



SHIPPENSBURG
UNIVERSITY



2013-2015

Undergraduate Catalog

SHIP.EDU/CATALOG



**SHIPPENSBURG
UNIVERSITY**

2013-2015

Undergraduate Catalog

including curricula leading to the degrees of:

Bachelor of Arts

Bachelor of Science

Bachelor of Science in Business Administration

Bachelor of Science in Education

Bachelor of Social Work

Academic Calendar 2013-2014

Fall Semester 2013

New faculty orientation	Monday - Tuesday	August 19-20
Faculty meetings	Wednesday	August 21
New students arrive	Thursday	August 22
Fall welcome week	Thursday - Sunday	August 22-25
Regular class schedule begins	Monday	August 26
Labor Day, university closed*	Monday	September 2
Fall break begins, 4 p.m.	Friday	October 11
Classes resume, 8 a.m.	Wednesday	October 16
Thanksgiving break begins, 8 a.m.	Wednesday	November 27
Classes resume, 8 a.m.	Monday	December 2
Last day of classes	Friday	December 6
Final exams	Monday - Friday	December 9-13
Graduate commencement	Friday	December 13
Undergraduate commencement	Saturday	December 14

**The fall semester has one less Monday day/evening class, made up at the discretion of faculty.*

Spring Semester 2014

New students arrive	Friday	January 17
New student orientation	Friday - Sunday	January 17-19
MLK Day, university closed	Monday	January 20
Regular class schedule begins	Tuesday	January 21
Spring break begins, 4 p.m.	Friday	March 14
Classes resume, 8 a.m.	Monday	March 24
Last day of classes	Friday	May 2
Final exams	Monday - Friday	May 5-9
Graduate commencement	Friday	May 9
Undergraduate commencement	Saturday	May 10

**The spring semester has one less Monday day/evening class, made up at the discretion of faculty.*

Summer Term 3, 2014

Session opens	Monday	May 12
Special make-up for Memorial Day	Saturday	May 17
Memorial Day, university closed	Monday	May 26
Session ends	Friday	May 30

Summer Term 4, 2014

Session opens	Monday	June 2
Session ends	Thursday	July 3

Summer Term 5, 2014

Session opens	Monday	July 7
Session ends	Thursday	August 7

Subject to change. For most up-to-date calendars, go to ship.edu/Provost/Academic_Year_Calendar/

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Introduction





Mission of the University

Shippensburg University of Pennsylvania is a regional state-supported institution. It is part of the Pennsylvania State System of Higher Education, 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 southcentral 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 which 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 school to change its name 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 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); the American Chemical Society (ACS); the Council on Social Work Education (CSWE); the Council for the Accreditation of Counseling and Related Educational Programs (CACREP); the International Association of Counseling Services (IACS); the Council for Exceptional Children (CEC); and by the National Council for the Accreditation of Teachers (NCATE).

The Campus

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

Travel Times

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 2004 to 2006.

Program*	No.	Avg. Years
<i>College of Arts and Sciences</i>		
Art	64	4.47
Biology	119	4.27
Chemistry	21	4.42
Communication/Journalism	165	4.19
Computer Science and Engineering	39	4.46
Economics	16	4.66
English	91	4.31
Geography/Earth Science	88	4.50
History	121	4.39
Human Communication Studies	61	4.48
Mathematics	50	4.41
Modern Languages	26	4.57
Physics	21	4.42
Political Science	76	4.41
Psychology	207	4.27
Sociology	75	4.66
<i>John L. Grove College of Business</i>		
Accounting/Management Information Systems/ Information Technology for Business Education	195	4.26
Finance	138	4.27
Supply Chain Management	43	4.24
Management/Marketing	392	4.31

College of Education and Human Services

Criminal Justice	156	4.26
Exercise Science	53	4.66
Social Work	75	4.24
Teacher Education	352	4.10
University Total	2650	4.30

* 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 and sexual harassment. Any questions or complaints should be directed to the Director of Social Equity at 717-477-1161. Direct requests for disability accommodations to the Office of Disability Services, Horton Hall 200, at 717-477-1329 or ods@ship.edu.

Equal Opportunity

In compliance with state and federal laws, including Title VI and Title VII of the *Civil Rights Act of 1964*, Title IX of the *Education Amendments of 1972*, and the *Americans with Disabilities Act (ADA) of 1990*, Shippensburg University provides equal educational, employment, and economic opportunity for all persons without regard to race, color, religion, national origin, age, sex, or disability. This policy extends to disabled veterans and veterans of the Vietnam era.

Sexual Harassment

Shippensburg University prohibits behaviors which inappropriately assert sexuality in the work or learning environment. Such behaviors are prohibited by federal and state regulations, which state unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature can constitute sexual harassment. Shippensburg University is committed to civil rights and will promptly investigate allegations of sexual harassment and take appropriate corrective action.

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 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 delivers services as outlined by the Pennsylvania State System of Higher Education (PASSHE) and by Shippensburg University's equity plans. Additionally, the office works in coordination with the Human Resource Office to provide accommodations to campus faculty and staff with diagnosed disabilities.

Located at 120 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) 477-1364 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.

Parents may have access to information pertaining to their son's or daughter's educational records and academic status without prior written consent of the student if the student is a dependent as defined under Section 152 of the *IRS Code of 1954*. If the student is not a dependent, as defined by the IRS code, then the university must receive prior written consent from the student in order to release such information to his or her parents.

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 meets the requirements of Title 38, U.S. Code, Veterans' Benefits. We endorse and comply with President Obama's "Principles of Excellence." The university also strives to be a "Military Friendly" facility that assists Veterans and their families in assimilation to life on our campus. Furthermore, we actively provide support to men and women with military benefits who attend Shippensburg University. The University also provides a Veteran's Resource Center in the Ceddia Union Building that serves as a resource and social hub.

Non-immigrant Alien Students

Shippensburg University is authorized under federal law to enroll non-immigrant 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 which 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 2013-2014 and 2014-2015 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.

Admission Policies and Procedures





For All Applicants

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

General Scholarship

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.

For 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 \$40 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.*

3. The secondary school transcript form 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 Department of Education.
4. 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.
5. 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 [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.
6. SAT II: Subject Tests are not used for the admission process. However, if submitted, these scores may be used to assist in course placement.
7. 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.
8. Applications will be considered by the Office of Admissions on a rolling basis. The applicant will be notified after the application is complete.
9. 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. Deadlines for submitting the confirmation deposits: *May 1* or, if admitted after April 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.
10. A personal interview is not required for admission but in some situations is advisable. Please call in advance to arrange an appointment.
11. 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.
12. 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.
13. 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.
14. Orientation programs are held in the summer and prior to the beginning of fall semester. An orientation program is also held at the beginning of the spring semester.

For 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 also is required 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.
Deadlines for submitting the confirmation deposits: *May 1* or, if admitted after April 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.
6. A personal interview is not required for admission but in some situations is advisable. Please write or call in advance to arrange an appointment.
7. 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.
8. All transfer students seeking a degree must plan on:
 - a. A minimum program of 30 semester hours to include half the credits of their major at Shippensburg. (See *Graduation Requirements and Majors*.)
 - b. All course selections subject to prior approval by the appropriate academic dean.
9. 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.
10. Orientation programs are held in the summer, prior to the beginning of 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 Academic Passport 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 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.

The Academic Passport

This section applies only to students seeking to transfer directly from a Pennsylvania community college, Pennsylvania State System of Higher Education (PASSHE) university, Lackawanna College, Raritan Valley Community College, Middlesex Community College or one of the following community colleges in Maryland: Carroll, Frederick, Hagerstown, Howard, and Allegany College of Maryland. All other community/junior college applicants and undergraduate transfer applicants from a four-year college/university should consult the previous section.

Shippensburg University supports transfer students and the Academic Passport. The Academic Passport is designed to promote, support, and facilitate the transfer of students and the undergraduate courses they earned at other universities. This encourages a seamless transfer for students into Shippensburg University.

A student is eligible for the Passport if he/she is a graduate of one of the above named community/junior colleges holding an Associate of Arts (A.A.) or Associate of Science (A.S.) degree or is an incumbent student of a State System university with 12 credits or more of college-level work.

1. Students transferring with an associate's degree

- a. All students must have a cumulative quality point average (QPA) of 2.0 or higher and the A.A. or A.S. degree must contain a minimum of 30 hours of liberal arts course work. Capacity limits and/or higher admissions standards may apply to certain high demand academic programs.
- b. Up to a maximum of 45 general education credits and liberal arts course credits earned at the two-year college will be used to meet lower division university general education requirements. A course-by-course match will not be required. Vocational, technical, and career courses will not be used to satisfy general education requirements.

2. Transfer within the State System

- a. PASSHE university students who have attained a QPA of 2.0 or higher in a minimum of 12 credit hours of college-level course work will hold an Academic Passport enabling transfer to any other PASSHE university. Capacity limits and/or admissions standards may apply to certain high-demand academic programs.
- b. Up to a maximum of 45 general education credits and liberal arts course credits earned at the sending university will be used to meet lower division general education requirements at Shippensburg. A course-by-course match will not be required.

3. Students transferring without an associate degree (These students are ineligible for an Academic Passport.)

- a. Community/junior 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 QPA of 2.0 or greater in all college-level course work presented for transfer for each institution attended. Capacity limits and/or higher admissions standards may apply to certain high demand academic programs.
- c. A maximum of 45 credits in courses designated by and credited as general education by a community/junior college will be applied to meet university lower division general education requirements. A course-by-course match will not be required.
- d. 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 associates 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

In the acceptance and application of credits Shippensburg University will look first to apply as many credits as possible towards the satisfaction of lower division general education requirements. Next, remaining credits may be applied to satisfy requirements in the major. Lastly, credits may be applied to satisfy elective requirements.

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 made application. 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.

For Degree Completion Program Applicants

See the Degree Completion Program chapter or visit www.ship.edu/DCP for additional degree completion programs in your area.

Admission Requirements

1. Associate's degree or a minimum of 60 transferable college credits authenticated by official transcripts.*
2. Current résumé indicating at least five years of documented work or volunteer experience.
3. Completion of application and goal statement.
4. A 2.0 cumulative grade point average or above for transfer credits.

** Note: Individuals seeking admission to the degree completion program recognize that transfer credits will only be applicable to degree completion program requirements. Degree completion program students who decide to change their major after matriculation will have their transfer credits re-evaluated.*

Admissions Procedures

Applicants for admission to Shippensburg University's degree completion program should visit our website at www.ship.edu/DCP for more information and to download a PDF file of the application form. If you have additional questions, call 717-477-1231 or e-mail to Office of Admissions at admiss@ship.edu.

Please submit the following original documents:

1. Goal statement which:
 - a. Explains your three most significant professional and/or volunteer experiences
 - b. Describes your strengths, weaknesses, and areas that need improvement
 - c. Explains why you wish to pursue a degree in one of our Degree Completion Programs
2. Current résumé including:
 - a. Career objective
 - b. Education experience
 - c. Work/volunteer experience for at least five years
 - d. Personal information (skills and interests)

3. Official college transcripts from an accredited institution. (*You must contact the Registrar/Office of Records at each institution attended and have your official transcripts sent directly to the Office of Admissions at Shippensburg University.*)

Mail completed application, supporting materials, and application fee to Office of Admissions, Shippensburg University, 1871 Old Main Drive, Shippensburg, PA 17257. Application evaluation will be completed after all required application materials are received. Check the status of your application online at www.ship.edu or by contacting the Office of Admissions.

For 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 must have a minimum SAT score of 1800 (includes reading, math, and writing) 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 1200 with a verbal score of at least 550.
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 Enrollment Services 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.

Special Students (Concurrent High School Enrollment)

The early admission of students as part-time students while concurrently completing secondary school requirements offers opportunities for those students to enrich their high school program while at the same time functioning within their traditional peer groups. This part-time student might also wish to engage in university-level courses during the summer sessions.

This special form of early admission may be desirable in individual situations as long as the student is capable of handling the academic demands involved. Students should first exhaust all other course options in high school before considering special student status. The following guidelines apply for special students:

1. Must have completed at least the tenth year of high school.
2. The submission of the high school transcript, SAT I scores, and special student application form. College Board SAT 1 scores should total at least 1100.
3. The submission of a letter of support from secondary school officials.
4. Must meet those academic requirements that apply to regular freshmen.

Please write 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 which is to be used for graduation at another institution. Please refer to Visiting Student Program under Academic Policies and Procedures for PASSHE 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 non-immigrant 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 \$40 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.

3. 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.
4. 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) Scholarships

The Commonwealth of Pennsylvania grants a limited number of tuition waiver scholarships 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 scholarship *making formal application to the university*. However, only a limited number of scholarships are available in any given year. Once an international student has been granted a tuition waiver, the scholarship 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 March 1 of the same year. If a student is seeking spring admission, application for the waiver should be made by October 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 JFL scholarship 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 undeclared 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.

Undeclared 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 2013-2014 and 2014-2015 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)
W	Withdrawal

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 x 2.7 = 8.1
2nd subject	3	A	3 x 4.0 = 12.0
3rd subject	3	F	3 x 0.0 = 0.0
4th subject	4	B	4 x 3.0 = 12.0
5th subject	3	B	3 x 3.0 = 9.0
<i>Total</i>	<i>16</i>		<i>41.1</i>
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

The grades Q and I are temporary grades, which mean you have not completed all the requirements for a particular course.

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 planned from the start 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 be changed to an F.

