, retention and transfer of knowledge, individual differences and human abilities, and motivational theory.

Prerequisite(s): PSY 101 with minimum grade of C or HON 151 with minimum grade of C or PSY 102 with minimum grade of C

TCH 261 - Adolescent Development and Adolescent Learning Theory Credits: 3

Introduces prospective teachers to the major theory and learning principles of young adolescent development and the way these research-based concepts can be integrated with the philosophy of middle school education. Participants will examine the intellectual, social, emotional, and moral challenges faced by students in the middle grades. Outcomes include an in-depth exploration of the repertoire of teaching strategies that match the needs and diverse learning styles associated with adolescent development, an understanding of the use of assessment data to drive effective instruction, motivation theory, and principles of effective classroom management. Concurrent with their studies and as part of the requirements for the Professional Core, students will engage in six hours of observation and assisting in the middle grades to apply theory into practice and demonstrate understanding of the principles they have studied.

TCH 303 - Books and Materials for Children Credits: 3

Surveys children's literature and related materials. Evaluation, selection, and use of various materials to meet the curricular and personal needs of children with attention on materials for special groups. Study of the interests of children from preschool age to early adolescence is carried out.

TCH 321 - Language and Reading in the Elementary School Credits: 3

Designed to explore the curriculum in language arts to acquaint students with how children learn language and to identify appropriate strategies and materials for use in teaching oral and written language in its many forms. Classroom participation on an assigned basis.

TCH 322 - Teaching Middle Level Language Arts Credits: 3

Emphasizes content knowledge and pedagogical skills associated with teaching reading and writing to learners in grades four to eight. Focuses on reading comprehension in content area reading, as well as three types of writing are the curricular basis for this course. Outlines systematic and developmental instructional and assessment methods, including a conference approach to assessing readers and writers. The Pennsylvania Reading, Writing, Listening, and Speaking Standards are used to develop and implement lesson plans during a field component.

Prerequisite(s): Acceptance into Professional Semester, completion of appropriate Praxis exams, all English general education courses completed.

TCH 341 - Mathematics in the Elementary School Credits: 3

Acquaints students with the characteristics of a modern program in elementary mathematics. Emphasis on the structure of our system of numeration, learning by discovery, and provision for the great range of ability in a class. Students are alerted to ways in which conventional arithmetic may be greatly enriched and strengthened by applying the basic laws, principles and set terminology clearly defined and effectively used in modern mathematics. Methods of mathematical thinking as well as the basic concept of mathematics explored. Classroom participation on an assigned basis.

TCH 342 - Teaching Middle Level Mathematics Credits: 3

Covers the practical as well as the theoretical concepts of teaching middle level mathematics in grades 4-8. Planning, instruction, assessment and interventions will be aligned with the standards for PA Curriculum, the standards advocated by National Council of Teachers of Mathematics (NCTM) and the National Middle School Association (NMSA). Planning curriculum, practicing instruction, planning assessments and interventions that are connected to local, state, and national standards will be done. The relevance of mathematics for middle level students will be attained by connecting the math curriculum to students' ideas, interests, and real life experiences while also connecting the various curriculum content areas within the field of mathematics. Integration of technology, appropriate and varied assessment techniques, strategies for intervention of unsuccessful students, record keeping, and parent communication related to the subject content and student progress will be discussed. Field hours required (two days per week and full time for three successive weeks).

Prerequisite(s): Requires acceptance into Professional Seminar Semester.

TCH 345 - Assessment and Evaluation Strategies Credits: 3

Explores concepts of assessment in all areas of teaching. Specifically focuses on assessment of language/communication skills as a basis for an understanding of diagnostic processes.

TCH 346 - Science in the Elementary School Credits: 3

Introduces prospective teachers to the organization of science in the elementary schools, strategies and methods of science teaching, evaluation methods, acquisition and use of materials, and planning lessons. Students will have first-hand experience with new curricula, textbooks, and environmental issues. Emphasis on selection and use of activities to promote learning of science concepts, processes and attitudes. Classroom participation on an assigned basis.

TCH 347 - Social Studies in the Elementary School Credits: 3

Surveys contemporary and traditional teaching methods and strategies as they relate to the various social sciences. Stresses the incorporation and evaluation of a rich variety of instructional materials that can be utilized in unit teaching. Includes ways of individualizing a social studies program as well as small group instruction. Explores current topics including cultural diversity, values, career education, environmental education, and consumer education. Classroom participation on an assigned basis.