The grade of I (incomplete) can be given if you are unable to complete the requirements of a course due to a serious illness, death in the family, or other personal emergency. To request an incomplete in a particular course, you should apply directly to the instructor of the course. Apply to your college dean if you are unable to complete the requirements of all your courses. If the dean or instructor considers your reason for requesting an incomplete satisfactory, he/she will approve it. 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. You may not graduate from the university with a temporary grade on your record.

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 the Registrar's Office 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. During the summer or winter, you must request the satisfactory-unsatisfactory option in the office of your academic dean during the drop/add period. 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

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.*

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 a discriminatory, 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.

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 and designate three undergraduate students and one undergraduate alternate enrolled in the academic department to serve on the Academic Appeals Committee for the academic year. 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.

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 any time after receiving a final grade in a course. Grade appeals however cannot be initiated after thirty (30) days following the onset of the next regular (fall or spring) academic 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 in an effort to resolve the matter prior to resorting to the formal appeal process.* This informal meeting between the student and the faculty member assigning the disputed grade shall occur no later than thirty (30) days fol-

lowing the beginning 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—Students wishing to formally appeal a final course grade based on the factors listed in 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 from the first full day that classes meet of the semester following the semester in which the final course grade was assigned. Appeals may not be filed electronically. 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 shall set forth the basis for the appeal and the desired resolution. 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. 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.

****Both the informal attempt at resolving the disputed grade with the faculty member assigning such grade and the formal initiation of a formal grade appeal must be completed no later than thirty (30) calendar days from the first full day that classes meet of the semester following the semester in which the final course grade was assigned.*

C. Meeting with Department Chairperson—Within seven (7) calendar days of receiving a completed grade appeal form, the department chairperson 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. The department chairperson will notify the faculty member that a formal appeal has been filed.

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, except as noted.

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 ten (10) 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 the actual members of the undergraduate Academic Appeals Committee shall be present during the discussion 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 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.

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. A demonstration of 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.

Reconsideration of the Academic Appeals Committee Determination

Within seven (7) calendar days of the request for reconsideration, the dean 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.

Upon direction from the academic dean of the college in which the grade appeal arose, 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.

Following review and reconsideration by the grade appeals committee, the decision of the grade appeals committee 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 that he/she can perform academically at a level needed to graduate from Shippensburg. Typically, this might include achievement of a quality point average of 2.5 or above in several courses taken at another accredited institution of higher education. 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 bankruptcy 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; 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 bankruptcy 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 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 45 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 during the first two weeks 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 60 semester hours at Shippensburg University by the end of their program of study will be eligible for graduation honors. Transfer students with 45-59 semester hours at Shippensburg by the end of their program of study may petition the appropriate academic dean for graduation honors if their transferred grades from other institutions were similar to those received at Shippensburg.

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.

Raider Plan

Shippensburg University schedules its course offerings with the intention of making it possible for new freshmen who begin in the fall semester and enter a program that is 120 credits in length to graduate in four years provided they enroll continuously during regular semesters and maintain the minimum university academic and co-curricular requirements. The four-year plan of course work for a major is known as the Raider Plan.

All entering first-year students are eligible for the Raider Plan and must agree to prepare a comprehensive plan for course work with the assistance of their academic advisors during their first semester at Shippensburg and to maintain satisfactory progress toward the goals of that plan over the next four years. Specific details of a four-year plan for course work are available in all academic departments, deans' offices, and online. Students who have declared a major should check with their departments about eligibility and about these details. Those who enter the university without a major (undeclared) should discuss participation in the plan with the Office of Undeclared Students.

The university agrees to provide knowledgeable and available academic advice throughout the four years. It also intends to offer the courses or alternatives that allow students to graduate within that time frame, barring events or conditions that are beyond its control.

Transfer students are not eligible for the Raider Plan.

While most academic programs at Shippensburg participate in the Raider Plan, there are some that do not. These are programs that require more than 120 credit hours for graduation or have special requirements that may not be achievable in four years.

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.

Double Majors

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 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 biology, chemistry, physics, and mathematics because of the large number of duplicate requirements in each of these fields.

Double majors must share the same degree designation.

Minors

An academic minor is intended as an option that enriches your educational experience in a field outside of the discipline of your major course of study. To secure the advantages of focus and depth, the courses that comprise a minor must be a well-designed set within a single discipline or a set that interrelates two or more disciplines, which has sufficient structure to provide you with a working knowledge of the skills and subject matter appropriate to the minor.

No more than six credits may be double counted toward a major and a minor. To insure some reasonable spread between lower division courses (numbered 100-299) and upper division courses (numbered 300-499), normally at least two of the six courses must be from the upper division. This is meant to provide exposure to at least some advanced study in the discipline(s). If you are interested in electing a minor, you should confer with the chair of your major department and the dean of your college. The following minors are available:

- Anthropology
- Art
- Biochemistry
- Biology
- Business
- Chemistry
- Coaching
- Communication/Journalism
- Computer Science
- Criminal Justice
- Disability Studies
- Economics
- English
- Ethnic Studies
- Exercise Science
- French
- French Cultural Studies
- Geographic Information Systems
- Geography-Earth Science
- German Studies
- Gerontology
- History
- Human Communication Studies
- International Studies
- Mathematics
- Music
- Philosophy
- Physics
- Political Science
- Psychology
- Public Administration
- Sociology
- Spanish
- Technical/Professional Communications
- Theatre
- Women's and Gender Studies

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.

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 Student Self-Service Banner (SSB).

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 held during the first week of the semester. Dates for this schedule adjustment period will be announced by the Registrar's Office. The drop period will extend to the sixth calendar day in a typical semester and the add period will extend to the seventh calendar day. Normally this would mean drop day extends to the first Saturday of the semester and add day to the first Sunday.

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. Students may not initiate online withdrawals for a class with start and end dates outside the normal start and end dates for the semester or for a class offered through the Professional, Continuing, and Distance Education Office. 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: ENG050 Basic Writing, ENG101 College Writing, ENG106 Writing Intensive First Year Seminar, ENG110 Advanced Placement Writing, MAT050 Developmental Mathematics, RDG050 Developmental Reading and Study Skills, HCS100 Introduction to Human Communication, HIS105 Historical Foundations of Global Cultures, and HIS106 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 two courses in online and/or face-to-face format per summer 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 \$70 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.

Transcript Policy

You may request copies of your Shippensburg University transcript in three ways. Only three transcripts may be ordered per request. A limit of three transcripts will be mailed to the same address. The Registrar's Office reserves the right to impose a handling fee for large-volume requests.

1. Mail a letter or transcript request form to the Registrar's Office requesting your transcript be prepared for pick-up or sent to a specified address. The transcript request form is available at http://www.ship.edu/admin/Registrar/Registrar_Office_Forms. Include the following information:
 - Full name and student identification number—include all previous last names, if applicable
 - Dates of attendance
 - Graduation date and degree received
 - Specify whether graduate, undergraduate, or non-degree courses taken
 - Complete mailing address of where transcript is to be sent (A transcript sent to yourself may be considered unofficial. Faxed transcripts are also considered unofficial.)
 - Requestor's daytime telephone number and mailing address
 - **Your signature is required on the request** (Requests received via e-mail are unacceptable for this reason.)
 - Mail request to:
 - Registrar's Office
 - Shippensburg University
 - 1871 Old Main Drive
 - Shippensburg, PA 17257-2299
2. Fax a written request to 717-477-1388 that includes all the information specified above. The request must be signed by the student.
3. Visit the Registrar's Office and complete a transcript request form.

To pick up a transcript you must show a valid photo identification card.

Generally allow one week for processing transcripts requests. Due to heavy volume of requests at the beginning and end of semesters, the processing time may be longer.

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. Your project must be agreed to by the faculty member you would like to work with and then approved by 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 north-west 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 signifi-

cant 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 and grades taken by students who study in an institutionally approved Shippensburg University study abroad program will be treated as Shippensburg University credits and grades. Grades equivalent to C or above will be awarded a grade of P. Grades equivalent to D or F will be awarded an F grade which is calculated in the quality point average.

For further information about the Study Abroad program, contact the Student Life Center, McLean Hall, or call 717-477-1279.

Taking Graduate Courses

If you are a senior in good academic standing with a cumulative QPA of 2.75 or higher, you will be permitted to register for graduate courses with the written approval of 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 to 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.

Second Baccalaureate Degree

It may be desirable for certain students 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 the 30 to 36 credit hours new major) and any other requirements for the second degree, which cannot be equated to courses taken in the first degree program. The baccalaureate degrees have different degree designations as compared to double majors where the degree designations are the same. To exercise this option you must apply to the dean of the college in which the new program is offered and be admitted through the Office of Admissions.

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 the Pennsylvania State System of Higher Education (PASSHE). 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 PASSHE 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 *Swataney* 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 which 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.

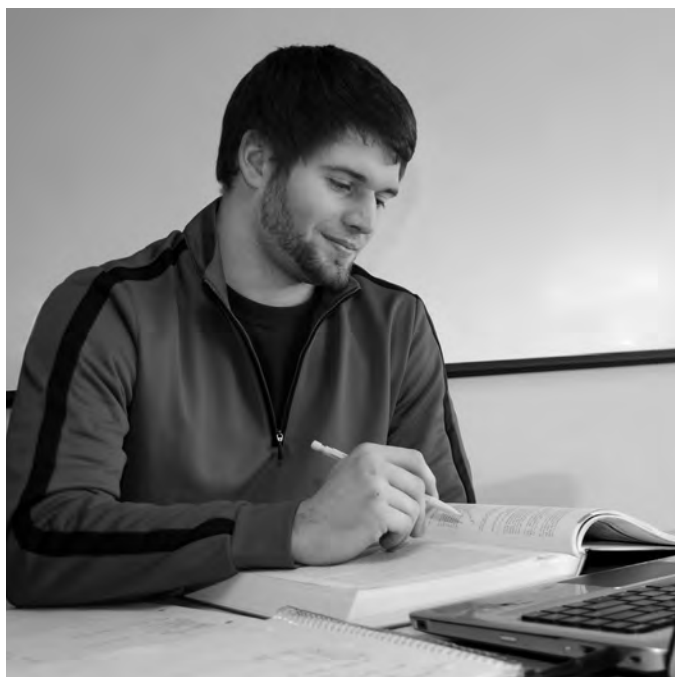
Use of supplemental individualized instruction on an assignment. Various tutorial resources are available at the university, including a writing center and assistance from faculty who assist students during the process of composing a paper. When you seek these kinds of legitimate academic assistance, 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 which 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.

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 2,650 registered full-time degree-seeking students in eight residence facilities. The university is in the process of replacing its existing residence halls with modern configurations through a three phase residence hall project. Phase I of the new suite housing opened for the spring 2013 semester, with McLean Hall II, Seavers Hall, and Presidents Hall. Harley Hall, McLean Hall, Mowrey Hall, and Naugle Hall remain open as traditional residence halls. Stone Ridge Commons are also still an apartment housing option for on-campus living. Phase II of the new suite housing is set to open in the fall of 2014. All housing facilities are wired with an Ethernet 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, 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. Finally, no students are guaranteed they will be able to live in university campus housing throughout their tenure at the university.

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

Student Services

Career Development Center

The Career Development Center (CDC), located in the Ceddia Union Building, provides students and alumni with valuable information and assistance on their job search. CDC provides resources in exploring career options, organizing job search programs such as preparing a résumé, cover letter, and interview skills.

In addition, the CDC provides students with career and employer information through their bi-weekly newsletter *Ship Career Connection*, which lists on-campus interviews with employers and graduate schools, internships, and career events. CDC maintains reference files that are disseminated to prospective employers or graduate schools upon request and a resource library.

Keeping with the CDC's commitment to meet students' schedules and needs, the CDC conducts daily walk-in hours, workshops on job search and interviews, mock interviews, outreach programs for classes and organizations, appointments, and holds evening hours. Give the CDC a call at (717) 477-1484 or stop by the office for more information. Visit our website at www.ship.edu/career.

Child Care

The university offers child care through the Bartos 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 Bartos Child and Family Center website at www.sufoundation.org/services/childfamilycenter.

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 Development, Media, 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 Desire2Learn Learning Management System.
- Technology support in presentation software including video, audio, and image editing.
- 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. For more information or assistance with an information or media-related need, call:

Lehman Library Circulation Desk	(717) 477-1465
Lehman Library Reference Desk	(717) 477-1474
Luhrs Library (Juvenile Collection)	(717) 477-1003
Instructional Design and Development Services	(717) 477-1816
Media Services	(717) 477-1646
Broadcast Services	(717) 477-1759

Computing and Network Services

The Computing Technologies Center (CTC) provides computing and network services for instruction, research, and administration. Students may access university e-mail (<https://mail.ship.edu>), file space (<https://stufiles.ship.edu>), and academic records (<https://my.ship.edu>). Students may also create their own personal web site (<http://students.ship.edu>).

Computer Labs

The university maintains five general-purpose computer laboratories as well as dozens of departmental labs and computer classrooms. All campus labs have the complete Microsoft Office suite, SPSS, 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.

Help Desk Services

Shippensburg University Technical Support 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 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/counctr/ for more information.

Health Services

Student Health Services are provided by the Etter Health Center, located in the Wellness Center in McLean Hall II. 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, a licensed medical physician, and a physician's assistant. The physician has weekday hours in the health center and is also on-call for emergencies. Students with questions regarding health services should call 477-1458.

Treatment for acute minor injury or illness is available free of charge for full-time undergraduate and graduate students who have paid the Comprehensive Health Fee. A wide variety of common prescription medicines are dispensed free when needed, and a few simple laboratory tests are also performed free of charge on site. X-rays, more extensive lab tests, routine care for ongoing medical conditions, and prescription drugs are available near campus at an additional cost to the student. CT scans, MRIs, ERs and hospitals are a 25-minute drive away in Chambersburg or Carlisle. Etter Health Center is an outpatient facility. One useful feature is the Self Care Unit where students can evaluate their own cold and flu symptoms guided by protocols, with nursing advice and free over-the-counter medications for symptomatic relief when indicated. In this way, education and treatment are accomplished together. Physician/physician assistant hours are day shifts Monday through Friday. At other times RNs evaluate and treat (using written physician's protocols) a wide variety of conditions. In the case of a serious medical emergency that requires treatment beyond the capabilities of the Etter Health Center, students may be transported by ambulance to an area hospital. Any charges for ambulance or paramedic services are the responsibility of the individual.

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.

Religious Life

During orientation, incoming students are requested to complete a religious preference sheet, which is forwarded to the campus ministers who record the information and make it available, when requested, to local religious leaders of designated religious bodies. In addition, various religious bodies and groups offer on-campus programming.

Students are encouraged to continue to participate in religious services of their choice while attending the university. Many of the houses of worship in Shippensburg have special programs for university students. A Roman Catholic and a Protestant minister are provided by community churches for the purpose of attending to the spiritual concerns of all students and providing programming. The campus ministers are located in the Cora I. Grove Spiritual Center and Interfaith Chapel. In addition, various student religious organizations—Christian Fellowship, and the Jewish Student Organization—are open to the campus community.

Multicultural Student Center

The Office of Multicultural Student Affairs (MSA) is a student-centered office located in the Multicultural Student Center in Gilbert Hall. The office assists groups such as the African American Organization, Multicultural Affairs APB, Latino Student Organization, Cultural Difference Committee, Asian American Organization, and others with program development and implementation. It also serves as a focal point and a resource for students, faculty, and others. MSA serves as a liaison with areas such as financial aid, residence life, career development, as well as the community. The office strives to expose students to individuals and experiences that will enhance their awareness of self and culture. The MSA works to improve the quality of life for all students enrolled at the university. The MSA slogan is, "We are in the business of bridge building—not bridges of steel between riverbanks, but bridges of understanding between people."

Veterans 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, to go <https://www.ship.edu/veterans/>.

Women's Center

The Women's Center at Shippensburg University seeks to promote equity by addressing issues of stereotyping, self-defense, women's health, domestic violence, and sexual assault. The Women's Center serves the campus community by hosting programs, conferences, workshops and other events that bring attention to women's issues. We work as advocates for students, faculty, and staff that have been affected by sexual harassment, dating violence and sexual assault. 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.

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, 7:45 a.m. to 7:00 p.m.; Friday, 7:45 a.m. to 4:30 p.m.; and 10:00 a.m. to 3:00 p.m. on Saturday during the school year. For additional information, call (717) 477-1600 or visit our website bookstore.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 2012-13

Commuting Students

Tuition.....	\$3,214.00
Technology Tuition Fee.....	179.00
Student Activity	240.00
Student Recreation Fee	185.00
Student Union Fee	265.00
Comprehensive Health Fee.....	155.00
Educational Services Fee.....	339.00
Total.....	\$4,577.00

Residence Hall Students

Tuition.....	\$3,214.00
Technology Tuition Fee.....	179.00
Student Activity	240.00
Student Recreation Fee	185.00
Student Union Fee	265.00
Room and Board**.....	3,745.00
Comprehensive Health Fee.....	155.00
Educational Services Fee.....	339.00
Total.....	\$8,322.00

Off-Campus Students

Tuition.....	\$3,214.00
Technology Tuition Fee.....	179.00
Student Activity	240.00
Student Recreation Fee	185.00
Student Union Fee	265.00
Board*.....	1,655.00
Comprehensive Health Fee.....	155.00
Educational Services Fee.....	339.00
Total.....	\$6,232.00

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

**Based on traditional housing and 15 meal plan; other plans available.

Fees for Summer Sessions 2013

Fees and due dates are subject to change.

Tuition - per credit.....	\$268.00
Technology Tuition Fee - per credit	15.00
Educational Services Fee - per credit	28.00
Student Union Fee - per credit.....	17.00
Student Activity - per credit	17.00
Comprehensive Health Fee - per credit	10.00
Student Recreation Fee - per credit	12.00
Room (traditional dorm housing)	
3 weeks	393.00
5 weeks	655.00
Board (15-meal plan)	
3 weeks	264.00
5 weeks	440.00

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 (MC, Discover, AmEx) 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 mid-December.

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 2012-2013, a basic tuition fee of \$3,214 per semester will be charged to each full-time students (**all fees subject to change**). Students taking 11 or fewer credit hours per semester shall pay at the rate of \$268 per credit. Students taking 12 through 18 credit hours shall pay the regular basic fee. Students taking more than 18 credit hours shall pay the basic fee plus \$268 per credit for all hours over 18. Summer session basic fee shall be \$268 per credit hour for all Pennsylvania residents.

Full-time and part-time undergraduate students pay the undergraduate rate for all courses, both undergraduate and graduate courses.

Tuition policy subject to change.

Out-of-State Students

For 2012-2013, full-time students whose legal residence is not in the state of Pennsylvania shall be charged an out-of-state tuition fee of \$7,232 per semester in addition to all other fees. Students taking more than 18 credit hours shall pay the out-of-state tuition fee plus \$603 per credit hour over 18.

Out-of-state students who are part-time shall be charged a tuition fee of \$603 per credit hour and other applicable fees. Summer sessions fees are \$603 per credit hour.

Fees are subject to change. Summer fees are for 2013 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 halls or in the newly-built suites. The room fee for traditional halls is currently \$2,090 per semester. The room fee for suite living ranges from \$3,500 to \$4,300. 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 \$1,655. Room and board for summer sessions is \$219 per week for traditional halls with the 15 meal plan, and ranges from \$234 to \$267 per week for suites with the 15 meal plan. (2012-13 rates)

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 link of the Shippensburg University website www.ship.edu.

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 \$240 per semester for students taking 12 or more credits. Students taking 1-11 credits pay \$20 per credit. The summer activity fee is \$17 per credit. (2012-13 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. (2012-13 rates)

Student Union Fee

State law and policies of the Board of Governors of the Pennsylvania State System of Higher Education (PASSHE) 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 \$265 per semester for undergraduates taking 12 or more credits; students taking 1-11 credits pay \$22 per credit. The summer student union fee is \$17 per credit. (2012-13 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 PASSHE 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 \$155 per semester for students taking 12 credits or more. Students taking 1-11 credits pay \$13 per credit.

The summer Comprehensive Health Fee is \$10 per credit. (2012-13 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 \$339 per semester for students taking 12 credits or more. Students taking 1-11 credits pay \$28 per credit.

The summer educational services fee is \$28 per credit. (2012-13 rates)

Technology Tuition Fee

This fee is set annually by the PASSHE 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 PASSHE 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 \$179 in-state and \$271 out-of-state. Part-time students are charged \$15 per credit in-state and \$23 per credit out-of-state. The summer technology tuition fee is \$15 per credit in-state, \$23 per credit out-of-state. (2012-13 rates)

Special Fees

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

Application Fee

An application fee of \$40 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 \$25 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 \$70 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 the Pennsylvania State System of Higher Education (PASSHE).

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. 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 PASSHE Board of Governors.

Refund Policy for University Withdrawals

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 (2012)

Reduction in Charges

	3-Week Term	5-Week Term
Day 1	100%	100%
Day 2	80%	100%
Day 3	60%	80%
Day 4	50%	80%
Day 5	40%	60%
Day 6	0%	60%
Day 7	0%	50%
Day 8	0%	50%
Day 9	0%	40%
Day 10	0%	40%
Day 11	0%	40%

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 ACG Grant
7. Federal SMART Grant
8. Federal SEOG
9. 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 PASSHE.

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 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). 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.

The results of the FAFSA must be received by the Financial Aid Office by May 1 of the upcoming academic year for a 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.

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 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 percent of credits attempted. Example: if you have attempted 30 credits, and have passed 21 credits, you have passed 70 percent of your credits. If you attempted 30 credits and passed only 18 credits, you have earned only 60 percent 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 www.ship.edu/Financial_Aid/Academic_Progress.

**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 and Commonwealth work programs. Students with demonstrated financial need through the completion of a Free Application for Federal Student Aid (FAFSA) are given priority in job placement, but an effort is made to place as many students as possible who have desired work skills. These positions include work in administrative and faculty offices, the library, residence halls, and campus grounds.

If a student is interested in campus employment, a list of job vacancies can be found at www.collegecentral.com/ship for the upcoming academic year. Students should apply for jobs through those organizations directly.

Summer Campus Employment

Summer campus employment opportunities can be found at www.collegecentral.com/ship. Students should apply for these jobs directly with the department or area posting the vacancy.

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. A student's eligibility will be determined by PHEAA based on financial need and cost of attendance at the college.

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 \$574 to \$5,645 (in the 13-14 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 a high financial need. The information provided on the FAFSA will be used to determine student eligibility. Awards vary based on financial need and fund availability. *Not all students will qualify.*

Federal Perkins Loan

The Federal Perkins Loan is a low interest loan and is interest free to the student while enrolled in school. A limited amount of funds are available for students with high financial need. The information provided on the FAFSA will be used to determine student eligibility. Awards vary depending 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 \$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 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 loan under the Federal Direct Loan program.

As per federal regulations, the university may disburse federal loans no earlier than 10 days prior to the beginning of a semester. Federal loans funds will be disbursed via electronic funds transfer (EFT). A borrower will be notified by the university when a disbursement is made to her/his account and whether a refund is available at that time.

School of Academic Programs and Services





The School of Academic Programs and Services 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 and services offered by the nine 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 <http://www.ship.edu/aps>.

Office of Undeclared Students

If you do not declare a major at the time you are admitted, you will be enrolled as an undeclared student. The Office of Undeclared Students serves as the academic home for all students admitted to Shippensburg who have not declared their majors. The office provides undeclared 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 of Undeclared Students does not grant degrees. Undeclared students must declare a major by the middle of their sophomore year. The dean of Academic Engagement and Student Support is the academic dean for all undeclared students.

Services provided by the Office of Undeclared Students include an academic orientation to the university, assistance in understanding the university's policies and procedures, a quality academic and monitoring program, an administrative unit for academic records, and an opportunity to participate in a personal, academic and career workshop series.

Advising Development Program

One of your most important resources for success at Shippensburg University is your academic advisor. When you declare a major, you are assigned a faculty advisor within the academic department. Until you declare a major, you are assigned an advisor through the Office of Undeclared Students. The advising process will empower you to realize your full potential by helping you establish and achieve important educational and professional goals. Your advisor is available to assist you, but ultimately it is your responsibility to know the appropriate general education and major/minor courses for your degree and to make certain that all requirements for graduation have been met.

Advising is a partnership in which your advisor and you share responsibilities. You can expect your advisor to be available at scheduled times, to listen to your concerns and help you determine the best course of action, to serve as a mentor, to help you understand university policies and graduation requirements, to assist you to develop strategies to reach your educational and professional goals, to connect you with campus resources, and to guide you in making important decisions that can save time, effort, and money.

To get the most out of advising, you should know your advisor's office hours, make and keep advising appointments, prepare questions and bring any appropriate materials or concerns to the meetings, and see your advisor whenever you have questions. You should see your advisor regularly.

The Advising Development Program supports student success by providing advising materials for faculty and students and by sponsoring programs and workshops for faculty and students about the advising process.

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 under-prepared 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 coursework
- Providing developmental courses for students not ready for college-level work
- Referring students to the Learning Center for additional academic assistance

NOTE: Developmental coursework does not count towards the total credits required for graduation.

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 www.ship.edu/learning/ 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 individual 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. Drop-in tutoring is available one day a week and students are also encouraged to stop by the Learning Center to see if a writing tutor is available on a walk-in basis. 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 477-1420 or visit the center's website at www.ship.edu/learning/.

Office of Academic Support Services for Student-Athletes

The Office of Academic Support Services for Student-Athletes assists in the development of educated, responsible, self-reliant men and women as they pursue collegiate athletics and a baccalaureate degree, while preparing to meet the challenges of a continuously changing world.

This office provides resources for enhancing the academic experiences of student-athletes. Through the coordinator, a variety of academic assistance services are available including academic advising support, academic progress monitoring, academic counseling and referral, and assistance for graduating student-athletes in researching and pursuing employment and/or opportunities for graduate education. The office provides information and informed advice about academic matters to all student-athletes, and all student-athletes are strongly encouraged to use the services.

The Office of Academic Support Services for Student-Athletes has strong links with the Learning Center and other campus-wide programs to support the academic well-being of student-athletes.

The Office of Academic Support for Student-Athletes is committed to cooperation and communication with those invested in the overall success of student participation in the university's intercollegiate athletics program. The fulfillment of the mission and values of our work is contingent on the strong and supportive relationships between the Department of Athletics and the Shippensburg University community.

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 School of Academic Programs and Services, ASP's goals are to promote academic success and to build self-confidence with guided supportive services throughout our students' college experience. The ASP has two major components: a summer program (Summer Bridge or Early Start), and the Academic Year Support Program.

Summer Bridge Program/Early Start Program

The Summer Bridge program is a mandatory five-week program, and the Early Start Program is a mandatory five-day extended orientation program. The focus of each 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.

Both the Summer Bridge and the Early Start Programs provide:

- 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 (ASP101)*: 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 ASP101.
- 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.
- *Student Voices: Leadership and Community (ASP102)*: This is a credit-bearing course designed to give students 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.