TCH 348 - Teaching Middle Level Social Studies Credits: 3

Social Studies in 4-8 grades is an integrated field of social sciences which encompasses geography, history, civics/government, economics, and other social science areas to prepare students with knowledge, skills, values, and citizenship in a democracy. It explores social studies' teaching goals, content, strategies and assessments as they are aligned with PA Geography, History, Economics, and Civic and Government Standards (PA Curriculum), National Council of Social Studies Standards (NCSS), National Education Technology Standards (NETS), Shippensburg

University's Conceptual Framework Standards for Those Preparing to Teach, Lead and Counsel (PA-SUCOE-CF), and the Interstate New Teacher Assessment and Support Consortium (INTASC) Standards. It surveys contemporary and traditional social studies teaching methods and emphasizes strategies that are appropriate for teaching 4-8 graders in the information age. Among teaching and assessment strategies explored are technology integration, interventions for students with special needs, data based analyses, portfolio assessment, and effective communications among stake holders. This course requires a 5-week field experience with 2 days each week at the beginning and 3 successive weeks at the end.

Prerequisite(s): Requires acceptance into Professional Semester, completion of appropriate Praxis exams, and all social studies general education courses completed.

TCH 366 - Teaching Science at the Middle Level Credits: 3

Introduces prospective teachers to the organization of middle level science including a wide range of safe and developmentally appropriate teaching strategies and materials (including instructional technology), and to a variety of assessment techniques used in science classrooms. Emphasizes combining candidates' content knowledge with specific teaching strategies in order to identify and build upon students' pre- and misconceptions about scientific concepts. Candidates will have opportunities to plan lessons using a variety of science-specific curriculum resources. There is a field component associated with this course.

Prerequisite(s): Requires acceptance into Professional Semester, completion of appropriate Praxis exams, all science general education courses completed.

TCH 393 - Selected Topics in Elementary Education Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

TCH 395 - Internship Credits: 1

Opportunity for students to gain practical experience in their chosen career area.

TCH 399 - Independent Study in Teacher Education Credits: 2

Independent study affords students the opportunity to engage in independent study related to their major field, a supporting area, or specialized interest.

TCH 423 - Integrating Literature in Middle Grades Credits: 3

Focuses on broadening knowledge base and understanding of children's/young adults' literature available for use with students in content area study. Literature discussed with exploration of incorporating it into middle level content subjects and using it as a tool to enhance literacy and content learning.

Graduate Credit: This course is available for graduate credit.

TCH 445 - Strategies for Effective Classroom Management Credits: 3

Presents historical perspective of past practices in classroom management strategies, including discipline techniques. Relates current school law to what is legal for teachers in managing classrooms. Surveys current theories and programs regarding classroom and time management strategies. Provides practical suggestions based upon research findings as to how to more effectively and efficiently develop a proactive environment conducive to instruction. Explores multicultural settings and inclusion dynamics as they relate to classroom management strategies.

Graduate Credit: This course is available for graduate credit.

TCH 490 - Selected Topics in Teacher Education Credits: 1-3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 491 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 492 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 493 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 494 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 495 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 496 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 497 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 498 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

TCH 499 - Selected Topics in Teacher Education Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

THE 121 - Introduction to the Theatre Credits: 3

Introduces theatre as an art form. Designed to stimulate a taste for theatre, improve standards for critical judgment, consider theatre's relation to allied arts, and provide an understanding of the part it plays in the social and cultural development of civilization.

Category: Cat B - Humanities

THE 122 - Acting I: Fundamentals of Acting Credits: 3

Provides an introductory experience to acting through the use of structured improvisation. Students will be conversant with the use of given circumstances and independent activity. Students will gain experience with the use of repetition exercises as well as the analytical tools of identifying tasks and shaping actions. The semester will culminate with the performance of a scripted scene.

THE 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat B - Humanities

THE 222 - Acting II: Scene Study and Analysis Credits: 3

Designed as an intermediate acting course, Acting II focuses on the analysis of dramatic literature and the preparation and presentation of scenes from the modern and contemporary repertoire. Monologue and resume preparation will be included in an adjudicated audition presentation at the end of the semester. Success with the course requires a considerable commitment to independent and partnered rehearsal time.

Prerequisite(s): THE 122 or permission of instructor.

THE 229 - Introduction to Technical Production Credits: 3

Introductory course in technical theatre. Areas of study include stagecraft, scenery design, and basic lighting design. Students also expected to engage in technical laboratory work as part of supervised extracurricular activity functioning at the time. Such involvement considered as part of the student's grade.