Martin Luther King Academic Retention Program

The Martin Luther King Program invites all regularly admitted, traditional-age students at Shippensburg University to join this open, accepting, academically-rooted learning community. The program targets students of color, students who may be the first in their families to attend college, and students who may have economic need. However, all students committed to diversity are encouraged to participate. The purpose of the MLK Program is to enhance the academic success and retention of participating students and to provide them with a support network.

Program activities include an extended orientation, a weekly non-credit seminar, regular check-ins with the program coordinator, connection with a peer mentor, and community-building activities. All activities are designed to provide students with academic support and the cooperative environment they need to succeed and excel.

Thurgood Marshall Mentoring Program

The Thurgood Marshall Mentoring Program (TMMP) at Shippensburg University provides support for the personal, social, and intellectual development of incoming, first-year and transfer students of color; first-generation college students; international students; and students who have economic need. These students may find it harder to acclimate to the collegiate environment and majority culture upon their arrival at Shippensburg.

The TMMP assists each of these newly admitted, first-year, and transfer students in building partnerships with faculty, staff, administrators, and graduate students who know their way around campus. TMMP mentors at Shippensburg University serve many roles for their student protégés, including career counselors, personal counselors, tutors, and friends.

Office of Placement Testing

The Office of Placement Testing administers placement tests to students under the auspices of the School of Academic Programs and Services. 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.

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 undeclared student under the Office of Undeclared Students. The office provides a wide variety of academic support services so undeclared students can make normal progress toward a degree while exploring educational and career options. Undeclared 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 undeclared 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. Concentrations for each major are in parentheses and minors are italicized.

College of Arts and Sciences

- Art and Design Department
 - Art B.A.
 - Art B.A. with Education Certification K-12
 - Art Minor*
- Biology Department
 - Biology B.S.
 - (Biotechnology)
 - (Biotechnology/Pre-Forensic Sciences Option)
 - (Clinical Sciences)
 - (Ecology and Environmental Biology)
 - (Health Professions)
 - Biology B.S. with Secondary Certification
 - (Environmental Education)
 - (General Science)
 - Biology Minor*
- Chemistry Department
 - Chemistry B.S.
 - (Biochemistry)
 - (Business)
 - (Computational)
 - (Environmental)
 - (Forensics)
 - (Pre-Pharmacy)
 - Chemistry B.S. with Secondary Certification
 - Chemistry Minor*
 - Biochemistry Minor*
- Communication/Journalism Department
 - Communication/Journalism B.A.
 - (Electronic Media)
 - (Print Media)
 - (Public Relations)
 - Communication/Journalism Minor*
- Computer Science and Engineering Department
 - Computer Engineering B.S.
 - Computer Science B.S.
 - (Computer Graphics)
 - (Embedded Programming)
 - (Related Discipline)
 - Software Engineering B.S.
 - Computer Science Minor*
- Disability Studies Program
 - Disability Studies Minor*
- Economics Department
 - Economics B.S.
 - (Business)
 - (Mathematics)
 - (Political Science)
 - (Public Administration)
 - (Social Science)
 - Economics Minor*
- English Department
 - English B.A.
 - English B.A. with Writing Emphasis
 - English B.A. with Secondary Certification
 - English Minor*
- Ethnic Studies Program
 - Ethnic Studies Minor*
- Geography/Earth Science Department
 - Geography B.S.
 - (Geographic Information Systems-GIS)
 - (Human-Environmental Studies)
 - (Land Use)
 - Geoenvironmental Studies B.S.
 - Comprehensive Social Studies B.S.Ed.
 - (Geography)
 - Earth and Space Science B.S.Ed.
 - Geography/Earth Science Minor*
 - Geographic Information Systems (GIS) Minor*

History/Philosophy Department
 History B.A.
 (Public History)
 Comprehensive Social Studies B.S.Ed.
 (History)
History Minor
Philosophy Minor

Human Communication Studies Department
 Human Communication Studies B.A.
Human Communication Studies Minor

Interdisciplinary Arts Program
 Interdisciplinary Arts B.A.

International Studies Program
 International Studies B.A.
 (Comparative & Global Cultures)
 (Global Political Relation)
 (Global Business & Economics)
 (African & Middle Eastern Studies)
 (Asian Studies)
 (European Studies)
 (Latin American & Caribbean Studies)
International Studies Minor

Mathematics Department
 Mathematics B.S.
 (Applied Mathematics)
 (Statistics)
 Mathematics B.S. with Secondary Certification
Mathematics Minor

Modern Languages Department
 French B.A.
 French B.A. with Secondary Certification
 Spanish B.A.
 Spanish B.A. with Secondary Certification
French Minor
French Cultural Studies Minor
Spanish Minor
German Studies Minor

Music & Theatre Arts Department
Music Minor
Theatre Minor

Physics Department
 Applied Physics B.S.
 Physics B.S.
 (Nanofabrication)
 Physics B.S.Ed.
Physics Minor

Political Science Department
 Political Science B.A.
 Public Administration B.S.
Political Science Minor
Public Administration Minor

Professional Studies Degree Completion Program
 Professional Studies B.S.
 (Technical Leadership and Administration)
 Healthcare Administration B.S.

Psychology Department
 Psychology B.A.
Psychology Minor

Sociology/Anthropology Department
 Sociology B.A.
Anthropology Minor
Sociology Minor

Technical/Professional Communications Program
Technical/Professional Communications Minor

Women's & Gender Studies Program
Women's & Gender Studies Minor

John L. Grove College of Business

Accounting Department
 Accounting B.S.B.A.
 Information Technology for Business Education B.S.B.A. with
 optional Secondary Certification
 Management Information Systems B.S.B.A.
 Finance/Supply Chain Management Department
 Finance B.S.B.A.
 (Personal Financial Planning)
 Supply Chain Management B.S.B.A.
 (Logistics Management)

Management/Marketing Department
 Management B.S.B.A.
 (Entrepreneurship)
 (Human Resource Management)
 (International Management)
 (Management)
 Marketing B.S.B.A.
Business Minor

College of Education and Human Services

Criminal Justice Department
 Criminal Justice B.S.
Criminal Justice Minor

Exercise Science Department
 Exercise Science B.S.
Exercise Science Minor
Coaching Minor

Social Work and Gerontology Department
 Social Work B.S.W.
Gerontology Minor

Teacher Education Department
 Early Childhood/Elementary Education: PK-4 B.S.Ed.
 Elementary/Middle Level Education: Grades 4-8 B.S.Ed.
 (Mathematics)
 (Science)
 (Social Studies)
 (Language Arts)
 (Mathematics and Science)
 (Science and Social Studies)
 (Science and Language Arts)
 (Mathematics and Social Studies)
 (Mathematics and Language Arts)

Detailed information about program requirements and options can be found in the next three chapters of the catalog. In addition to the major requirements, all students must complete a program of general education for the bachelor's degree.

General Education

The university regularly reviews and evaluates its general education requirements and this process may result in some changes to the program. Such changes may affect the sequencing and delivery of the program within the current course requirements and will broaden the general education experience. Should these changes occur, they will be announced to the university community in a timely manner and added as a supplement to this catalog.

Education at a college or university has traditionally had two equally important components—depth and breadth. Depth is provided by the academic major which a student chooses and which prepares him or her for a useful vocation; breadth of knowledge is the concern and aim of the general education curriculum. Since men and women first began to discuss the nature and purpose of education, they have seen in it something more than the mere acquisition of specific knowledge or skills, important as these may be. This something they called a liberal or general education and the need for it has been based on the ideal that a breadth of knowledge is necessary for an individual to become an informed and literate member of society.

Shippensburg University subscribes to this ideal. While the selection of an academic major and elective courses allows the student freedom of individual choice, the general education program at Shippensburg is rooted in the assumption each person shares significant relationships with the larger human community and must acknowledge the necessary balance between individual preferences and community needs. At its best, general education can help the student to see the interrelatedness and connectedness of the human experience. This collective experience, the world in which we live, has been formed within the conceptual frameworks which have been worked out by the human race in our common past and are now embodied in our institutions and modes of thought. It is only through a knowledge of these frameworks we can understand each other and make sense of our own experience. Shippensburg University believes a generally educated student is one whose university curriculum has helped him or her to understand and to operate within the main frameworks and patterns of discourse which the human mind has framed for itself.

The study of these frameworks constitutes the general education curriculum at Shippensburg University. Its goal is to help each student to develop, for his or her own sake, the capacity for rational thought, understanding, and participation within our complex, changing and often overwhelming world. The complexity of our society is reflected in the diversity and wide range of experience of the Shippensburg student body and academic community. It must also be reflected in a general education program which allows that complexity and its interconnectedness to be appreciated and understood. Because there are different modes of rational thought and expression, a general education can be best achieved through a variety of intellectual experiences which provide a common agenda for study, investigation, and a common discourse.

Required Skills and Competencies

At Shippensburg, the study and investigation begins with the completion of courses, usually taken during a student's first or second year at the university, in four required basic skills. These skills are fluency in writing, fluency in speaking, competency in mathematics, and cultural awareness through historical perspective. Each is essential to comprehension of a complex and diverse world and, especially, to effective participation in it. Each skill is also linked to the remainder of the general education curriculum and to a student's entire academic experience. For instance, the world history requirement not only provides an awareness current issues and conditions are shaped by their past but also offers broad cultural perspectives which are useful for the study of any discipline at the university. Mastery of the spoken word can be used effectively throughout one's life and career and will be required frequently in a student's academic course work. Mathematics is the language of the natural sciences and, increasingly, the social sciences. It also has many important and necessary applications in the humanities and other fields of study. But perhaps the most important basic skill is writing fluency. Writing is really a form of concentrated thinking and is indispensable to all disciplines and modes of thought. The required English composition course provides an appropriate foundation for this skill, but some writing will also be expected of a student in nearly every course he or she takes at Shippensburg.

To achieve these basic skills, undergraduates are required to take five courses for a total of 15 credit hours in the following areas:

Fluency in Writing. Students must take one of the following for 3 credit hours: ENG106 Writing Intensive First-Year Seminar, ENG101 College Writing or ENG110 Advanced Placement Writing.

Fluency in Speaking. Students must take HCS100 Introduction to Human Communication for 3 credit hours.

Mathematical Competency. Students must take one mathematics course numbered 100 or higher, for 3 credit hours, or must place at the Advanced Level through the university placement policy.

Historical Perspectives. Students must take the following two courses for a total of 6 credit hours: HIS105 Historical Foundations of Global Cultures and HIS106 Thinking Historically in a Global Age.

Placement Testing

The mission of the Placement Testing Program is to ensure undergraduate students are sufficiently prepared to succeed in the courses required by Shippensburg University's General Education Program. Student proficiency is ascertained by administering reading, writing (English), and mathematics. SAT scores are used to determine if students must take the mathematics, writing (English) and/or reading tests. Students who must take these tests will be notified.

Transfer students who need further course work in mathematics and/or writing may be required to test. These students will be notified of the testing requirement.

Writing

The English Composition Program is designed to provide students with sufficient writing skills to meet undergraduate requirements. Students are placed in the composition course that best meets their needs based on their performance on the English writing test. Three placements are possible. Most students qualify for ENG106 Writing Intensive First-Year Seminar, successful completion of which fulfills the university writing competency requirement. Those who would benefit from smaller classes and more attention to the development of basic skills will be assigned to ENG050 Basic Writing. Upon earning a grade of C or better, these students are then qualified to enroll in ENG106 Writing Intensive First-Year Seminar. Students who show considerable promise in writing may be invited to schedule ENG110 Advanced Placement Writing, which also fulfills the competency requirement.

Reading

Reading efficiently is vital to college success. The Reading Placement Test measures reading comprehension in short and long narratives as well as the understanding of the relationship between sentences. Students who score below the minimum level are required to improve their reading skills by earning a grade of at least a C in RDG050 Developmental Reading and Study Skills.

Mathematics

Shippensburg University requires all students to satisfy a college-level mathematics competency in order to qualify for graduation. According to SAT-M score or placement testing scores, students' math skills are classified at one of the following levels:

Levels 1-2:

Students who place at level 1 or 2 may be required to improve their proficiency in mathematics by taking a developmental mathematics course as a prerequisite for enrolling in college-level mathematics coursework.

For students who place at level 1, successfully passing a developmental mathematics course is a prerequisite for all college-level mathematics courses. Students must commence the developmental mathematics course within one calendar year of enrollment at Shippensburg.

For students who place at level 2, successfully passing a developmental mathematics course is a prerequisite for algebraically intensive courses which require level 3 placement. However, these students have access to courses designated with a level 2 placement without any further remediation.

There are a variety of options available for meeting this requirement. Students who place at level 1 or 2 will receive further information from the Placement Testing Office.

Levels 3-4:

Students who place at level 3 or 4, based on SAT scores or the placement test, must pass at least one college-level math course. Some majors require a particular course, and that particular course may list a second course as a prerequisite dependent on the individual student's placement level.

Levels 5-6:

Students who place at levels 5 or 6, based on SAT scores or the placement test, have fulfilled the university competency requirement unless required by major.

Categories of Knowledge

The second component of the general education curriculum at Shippensburg is the completion of eleven courses distributed among five categories of knowledge. Taken together, these categories embrace the modes and current frameworks of human expression, thought, and organization which are characteristic of our diverse society. The university believes awareness and understanding of the principles and intellectual skills associated with the disciplines contained in each category are necessary for a comprehensive education and for a well-educated individual. The courses taken within these categories will acquaint the student with the methods of inquiry relevant to each discipline and this familiarity will in turn help the student to think critically—that is, to be able to ask good and fruitful questions, to reason and analyze logically and systematically, to synthesize parts into wholes, and to make informed choices and decisions.

Undergraduates are required to take 11 courses for a total of 33 credit hours as indicated in the following categories:

Category A—Logic and Numbers for Rational Thinking

(One course – 3 credit hours)

The courses in this category emphasize the use of symbols as a means of expressing complex thoughts and information lucidly and accurately. Many involve computational and mathematical operations—that is, the use of mathematics as a symbolic language where each element and rule of operation is defined very clearly in order to obtain precise understanding. Similarly, the remainder of the courses which may be taken to fulfill this requirement stress precise, logical approaches to reasoning; for example, the study of those aspects of philosophy involving the exposition of abstract ideas.

One course must be taken from any of the following, with the exception the mathematics course selected under Basic Skills and Competencies may not be used for this requirement.

CSC103 Overview of Computer Science
CSC180 Microcomputer Basic

MAT105 Mathematics for Liberal Studies
MAT107 Mathematical Models Applied to Money
MAT110 Fundamentals of Mathematics I
MAT117 Applied Statistics
MAT140A or MAT140B College Algebra
MAT175 Precalculus
MAT181 Applied Calculus
MAT211 Calculus I

PHL101 Introduction to Philosophy
PHL102 Critical Thinking
PHL105 Ethical Theories and Problems

Special Topics in General Education, Category A

Category B—Linguistic, Literary, Artistic and Cultural Traditions

(Three courses – 9 credit hours)

Culture is the human-made part of the environment and the spoken and written word, together with the visual and performing arts, are its foundation. The courses required in this category are designed to acquaint the student with the richness and diversity of these aspects of culture, especially with the recognized standards of literary and artistic excellence. The emphasis in this category is also on the breadth and extent of the many cultural experiences and heritages that make up our world. Knowing only the traditions of our own immediate surroundings or even simply those of our country is no longer enough to function effectively in a world where contact between varied cultures and knowledge of their interaction has become normal and expected.

All students completing a Bachelor of Arts (B.A.) program will be required to attain intermediate level of proficiency in a foreign language. Intermediate proficiency may be satisfied by the completion of three years of a foreign language in high school, a 103-level college course in a foreign language, or satisfactory completion of an intermediate-level proficiency examination. Even if you are not completing a B.A. degree, the university encourages study of a foreign language as a means of fulfilling the requirement of this category. Foreign language study introduces students to the way language works, why words matter, and aids them in understanding more about their own language and its intricacies. Such study also fosters greater appreciation of peoples and cultures by crossing the language barrier and seeing more deeply how others live.

One course must be taken from those listed under Literature and two courses in different disciplines from those listed under Humanities.

Literature (one course)

ENG243 The Art of the Film
ENG248 Introduction to Culturally Diverse Literature of the United States
ENG250 Introduction to Literature

FRN330 Masterpieces of French Literature
FRN331 Masterpieces of Francophone Literature

GER151 German Cinema
GER320 Berlin
GER322 Readings in German Literature

SPN360 Masterpieces of Spanish Literature
SPN361 Masterpieces of Spanish-American Literature

Humanities (two courses – different disciplines)

ART101 Art Appreciation
ART231 Art History I
ART232 Art History II
ART233 Art History III
ART274 Introduction to Cultural Studio
ART339 History of American Art

FRN101 Beginning French I
FRN102 Beginning French II
FRN103 Intermediate French
FRN150 French Civilization
FRN202 Intermediate Conversation Through the Media
FRN204 Ideas & Cultures From the French-Speaking World
FRN320 French for the Professions

GER101 Beginning German I
GER102 Beginning German II
GER103 Intermediate German
GER150 German Civilization & Culture
GER203 Intermediate German Communication
GER204 Contemporary German Culture
GER215 German for the Professions

IAP111 Introduction to Interdisciplinary Arts

MUS121 Introduction to Music
MUS227 Opera & Music Theatre
MUS261 World Music

SOC370 Sociology of the Arts

SPN101 Beginning Spanish I
SPN102 Beginning Spanish II
SPN103 Intermediate Spanish
SPN150 Spanish Civilization & Culture
SPN202 Intermediate Spanish Conversation
SPN204 Ideas & Cultures From the Hispanic-Speaking World
SPN330 Spanish for the Professions
SPN385 *language* Aspectos de la civilizacion hispana

THE121 Introduction to Theater

Special Topics in General Education, Category B

**Other courses as offered may be taken in this category.*

Category C—Biological and Physical Sciences

(Three courses - 9 credit hours)

Basic scientific literacy is necessary for knowledge of ourselves as a species and of the universe in which we live. The courses in this category have two comprehensive objectives — to make clear what kinds of problems in the physical world are susceptible to scientific investigation and what kinds of solutions such investigation can produce and to provide an appreciation of the practice of scientific research and methodology, with its interaction of experiment and hypothesis. While the requirements of this category may be satisfied without a course containing a laboratory component, the university strongly encourages the selection of such courses. Experimentation in the laboratory allows the student both to observe and to participate directly in the systematic observation of nature and the principles of its investigation.

One course must be taken from those listed in three of the following disciplines.*

ANT121 Physical Anthropology

BIO100 Basic Biology
BIO142 Introduction to Ecology
BIO145 Environmental Biology
BIO150 Human Biology
BIO161 Principles of Biology: Cell Structure and Function
BIO162 Principles of Biology: Organismal Diversity
BIO208 Field Biology

CHM103 Chemistry: A Cultural Approach
CHM105 Chemistry: An Observational Approach
CHM121 Chemical Bonding

ESS108 Conservation of Natural Resources
ESS110 Introduction to Geology
ESS111 Introduction to the Atmosphere
ESS210 Physical Geology

PHY108 Astronomy
PHY110 Physics for Society
PHY121 Introduction to Physics I
PHY122 Introduction to Physics II
PHY205 Intermediate Physics I

Special Topics in General Education, Category C

**Note: Students majoring in the biological or physical sciences are permitted to count one course from their major department toward satisfying this requirement. Natural science courses that carry one of the above courses as a prerequisite and required science courses for elementary education majors may also be counted toward this requirement.*

Category D—Political, Economic and Geographic Sciences

(Two courses - 6 credit hours)

Institutions are formal ways societies and cultures create over time to pursue activities important to them. Two of the most basic institutions in any large, collective society are its governmental structure and its economic system—that is, the ways which a society has chosen to regulate the interaction between individuals and groups and the ways which it has chosen to satisfy and organize its material needs. Both of these frameworks and the remaining institutions of any society are all affected and shaped by their physical environment, the geography in which they are set. In an era of increasingly complex global interaction, an understanding of these institutions in today's society and the influences that have helped to pattern their development are vital to the citizens of a participatory democracy.

One course must be taken from those listed in two of the following disciplines.

ECO101 Principles of Macroeconomics
ECO102 Principles of Microeconomics
ECO113 Principles of Economics

GEO101 World Geography
GEO103 Geography of the United States and Canada

PLS100 U.S. Government and Politics
PLS141 Introduction to International Politics

Special Topics in General Education, Category D

Category E—Social and Behavioral Sciences

(Two courses - 6 credit hours)

An awareness and recognition of the disciplines that examine and analyze group and individual behavior is of increasing importance for all who seek to understand and to predict the patterns and processes of human activity. These disciplines examine the causes of human action and the diversity of its organization and structure. Their study will help the student to see the connection between his or her own perspective and that of society and to appreciate the effect social forces have on the individual. The courses in this category will also consider the theoretical frameworks of each discipline and the methods and results of current research.

One course must be taken from those listed in two of the following disciplines.

ANT111 Cultural Anthropology
DS100 Introduction to Disability Studies
ETH100 Introduction to Ethnic Studies
ETH101 Introduction to African American Studies
ETH102 Introduction to Latino Studies
GEO140 Cultural Geography
PSY101 General Psychology
SOC101 Introduction to Sociology: Society and Diversity
WST100 Introduction to Women's Studies
Special Topics in General Education, Category E

Library/Information Skills

An integral aspect of the General Education Program is the development of library and information skills. This requirement is fulfilled through the completion of a self-paced, online tutorial that provides hands-on experience in finding scholarly information. All students enrolled in ENG106 Writing Intensive First-Year Seminar, ENG101 College Writing, or ENG110 Advanced Placement Writing must complete this tutorial.

Completion of the tutorial will provide students with an introduction to the research skills they will need to succeed in their other courses. This tutorial becomes the basis for appropriately leveled instruction in subject oriented information literacy, which is provided within the context of individual courses.

Additional Study

With advisement, students entering Shippensburg as freshmen will complete, in most cases, both the basic skills and the distribution requirements of the general education program within their first two years at the university. However, Shippensburg University believes general education is a process and not just a series of defined courses taken early in the academic experience. The need for and the value of a liberal education extends beyond the freshman and sophomore years and the university strongly encourages students to elect to take courses in the general education curriculum and in areas outside of their majors as juniors and seniors. Carefully selected, these courses can help not only to enrich and to continue the search for breadth of knowledge, but also to integrate a student's entire academic study, further demonstrating the basic interdisciplinary connectedness of human understanding.

University Diversity Requirement

Shippensburg University expects its students to understand the diverse nature of the United States—its currently diverse society as well as its diverse historical and cultural roots. Students should also gain awareness of how the country continues to emerge and be shaped by the interaction of people with different views. Finally, students should understand how cultural, ethnic and racial heritage, as well as gender, age, social class, sexual orientation, and abilities have shaped their attitudes, perspectives, beliefs, and values.

To complete the university diversity requirement, undergraduates are required to take one approved diversity course for a total of 3 credit hours. The following courses currently satisfy the university's diversity requirement.

ART101 Art Appreciation
 CRJ452 Race, Ethnicity, and Crime
 ECH460 Family, School, and Community Partnerships
 EEC411 Introduction to Exceptionality
 ENG248 Introduction to Culturally Diverse Literature of the United States
 GEO103 Geography of the U.S. and Canada
 GEO140 Cultural Geography
 MGT447 Business and Society
 SOC101 Introduction to Sociology: Society and Diversity
 SWK265 Understanding Diversity for Social Work Practice
 WST100 Introduction to Women's Studies

Summary of Requirements

Required Skills and Competencies: Five courses (15 credit hours).

Categories of Knowledge: Eleven courses (33 credit hours).

Required Skills and Competencies

Five courses (15 credit hours) in the following:

Writing—ENG101 College Writing *or* ENG106 Writing Intensive First-Year Seminar *or* ENG110 Advanced Placement English

Speaking—HCS100 Introduction to Human Communication

Mathematics—One mathematics course from Category A *or* placement in the Advanced College Level through the Mathematics Examination

History—HIS105 Historical Foundations of Global Cultures and HIS106 Thinking Historically in a Global Age

Category A—Logic and Numbers for Rational Thinking

One course (3-4 credit hours).

The mathematics course selected under Required Skills and Competencies may not be used for this requirement.

Category B—Linguistic, Literary, Artistic and Cultural Traditions

Three courses (9 credit hours).

One course must be taken from those listed under Literature and two courses in different disciplines from those listed under Humanities.

Category C—Biological and Physical Sciences

Three courses (9 credit hours).

One course must be taken from those listed in three different disciplines.

Category D—Political, Economic and Geographic Sciences

Two courses (6 credit hours).

One course must be taken from those listed in two different disciplines.

Category E—Social and Behavioral Sciences

Two courses (6 credit hours).

One course must be taken from those listed in two different disciplines.

Library/Information Skills

Fulfilled through successful completion of the library tutorial.

Diversity Requirement

Fulfilled through successful completion of 3 credits of approved diversity courses.

Graduate Programs

Shippensburg University also offers opportunities for study beyond the bachelor's degree. Programs are offered through the School of Graduate Studies leading to the following degrees:

Master of Arts (M.A.)
Master of Arts in Teaching (M.A.T.)
Master of Business Administration (M.B.A.)
Master of Education (M.Ed.)
Master of Public Administration (M.P.A.)
Master of Science (M.S.)
Master of Social Work (M.S.W.)

The following degree programs are available:

Administration of Justice (M.S.)
Applied History (M.A.)
Biology (M.S.)
Business Administration (M.B.A.)
Communication Studies (M.S.)
 Digital Media
 Strategic Public Relations
Computer Science (M.S.)
Counseling (M.S. and M.Ed.)
 College Counseling
 Clinical Mental Health Counseling
 Dual K-12 School Counseling
 College Student Personnel
Curriculum and Instruction (M.Ed.)
 Biology
 Early Childhood Education
 Elementary Education
 Geography/Earth Science
 History
 Mathematics
 Middle School Education
 Modern Languages
Geoenvironmental Studies (M.S.)
Organizational Development and Leadership (M.S.)
 Business
 Communication
 Environmental Management
 Higher Education Structure and Policy
 Historical Administration
 Individual and Organizational Development
 Management Information Systems
 Public Organizations
 Social Structures and Organization
Psychological Science (M.S.)
Public Administration (M.P.A.)
Reading (M.Ed.)
School Administration (M.Ed.)
Science Education (M.A.T.)
Social Work (M.S.W.)
Special Education (M.Ed.)
 Behavior Disorders
 Comprehensive Certification
 Learning Disabilities
 Mental Retardation/Developmental Disabilities

Teacher certification and supervisory programs are also available. For detailed information, consult the Graduate School catalog or contact the admissions office at 717-477-1231.

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.