THE 322 - Voice and Movement for the Stage Credits: 3

Aimed as a theatre skills class for expanding verbal and physical expressivity. One half of the semester digs into vocal production, articulation and the conventions of standardized, American speech. The movement component examines techniques that encourage physical neutrality and plasticity. Class assignments are designed to provide a language and movement based approach to creating or interpreting performance material. Success with the course requires a considerable commitment to independent and partnered rehearsal time.

Prerequisite(s): THE 122 or THE 222

THE 323 - Children's Theatre Credits: 3

The student will have the opportunity for guided practice and instruction in creating children's theatre. The class is ideal for education majors intending on using theatre in the classroom. Each student will have the opportunity to perform as an actor and create costumes/props for a final public performance. The class emphasizes perfecting ensemble skills: creativity, rehearsal techniques, and adhering to production deadlines.

Prerequisite(s): Requires permission of instructor to enroll.

THE 324 - Theatre Practicum Credits: 3

Requires the theatre student to perform and to supervise work production areas done in conjunction with supervised campus theatre activities or with approved off-campus extracurricular activities. For each area completed the student is graded for one credit hour. Areas in which the student may engage are: directing, multimedia presentation, set construction, costume design or construction, set design, lighting, sound, front of house, theatre management, stage manager, assistant to the director, or acting.

THE 327 - Costumes and Make-Up Credits: 3

Examines clothing history with emphasis on periods most useful to contemporary theatrical production [i.e. classical, medieval, 17th, 18th and 19th centuries] Implications regarding trends in the morality, social values and psychology of the dress will be generated to establish a fundamental basis for theatrical design. The analysis of dramatic literature and the application of visual elements in design will assist students in preparing a visual representation for a theatrical design.

THE 329 - Theatre History Credits: 3

Survey of the history of the theatre from its roots to current times. Investigates the origins of theatre in ancient religions, the evolution of performance spaces, the development of drama, and the changing styles of performance, as well as relationships between these facets.

THE 393 - Selected Topics in Theater Arts Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

THE 395 - Theatre Internship Credits: 3

A one semester, full or part-time position in a theatre related work environment. Work content is arranged and approved by the department, the departmental chair and the dean's office in advance. A faculty supervisor will act as a liaison between the place of employment and the student intern. On-site visits by the faculty supervisor are a part of the evaluation process.

THE 396 - Theater Internship II Credits: 3

A one semester, full or part-time position in a theatre related work environment. Work content is arranged and approved by the department, the departmental chair and the dean's office in advance. A faculty supervisor will act as a liaison between the place of employment and the student intern. On-site visits by the faculty supervisor a part of the evaluation process.

THE 490 - Selected Topics in Theatre Credits: 3

Opportunity to offer courses in areas of departmental interest not covered by regular course offerings.

Prerequisite(s): Requires permission of instructor to enroll.

Graduate Credit: This course is available for graduate credit.

THE 491 - Selected Topics in Theater Arts Credits: 3

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Graduate Credit: This course is available for graduate credit.

WST 100 - Introduction to Women's and Gender Studies Credits: 3

This course explores the key issues in Women's and Gender Studies scholarship, including the history of feminism in the U.S. as well as contemporary concerns facing women's lives. Topics include how gender operates in institutional and cultural contexts; how gender intersects with race, ethnicity, class, sexuality, and other categories of human difference; and how the critical analysis of these categories impacts our understanding of our world. Course fulfills the university's diversity requirement.

Category: Cat E - Soc and Behav Sciences

WST 190 - General Education Special Topics Credits: 3

Opportunity to offer courses in areas of departmental general education interest not covered by the regular general education courses.

Category: Cat E - Soc and Behav Sciences

WST 200 - Independent Study in Women's and Gender Studies Credits: 3

Independent study project must have approval of the director of the Women's and Gender Studies minor.

WST 300 - Seminar in Women's and Gender Studies Credits: 3

Capstone seminar for students enrolled in the Women's and Gender Studies Minor. This course will explore women's and gender issues worldwide, with topics that may include workplace and family, reproductive rights, sexuality and gender identities, international human rights, economic development, globalization, and more. We will focus on two interconnected strands, feminist activism and feminist theory, paying special attention to the ways that the practice of feminism informs theory, and vice versa. Extensive research, writing, discussion, and in-class presentations are required.

Prerequisite(s): (WST 100 or HON 102) and 6 elective hours in Women's and Gender Studies) or permission of instructor.

WST 390 - Internship in Women's and Gender Studies Credits: 3-6

Internship must be approved by both the student's major department and the Women's and Gender Studies Minor director.

Faculty and Administration

As of November, 2017

University Administration

For the most current information on members of the Shippensburg University administration, please follow this link:

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