Departments

Art and Design	History/Philosophy
Biology	Human Communication Studies
Chemistry	Mathematics
Communication/Journalism	Modern Languages
Computer Science and Engineering	Music/Theatre Arts
Economics	Physics
English	Political Science
Geography/Earth Science	Psychology
	Sociology and Anthropology

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 Arts Degree Programs

Art*	Interdisciplinary Arts
Communication/Journalism	International Studies
English*	Political Science
French*	Psychology
History	Sociology
Human Communication Studies	Spanish*

**These programs also offer the option of certification in secondary education.*

Bachelor of Science Degree Programs

Applied Physics (Cooperative Engineering 3-2 program)	Healthcare Administration (<i>degree completion only</i>)
Biology*	Mathematics*
Chemistry*	Physics
Computer Engineering	Professional Studies-Technical Leadership and Administration (<i>degree completion only</i>)
Computer Science	Public Administration
Economics	Software Engineering
Geoenvironmental Studies	
Geography	

**These programs also offer the option of certification in secondary education.*

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 which may be obtained by writing to the graduate office.

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, print-making, 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 Letter of Completion 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, ceramists, 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 Grove College of Business. Students will select the Creative Arts Track.

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.

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)

ART101 Art Appreciation	3 crs.
ART110 Basic Drawing	3 crs.
ART215 Color & Two-Dimensional Design (offered in fall only)	3 crs.
ART218 Three-Dimensional Design (offered in spring only)	3 crs.

Additional Foundation Courses (12 crs.)

ART210 Drawing II	3 crs.
ART232 Art History II (offered in fall only)	3 crs.
ART233 Art History III (offered in spring only)	3 crs.
ART385 Senior Art Seminar	3 crs.
<i>(One year sequential course which begins in the fall; students may not enter mid-year.)</i>	

All art majors also must elect five courses (15 crs.) or six courses (18 crs.) if Art Appreciation or Art History II 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. Courses are selected from the following list:

Art Electives (15 crs.)

ART211 Figure Drawing (offered in even year fall only)	3 crs.
ART217 Computer Design I (Page Composition)	3 crs.
ART231 Art History I (offered in even year fall only)	3 crs.
ART300 Independent Studio/Ceramics	3 crs.
ART301 Independent Studio/Drawing	3 crs.
ART302 Independent Studio/Enameling	3 crs.
ART303 Independent Studio/Painting	3 crs.
ART304 Independent Studio/Sculpture	3 crs.
ART305 Independent Studio/Computer Design	3 crs.
ART306 Computer Design II (Illustration) (offered in spring only)	3 crs.
ART309 Independent Studio/Other Courses (Provides the student an opportunity to pursue in-depth study using a single artform or combination of artforms that are of personal interest under the direction & guidance of a department faculty member.)	3 crs.
ART319 Computer Design III (Painting & Photo Manipulation) (offered in spring only)	3 crs.
ART321 Watercolor I (offered in spring only)	3 crs.
ART322 Watercolor II (offered in fall only)	3 crs.
ART326 Painting I (offered in fall only)	3 crs.
ART327 Painting II (offered in spring only)	3 crs.
ART339 History of American Art (offered in odd year fall only)	3 crs.
ART340 Ceramics	3 crs.
ART341 Advanced Ceramics (offered in spring only)	3 crs.
ART356 Social Structures of Aesthetics: Philosophy & Criticism in the Arts	3 crs.
ART370 Sculpture (offered in fall only)	3 crs.
ART380 Printmaking I (offered in spring only)	3 crs.
ART381 Printmaking II (offered in spring only)	3 crs.
ART393 Selected Topics in Art	3 crs.
ART395 Internship in Art	3 crs.
ART399 Independent Study	3 crs.
ART400 Contemporary Methods in Art Education	3 crs.
ART425 Computer Design IV (Multi-media & Motion Graphics) (offered in spring only)	3 crs.
ART430 Computer Design V (Web Design) (offered in fall only)	3 crs.
ART435 Computer Design VI (Book & Portfolio Design) (offered in spring only)	3 crs.
ART490 Selected Topics in Art	3 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 testing or CLEP testing.

Letter of Completion in Graphic Design - 18 crs.

ART217 Computer Design I: Page Composition	3 crs.
ART306 Computer Design II: Illustration (offered in spring only)	3 crs.
ART319 Computer Design III: Painting and Photomanipulation (offered in fall only)	3 crs.
ART425 Computer Design IV: Multimedia (offered in spring only)	3 crs.
ART430 Computer Design V: Web Design (offered in fall only)	3 crs.
ART435 Computer Design VI: Book and Portfolio Design (offered in spring only)	3 crs.

Art Minor - 21 crs.

Foundation Courses (12 crs.)

ART101 Art Appreciation	3 crs.
ART110 Basic Drawing	3 crs.
ART215 Color and Two-Dimensional Design (offered in fall only)	3 crs.
ART218 Three-Dimensional Design (offered in spring only)	3 crs.

Art History Elective (3 crs.)

ART231 Art History I (offered in "even year" fall only)	3 crs.
ART232 Art History II (offered in fall only)	3 crs.
ART233 Art History III (offered in spring only)	3 crs.
ART339 History of American Art (offered in "odd year" fall only)	3 crs.

Art Electives (6 crs.)

ART210 Drawing II (offered in spring only)	3 crs.
ART211 Figure Drawing (offered in "even year" fall only)	3 crs.
ART217 Computer Design I (Page Composition)	3 crs.
ART274 Introduction to Cultural Studio (required for elementary educ. art minors)	3 crs.
ART300 Independent Studio/Ceramics	3 crs.
ART301 Independent Studio/Drawing	3 crs.
ART302 Independent Studio/Enameling	3 crs.
ART303 Independent Studio/Painting	3 crs.
ART304 Independent Studio/Sculpture	3 crs.
ART305 Independent Studio/Computer Design	3 crs.
ART306 Computer Design II (Illustration) (offered in spring only)	3 crs.
ART309 Independent Studio/Other Courses	3 crs.
ART319 Computer Design III (Painting and Photo Manipulation) (offered in fall only)	3 crs.
ART321 Watercolor I (offered in spring only)	3 crs.
ART322 Watercolor II (offered in fall only)	3 crs.
ART326 Painting I (offered in fall only)	3 crs.
ART327 Painting II (offered in spring only)	3 crs.
ART340 Ceramics	3 crs.
ART341 Advanced Ceramics (offered in spring only)	3 crs.
ART356 Social Structures in Aesthetics: Philosophy and Criticism in the Arts	3 crs.
ART370 Sculpture (offered in fall only)	3 crs.
ART380 Printmaking I (offered in spring only)	3 crs.
ART381 Printmaking II (offered in spring only)	3 crs.
ART393 Selected Topics in Art	3 crs.
ART395 Internship in Art	3 crs.
ART399 Independent Study	3 crs.
ART400 Contemporary Methods in Art Education	3 crs.
ART425 Computer Design IV (Multi-media and Motion Graphics) (offered in spring only)	3 crs.
ART430 Computer Design V (Web Design) (offered in fall only)	3 crs.
ART435 Computer Design VI (Book and Portfolio Design) (offered in spring only)	3 crs.
ART490 Selected Topics in Art	3 crs.

Art Education Certification

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.

ART217 Computer Design I (Page Composition)	3 crs.
ART326 Painting I (offered in fall only)	3 crs.
ART340 Ceramics	3 crs.
ART356 Social Structures of Aesthetics: Philosophy & Criticism in the Arts	3 crs.
ART370 Sculpture (offered in fall only)	3 crs.
ART400 Contemporary Methods in Art Education	3 crs.

Required College of Education and Human Services courses.

TCH207 Organizational and Psychological Foundations in Secondary Education	3 crs.
TCH250 Elements of Instruction	3 crs.
EEC273 Introduction to Exceptionalities	3 crs.
EDU495 Art Practicum	12 crs.

Students must also take the Praxis I and II Examinations and complete all Pennsylvania Certification requirements.

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 Marine Science Consortium 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.

Marine Science Consortium

Shippensburg University is a charter member of the Marine Science Consortium, 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 consortium operates a field station 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 Marine Science Consortium.

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 Ornithology
- Behavior of Marine Organisms
- Ecology of Marine Plankton
- Problems in Marine Sciences

Biology (B.S.)

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

Biology Core Courses (13 crs.)

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO260 Genetics	4 crs.
BIO499 Capstone Seminar	1 cr.

Upper Division Electives (13 crs.)**

Ecology/Evolution elective:

BIO242 Ecology	3 crs.
or	
BIO430 Principles of Evolution	3 crs.

Physiology elective:

BIO351 Animal Physiology	4 crs.
or	
BIO350 Human Physiology	4 crs.

Organismal elective:

BIO230 Botany	3 crs.
or	
BIO317 Parasitology	3 crs.
or	
BIO362 Invertebrate Zoology	3 crs.
or	
BIO363 Vertebrate Zoology	3 crs.

Cellular elective:

BIO220 Microbiology	3 crs.
or	
BIO385 Cell Biology	3 crs.

Additional Biology Electives (15 crs.)

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

Allied Fields (32 crs.)

Mathematics

MAT117 Applied Statistics	4 crs.
MAT211 Calculus I***	4 crs.

Physics

PHY121 Introductory Physics I and PHY 123 Introductory Physics I Lab	4 crs.
PHY122 Introductory Physics II and PHY125 Introductory Physics II Lab	4 crs.

Chemistry

CHM121 Chemical Bonding and CHM125 Laboratory IB Stoichiometry and Reactions	4 crs.
CHM122 Chemical Dynamics and CHM126 Laboratory IIB Equilibrium and Instrumentation	4 crs.
CHM221 Modern Organic Chemistry I and CHM225 Laboratory IIIB Basic Organic Techniques	4 crs.
CHM227 Introduction to Biochemistry	4 crs.
or	
CHM222 Modern Organic Chemistry II and CHM226 Laboratory IVB Experimental Organic Studies	4 crs.

Additional courses in biology, allied fields or other areas related to the major may be chosen with advisement.

* Please note only 3 credits of research may count as biology electives. Credits in excess of that number count as free electives in the General Education requirement.

** Students must earn a "C" or higher in BIO161 and 162 before upper-level biology electives may be taken.

*** Students unable to start at the level of Calculus I will take MAT175 Precalculus or other prerequisite courses.

Biology (B.S.)-Biotechnology

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 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 reattain the minimum QPA.

Biology Core Courses (25 crs.)

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO230 Botany	3 crs.
BIO260 Genetics	4 crs.
BIO385 Cell Biology	3 crs.
BIO418 Molecular Biology	3 crs.
BIO461 Techniques in Biotechnology	3 crs.
BIO499 Capstone Seminar	1 crs.

Upper Division Electives (7 crs.)*

Physiology elective:

BIO351 Animal Physiology	4 crs.
or	
BIO350 Human Physiology	4 crs.

Experiential elective:

BIO396-398 Research**	3 crs.
or	
BIO391-392 Internship**	3 crs.

Additional Biology Electives (9 crs.)

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

Strongly recommended electives:

BIO220 Microbiology	3 crs.
BIO324 Pathogenic Microbiology	3 crs.
BIO371 Human Anatomy	4 crs.
BIO408 Virology	3 crs.
BIO409 Immunology	3 crs.

Allied Fields (38-39 crs.)

Mathematics

MAT117 Applied Statistics	4 crs.
MAT211 Calculus I***	4 crs.

Physics

PHY121 Introductory Physics I <i>and</i> PHY123 Introductory Physics I Lab	4 crs.
PHY122 Introductory Physics II <i>and</i> PHY125 Introductory Physics II Lab	4 crs.

Chemistry

CHM121 Chemical Bonding <i>and</i> CHM125 Laboratory IB Stoichiometry and Reactions	4 crs.
CHM122 Chemical Dynamics <i>and</i> CHM126 Laboratory IIB Equilibrium and Instrumentation	4 crs.
CHM221 Modern Organic Chemistry I <i>and</i> CHM225 Laboratory IIIB Basic Organic Techniques	4 crs.
CHM222 Modern Organic Chemistry II <i>and</i> CHM226 Laboratory IVB Experimental Organic Studies	4 crs.
CHM301 Biochemistry I	3 crs.
CHM371 Analytical Chemistry	4 crs.
or	
CHM420 Biochemistry II	3 crs.

* Students must earn a "C" or higher in BIO161 and 162 before upper-level biology electives may be taken.

** 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 in the general education requirement.

*** Students unable to start at the level of Calculus I will take MAT175 Precalculus or other prerequisite courses.

Biology (B.S.)-Biotechnology/ Pre-Forensic Sciences Option

Students interested in declaring the Pre-Forensic Sciences option of the biotechnology concentration must complete the biotechnology curriculum as outlined and add the following 12 credits of criminal justice courses as free electives. Students completing this option will graduate with more than 120 credits.

CRJ100 Introduction to Criminal Justice	3 crs.
CRJ211 Criminal Law and Procedure	3 crs.
CRJ309 Theories of Crime and Crime Control	3 crs.
CRJ336 Introduction to Forensic Science	3 crs.

Biology (B.S.)-Ecology and Environmental Biology

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.)

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO230 Botany	3 crs.
BIO242 Ecology	3 crs.
BIO260 Genetics	4 crs.
BIO499 Capstone Seminar	1 crs.

Upper Division Electives (16 crs.)*

Physiology elective:

BIO351 Animal Physiology	4 crs.
or	
BIO350 Human Physiology	4 crs.

Ecology and Conservation electives (9 crs.)

Choose any 3:

BIO362 Invertebrate Zoology	3 crs.
BIO363 Vertebrate Zoology	3 crs.
BIO406 Mammalogy	3 crs.
BIO412 Ichthyology	3 crs.
BIO417 Herpetology	3 crs.
BIO419 Ornithology	3 crs.
BIO430 Principles of Evolution	3 crs.
BIO442 Aquatic Ecology	3 crs.
BIO444 Conservation Biology	3 crs.
BIO448 Field Botany and Plant Taxonomy	3 crs.

Cellular elective:

BIO220 Microbiology	3 crs.
or	
BIO385 Cell Biology	3 crs.

Experiential elective:

BIO396-398 Research**	3 crs.
or	
BIO391-392 Internship**	3 crs.

Additional Biology Electives (3 crs.)

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

Allied Fields (32 crs.)*Mathematics*

MAT117 Applied Statistics	4 crs.
MAT211 Calculus I	4 crs.

Physics

PHY121 Introductory Physics I <i>and</i> PHY123 Introductory Physics I Lab	4 crs.
PHY122 Introductory Physics II <i>and</i> PHY125 Introductory Physics II Lab	4 crs.

Chemistry

CHM121 Chemical Bonding <i>and</i> CHM125 Laboratory IB Stoichiometry and Reactions	4 crs.
CHM122 Chemical Dynamics <i>and</i> CHM126 Laboratory IIB Equilibrium and Instrumentation	4 crs.
CHM221 Modern Organic Chemistry I <i>and</i> CHM225 Laboratory IIIB Basic Organic Techniques	4 crs.
CHM227 Introduction to Biochemistry <i>or</i> CHM222 Modern Organic Chemistry II <i>and</i> CHM226 Laboratory IVB Experimental Organic Studies	4 crs.

* Students must earn at least a "C" or higher in BIO161 and 162 before upper-level biology electives may be taken.

** 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 in the general education requirement.

***Students unable to start at the level of Calculus I will take MAT175 Precalculus or other prerequisite courses.

Biology (B.S.)-Health Professions Concentration

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
- Pennsylvania 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 (16 crs.)

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO220 Microbiology	3 crs.
BIO260 Genetics	4 crs.
BIO499 Capstone Seminar	1 crs.

Upper Division Electives (10-11 crs.)****Physiology elective:**

BIO351 Animal Physiology	4 crs.
<i>or</i>	
BIO350 Human Physiology***	4 crs.

Anatomy elective:

BIO370 Comparative Vertebrate Anatomy	4 crs.
<i>or</i>	
BIO371 Human Anatomy***	4 crs.
<i>or</i>	
BIO375 Histology	3 crs.

Molecular/Cellular elective:

BIO385 Cell Biology	3 crs.
<i>or</i>	
BIO418 Molecular Biology	3 crs.

Breadth elective: choose one

BIO210 Field Zoology	3 crs.
BIO230 Botany	3 crs.
BIO242 Ecology	3 crs.
BIO330 Animal Behavior	3 crs.
BIO363 Vertebrate Zoology	3 crs.
BIO412 Ichthyology	3 crs.
BIO417 Herpetology	3 crs.
BIO419 Ornithology	3 crs.
BIO430 Principles of Evolution	3 crs.

Additional Biology Electives (11-12 crs.)

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

BIO300 Careers in the Health Professions (strongly recommended)

Allied Fields (36 crs.)*Mathematics*

MAT211 Calculus I****	4 crs.
MAT117 Applied Statistics	4 crs.

Physics

PHY121 Introductory Physics I <i>and</i> PHY123 Introductory Physics I Lab	4 crs.
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PHY122 Introductory Physics II <i>and</i> PHY125 Introductory Physics II Lab	4 crs.
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Chemistry

CHM121 Chemical Bonding <i>and</i> CHM125 Laboratory IB Stoichiometry and Reactions	4 crs.
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CHM122 Chemical Dynamics <i>and</i> CHM126 Laboratory IIB Equilibrium and Instrumentation	4 crs.
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CHM221 Modern Organic Chemistry I <i>and</i> CHM225 Laboratory IIIB Basic Organic Techniques	4 crs.
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CHM227 Introduction to Biochemistry <i>or (based on educational goals+)</i>	4 crs.
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CHM222 Modern Organic Chemistry II <i>and</i> CHM226 Laboratory IVB Experimental Organic Studies <i>and</i>	4 crs.
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CHM301 Biochemistry I <i>+ Organic II with lab and biochemistry are required for pre-med, pre-dental, pre-vet, and pre-pharmacy students. Check professional program chemistry prerequisites for other health disciplines.</i>	3 crs.
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* 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 in the general education requirement.

** Students must earn a "C" or better in BIO161 and 162 before upper-level biology electives may be taken.

*** Required for pre-physical therapy students.

**** Students unable to start at the level of Calculus I will take MAT175 Precalculus or other prerequisite courses.

Biology (B.S.)-Clinical Sciences Concentration

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)
- Lancaster General College of Nursing & Health Sciences
- Reading Medical Center
- Rockingham Memorial Hospital (Harrisonburg, VA)
- Saint Vincent Health Center (Erie, PA)
- Williamsport Hospital, 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 (26 crs.)*

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO220 Microbiology	3 crs.
BIO260 Genetics	4 crs.
BIO350 Human Physiology	4 crs.
BIO385 Cell Biology	3 crs.
BIO300 Careers in the Health Professions	1 cr.

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

Medical Technology

Required:	
BIO324 Pathogenic Microbiology	3 crs.
BIO374 Hematology	2 crs.
BIO409 Immunology	3 crs.
<i>Also recommended:</i> BIO317 Parasitology, BIO418 Molecular Biology	

Histotechnology

Required:	
BIO371 Human Anatomy	4 crs.
BIO375 Histology	3 crs.

Cytotechnology

Recommended:	
BIO371 Human Anatomy	4 crs.
BIO418 Molecular Biology	3 crs.

Respiratory Therapy

Required:	
BIO371 Human Anatomy	4 crs.
Also recommended:	
BIO409 Immunology, ENG238 Technical/Professional Writing	

Allied Fields (32 crs.)**Mathematics**

MAT117 Applied Statistics	4 crs.
MAT211 Calculus I***	4 crs.

Physics

PHY121 Introductory Physics I and PHY123 Introductory Physics I Lab	4 crs.
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PHY122 Introductory Physics I and PHY125 Introductory Physics II Lab	4 crs.
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Chemistry

CHM121 Chemical Bonding and CHM125 Laboratory IB Stoichiometry and Reactions	4 crs.
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CHM122 Chemical Dynamics and CHM126 Laboratory IIB Equilibrium and Instrumentation	4 crs.
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CHM221 Modern Organic Chemistry I and CHM225 Laboratory IIIB Basic Organic Techniques	4 crs.
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CHM227 Introduction to Biochemistry or may substitute	4 crs.
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CHM222 Modern Organic Chemistry II and CHM226 Laboratory IVB Experimental Organic Studies	4 crs.
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* Students must earn at least a "C" or higher in BIO161 and 162 before upper-level biology electives may be taken.

** Please note only 3 credits of research may count as biology electives. Credits in excess of that number count as free electives in the general education requirement.

*** Students unable to start at the level of Calculus I will take MAT175 Precalculus or other prerequisite courses.

Biology (B.S.) with Secondary Certification

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)

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO208 Field Biology	3 crs.
BIO242 Ecology	3 crs.
BIO260 Genetics	4 crs.
BIO385 Cell Biology	3 crs.
BIO430 Principles of Evolution	3 crs.
BIO499 Capstone Seminar	1 crs.

Physiology elective (4 crs.)

BIO350 Human Physiology or	4 crs.
BIO351 Animal Physiology	4 crs.

Additional Biology Electives (9 crs.)

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

Allied Fields (24 crs.)**Mathematics**

MAT117 Applied Statistics	4 crs.
MAT211 Calculus I	4 crs.

Physics

PHY121 Introductory Physics I and PHY123 Introductory Physics I Lab	4 crs.
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Chemistry

CHM121 Chemical Bonding and CHM125 Laboratory IB Stoichiometry and Reactions	4 crs.
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CHM122 Chemical Dynamics and CHM126 Laboratory IIB Equilibrium and Instrumentation	4 crs.
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CHM221 Modern Organic Chemistry I and CHM225 Laboratory IIIB Basic Organic Techniques	4 crs.
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(Not required but strongly recommended)

PHY122 Introductory Physics II and PHY125 Introductory Physics II Lab	4 crs.
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CHM227 Introduction to Biochemistry	4 crs.
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*Students must earn a "C" or higher in BIO161 and BIO162 before upper-level biology electives may be taken.

**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 in the general education requirement.

Professional Education Requirements (33 crs.)

TCH207 Organizational and Psychological Foundations in Secondary Education	3 crs.
EDU440 Teaching Science in Secondary Schools	3 crs.
EDU441 Curriculum and Evaluation in the Secondary Classroom	3 crs.
EEC273 Introduction to Exceptionality	3 crs.
EEC423 Effective Instructional Strategies for Children with Exceptionalities	3 crs.
EEC483 Assessing Children with Exceptionalities for Curricular Decision-Making	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.

Environmental Education Certificate

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 which is labeled as environmental education in any grade from kindergarten through the twelfth grade.

To receive certification a student must complete a minimum of 24 credits from the courses listed below. The only course which is required of all students is EDU410 Environmental Education Practicum, which is offered during fall semester of odd 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.

Required Course (3 crs)

EDU410 Environmental Education Practicum (3 crs.)

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.

- A. BIO242 Ecology
- B. BIO208 Field Biology
BIO210 Field Zoology
BIO448 Field Botany and Plant Taxonomy
- C. ESS110 Introduction to Geology
ESS111 Introduction to the Atmosphere
ESS210 Physical Geology
- D. BIO145 Problems of the Environment
ESS108 Conservation of Natural Resources

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.

ANT111 Cultural Anthropology
ANT121 Physical Anthropology
BIO205 Marine Biology*
BIO220 Microbiology
BIO245 Marine Ecology*
BIO444 Conservation Biology
BIO446 Ecology of Marine Plankton*
BIO362 Invertebrate Zoology
BIO363 Vertebrate Zoology
BIO514 Aquatic Entomology
BIO547 Wetland Ecology
BIO558 Microbial Ecology
CHM103 A Cultural Approach
CHM105 An Observational Approach
ECO310 Public Finance
ECO340 Introduction to Regional Economics
ECO345 The Economics of Growth and Development
ESS220 Oceanography
ESS355 Meteorology
ESS413 Mineral and Rock Resources
ESS442 Environmental Geology
GEO103 Geography of the U.S. and Canada
GEO140 Cultural Geography
GEO203 Climatology
GEO224 Soils
GEO226 Hydrology
GEO244 Land Use
GEO440 Field Techniques
GEO444 Environmental Land Use Planning
PLS331 Municipal Government and Administration
PLS371 Public Management
PLS384 Regional and Urban Planning
MAT117 Applied Statistics (recommended)
MAT165 Probability with Statistical Reasoning

* 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.)

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO145 Problems of the Environment	3 crs.
BIO208 Field Biology	3 crs.
BIO210 Field Zoology	3 crs.
BIO242 Ecology	3 crs.
BIO448 Field Botany and Plant Taxonomy	3 crs.

Chemistry (8 crs.)

CHM121 Chemical Bonding	3 crs.
CHM122 Chemical Dynamics	3 crs.
CHM125 Laboratory IB Stoichiometry and Reactions	1 cr.
CHM126 Laboratory IIB Equilibrium and Instrumentation	1 cr.

Physics (8 crs.)

PHY108 Astronomy	3 crs.
PHY121 Introductory Physics I	4 crs.
PHY122 Introductory Physics II	4 crs.

Mathematics (8 crs.)

MAT117 Applied Statistics	4 crs.
MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.

Computer Science (3 crs.)

CSC103 Overview of Computer Science	3 crs.
CSC180 Introduction to Microcomputer BASIC	3 crs.
EDU420 Microcomputers in the Classroom	3 crs.

Earth-Space Science (3 crs.)

ESS111 Introduction to the Atmosphere	3 crs.
ESS210 Physical Geology	3 crs.
ESS212 Historical Geology	3 crs.
ESS220 Oceanography	3 crs.
ESS355 Meteorology	3 crs.

Biology Minor - 19 crs.

Required (8 crs.)

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.

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. Seminar, internship, and research cannot be used to meet requirements for the minor.

Chemistry 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, chemistry-business, computational chemistry, environmental chemistry 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, business, environmental, and computational areas. 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.

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.)

CHM110 The Chemistry Experience	1 cr.
CHM121 Chemical Bonding	3 crs.
<i>and</i>	
CHM123 Laboratory IA Chemical Systems	1 cr.
CHM122 Chemical Dynamics	3 crs.
<i>and</i>	
CHM124 Laboratory IIA Experimental Quantitative Analysis	3 crs.

CHM221 Modern Organic Chemistry I	3 crs.
<i>and</i>	
CHM223 Laboratory IIIA Experimental Organic Techniques	1 cr.
CHM222 Modern Organic Chemistry II	3 crs.
<i>and</i>	
CHM224 Laboratory IVA Qualitative Organic Analysis	3 crs.
CHM301 Biochemistry I	3 crs.
CHM361 Physical Chemistry I	4 crs.
CHM362 Physical Chemistry II	4 crs.
CHM371 Analytical Chemistry	4 crs.
CHM381 Intermediate Inorganic Chemistry	3 crs.

Allied Fields (20 crs.)

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

MAT211 Calculus I	4 crs.
<i>and</i>	
MAT212 Calculus II	4 crs.
PHY205/PHY123 Intermediate Physics I & lab	4 crs.
<i>and</i>	
PHY206/PHY125 Intermediate Physics II & lab	4 crs.
BIO161 Principles of Biology: Cell Structure and Function	4 crs.

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 and additional 11 credits in chemistry coursework listed below:

CHM324 Advanced Organic Chemistry Lab	1 cr.
CHM490 Selected Topics <i>or</i> CHM420 Biochemistry II	3 crs.
CHM481 Advanced Inorganic Chemistry	4 crs.
CHM497 Introduction to Research (semester I)	1 cr.
CHM498 Introduction to Research (semester II)	1 cr.
CHM312 Chemistry Seminar	1 cr.

Allied Fields (4 crs.)

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

CSC110 Computer Science I	3 crs.
CSC106 Computer Science I - Lab	1 cr.

Chemistry (B.S.)-Biochemistry Concentration

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 and additional 7 credits in chemistry coursework listed below:

CHM324 Advanced Organic Chemistry Lab	1 cr.
CHM420 Biochemistry II	3 crs.
CHM421 Biochemistry Laboratory	1 cr.
<i>and</i>	
CHM496 Introduction to Research III	1 cr.
CHM312 Chemistry Seminar	1 cr.

Allied Fields Required (16-17 crs.)

BIO260 Genetics	4 crs.
BIO385 Cell Biology	3 crs.
BIO418 Molecular Biology	3 crs.
BIO461 Techniques in Biotechnology	3 crs.
<i>(Choose 1 of the following)</i>	3-4 crs.
CHM481 Advanced Inorganic Chemistry	
BIO220 Microbiology	
BIO408 Virology	
BIO409 Immunology	

Chemistry (B.S.)-Business Concentration

The business concentration is intended to prepare chemistry majors who want to work in chemical, pharmaceutical, or instrumentation sales, technical marketing or management. Students interested in completing the chemistry-business 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 and additional 8 credits in chemistry coursework listed below:

CHM324 Advanced Organic Chemistry Lab	1 cr.
CHM490 Selected Topics	3 crs.
CHM481 Advanced Inorganic Chemistry	4 cr.

Allied Fields Required (15-16 crs.)

CSC110 Computer Science I	4 crs.
ACC200 Fundamentals of Financial Accounting	3 crs.
FIN311 Financial Management	3 crs.
MGT305 Organizational Behavior	3 crs.
MKT305 Principles of Marketing	3 crs.

Students completing the business concentration may use free electives to include research (CHM497/498) for 2 credits or a business elective. Students completing the additional business elective are encouraged to complete a Business Minor, which is the above concentration (Business Minor core) plus two more business electives at the 3xx level or higher.

Chemistry (B.S.)-Computational Chemistry Concentration

The computational chemistry concentration is intended to prepare chemistry majors who want to work in theoretical chemistry. This program prepares students for graduate work leading to jobs such as computer based molecular modeling for drug design. Students interested in completing the chemistry-computational concentration must complete all courses in the chemistry core curriculum and those listed below. All students that complete the computational chemistry concentration meet the basic curricular requirements for ACS certification. Students should review the requirements listed under ACS Certification.

Chemistry Core Curriculum and additional 11 credits in chemistry coursework listed below:

CHM324 Advanced Organic Chemistry Lab	1 cr.
CHM312 Chemistry Seminar	1 cr.
CHM481 Advanced Inorganic Chemistry	4 crs.
CHM497 Introduction to Research (semester I)	1 cr.
CHM498 Introduction to Research (semester II)	1 cr.
CHM490 Selected Topics	
<i>or</i>	3 crs.
CHEM420 Biochemistry II	

Allied Fields Required (17 crs.)

CSC110 Computer Science I	3 crs.
CSC106 Computer Science I - Lab	1 cr.
CSC111 Computer Science II	4 crs.
MAT318 Elementary Linear Algebra	3 crs.
MAT322 Differential Equations	3 crs.
MAT410 Numerical Analysis	3 crs.

Chemistry (B.S.)-Environmental Chemistry Concentration

The environmental chemistry curriculum combines instruction in chemistry with the necessary biology and geography/ earth science to work in this field. Environmental chemists study the chemistry of air, soil, water and the effect of human activity on these systems. Jobs include laboratory technician positions testing soil, water, and air samples and the assessment of human impact on the environment. In addition, these students may continue onto graduate school in environmental engineering or environmental science. Students interested in completing the environmental chemistry 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 and additional 9 credits in chemistry coursework listed below:

CHM324 Advanced Organic Chemistry Lab	1 cr.
CHM312 Chemistry Seminar	1 cr.
CHM481 Advanced Inorganic Chemistry	4 crs.
CHM490 Selected Topics	
<i>or</i>	3 crs.
CHM420 Biochemistry II	

Allied Fields Required (12-13 crs.)

<i>Choose four (one course must be at the 400 or 500 level)</i>	
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO242 Ecology	3 crs.
BIO245 Marine Ecology (<i>offered at WIMSC during summer only</i>)	3 crs.
BIO442 Aquatic Ecology	3 crs.
BIO444 Conservation Biology	3 crs.
BIO446 Ecology of Marine Plankton (<i>offered at WIMSC during summer only</i>)	3 crs.
BIO520 Plant Ecology	3 crs.
BIO541 Ecosystems	3 crs.
BIO593 Biometry	3 crs.
ECO355 Environmental Economics	3 crs.
ESS110 Introduction to Geology	3 crs.
ESS210 Physical Geology	3 crs.
ESS224 Soils	3 crs.
ESS220 Oceanography	3 crs.
ESS413 Mineral and Rock Resources	3 crs.
ESS442 Environmental Geology	3 crs.
ESS494 Sedimentary Geology and Paleoenvironments	3 crs.
GEO226 Hydrology	3 crs.
GEO404 Hydrogeology	3 crs.
GEO446 Water Resource Management	3 crs.

Courses will be selected with assistance from an academic advisor. Most courses beyond the 100 level have prerequisites, which are also included on the list. Students must achieve senior status to enroll in a 500 level course. Other unlisted Wallops Island Marine Science Consortium (WIMSC) courses can be taken as approved by the Chemistry Department prior to counting towards the concentration. Students who choose to earn ACS certification must complete two credits of research. The Chemistry Department must approve research projects outside of the department.

Chemistry (B.S.)-Forensics Concentration

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.

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

CHM324 Advanced Organic Chemistry Lab	1 cr.
CHM4xx 1 additional 400 level chemistry course	3-4 crs.

Allied Fields Required (25 crs.)

CRJ100 Introduction to Criminal Justice	3 crs.
CRJ211 Criminal Law and Procedures	3 crs.
CRJ321 Criminal Investigation	3 crs.
CRJ336 Introduction to Forensic Science	3 crs.
CRJ456 Forensic Science: Evidence Analysis	3 crs.
BIO260 Genetics	4 crs.
BIO418 Molecular Biology	3 crs.
BIO461 Techniques in Biotechnology	3 crs.

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 Physical 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 CHM312 Seminar.

Chemistry (B.S.)-Pre-Pharmacy Concentration

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.

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

CHM324 Advanced Organic Chemistry Lab	1 cr.
<i>Choose 1 of the following</i>	
CHM420 Biochemistry II	3 crs.
CHM481 Advanced Inorganic Chemistry	4 crs.
CHM490 Selected Topics	3 crs.

Allied Fields Required (11 crs.)

MAT117 Applied Statistics	4 crs.
BIO220 Microbiology	3 crs.
BIO350 Human Physiology	
or	4 crs.
BIO371 Human Anatomy	

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 (B.S.) with Secondary Certification

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.)

CHM110 The Chemistry Experience	1 cr.
CHM121 Chemical Bonding	3 crs.
<i>and</i>	
CHM123 Laboratory IA Chemical Systems	1 cr.
CHM122 Chemical Dynamics	3 crs.
<i>and</i>	
CHM124 Laboratory IIA Experimental Quantitative Analysis	3 crs.
CHM221 Modern Organic Chemistry I	3 crs.
<i>and</i>	
CHM223 Laboratory IIIA Experimental Organic Techniques	1 cr.
CHM222 Modern Organic Chemistry II	3 crs.
<i>and</i>	
CHM224 Laboratory IVA Qualitative Organic Analysis	3 crs.
CHM301 Biochemistry I	3 crs.
CHM361 Physical Chemistry I	4 crs.
CHM362 Physical Chemistry II	4 crs.
CHM371 Analytical Chemistry	4 crs.
CHM381 Intermediate Inorganic Chemistry	3 crs.

Professional Education Requirements (33 crs.)

TCH207 Organizational and Psychological Foundations in Secondary Education	3 crs.
EDU440 Teaching Science in the Secondary School	3 crs.
EDU441 Curriculum and Evaluation in the Secondary Science Classroom	3 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.
EEC273 Introduction to Exceptionality	3 crs.
EEC423 Effective Instructional Strategies	3 crs.
EEC483 Assessing Students with Exceptionalities	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.

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.

MAT211 Calculus I <i>and</i> MAT212 Calculus II	4 crs.
PHY205/PHY123 Intermediate Physics I & lab <i>and</i> PHY206/PHY125 Intermediate Physics II & lab	4 crs.
BIO161 Principles of Biology: Cell Structure and Function	4 crs.

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: 121, 122, 123, 124, 221, 222, 223, 224, 301, 324, 361, 362, 371, 381, and 4XX (any 400-level course), 2 credits in Introduction to Research and 1 credit in Chemistry Seminar. Additional requirements are mathematics through MAT212, a computer skills course meeting the requirements as specified by the department (CSC103 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.

Chemistry Minor - 23-27 crs.**Required (23-27 crs.)**

CHM121 Chemical Bonding	3 crs.
CHM123 Laboratory IA Chemical Systems	1 cr.
<i>or</i>	
CHM125 Laboratory IB Stoichiometry and Reactions	1 cr.
CHM122 Chemical Dynamics	3 crs.
CHM124 Laboratory IIA Experimental Quantitative Analysis	3 crs.
<i>or</i>	
CHM126 Laboratory IIB Equilibrium and Instrumentation	1 cr.
CHM221 Modern Organic Chemistry	3 crs.
CHM223 Laboratory IIIA Experimental Organic Techniques	1 cr.
<i>or</i>	
CHM225 Laboratory IIIB Basic Organic Techniques	1 cr.
CHM222 Modern Organic Chemistry II	3 crs.

CHM224 Laboratory IVA Qualitative Organic	3 crs.
<i>or</i>	
CHM226 Laboratory IVB Experimental Organic Studies	1 cr.
7 additional chemistry course credits at the 300 <i>or</i> 400 level	7 crs.

Biochemistry Minor - 24/28 crs.**Required (24/28 crs.)**

CHM121 Chemical Bonding	3 crs.
CHM123 Laboratory IA Chemical Systems	1 cr.
<i>or</i>	
CHM125 Laboratory IB Stoichiometry and Reactions	1 cr.
CHM122 Chemical Dynamics	3 crs.
CHM124 Laboratory IIA Experimental Quantitative Analysis	3 crs.
<i>or</i>	
CHM126 Laboratory IIB Equilibrium and Instrumentation	1 cr.
CHM221 Modern Organic Chemistry	3 crs.
CHM223 Laboratory IIIA Experimental Organic Techniques	1 cr.
<i>or</i>	
CHM225 Laboratory IIIB Basic Organic Techniques	1 cr.
CHM222 Modern Organic Chemistry II	3 crs.
CHM224 Laboratory IVA Qualitative Organic	3 crs.
<i>or</i>	
CHM226 Laboratory IVB Experimental Organic Studies	1 cr.
CHM301 Biochemistry I	3 crs.
CHM420 Biochemistry II	3 crs.
CHM421 Biochemistry Lab	1 cr.
CHM496 Introduction to Research	1 cr.

Communication/Journalism 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.

Communication/Journalism (B.A.)

Communication/Journalism Major (33–39 crs.)

The Communication/Journalism major may take no fewer than 33 credits and no more than 39 credits of communication/journalism courses towards the 120 needed for graduation. The 33–39 credits consist of a theory and writing core (15 crs.), a professional emphasis core (12 crs.), and departmental electives (6–12 crs.).

Each student must also select a 15 credit concentration in another department. This requirement may be satisfied by the selection of a minor. Only 12 transfer credits may be counted toward the 33–39 credits taken in the major.

Theory and Writing Core (15 crs.)

Each student must complete the following two courses with a C or better grade before taking any other communication/journalism courses:

- COM111 Introduction to Mass Communication
- COM112 Media Writing

Each student must have the appropriate class standing before taking the final two core courses (6 crs.):

- COM245 Diversity & the Media
- COM345 Communication Law & Ethics
- COM355 Professionalism Practicum

Professional Emphasis (12 crs.) in one of the following areas*

Public Relations

- COM201 Principles of Public Relations
- COM241 Public Relations Writing
- COM381 Promotional Publication Design
- COM432 Public Relations Research & Campaigns

Print Media

- COM285 News Writing and Reporting
- COM293 Editing
- COM375 Public Affairs Reporting
- COM478 Digital Journalism

Electronic Media

- COM224 Electronic Media Writing
- COM284 Electronic Media Basic Production
- COM424 Electronic Media Producing & Performance
- COM484 Electronic Media Programming & Management

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.

*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.

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.

Communication/Journalism Electives (6–12 crs.)

Each student will choose electives to add depth to his/her professional emphasis or gain generalized communication knowledge. Students can choose from the other two professional emphases or from the elective courses listed below:

- COM290 Advertising Copy Writing
- COM335 Media Advertising and Sales
- COM360 Basic Digital Photographic Communication
- COM362 Photojournalism
- COM370 Television Production

The following elective courses require junior or senior status:

- COM395 Internship I
- COM396 Internship II
- COM410 Women & the Media
- COM425 Feature Writing
- COM451 Electronic Field Production
- COM452 Electronic News Gathering
- COM460 Case Studies in Public Relations
- COM470 Advanced Digital Photographic Communication
- COM476 Magazine Design
- COM481 Interactive Media Design
- COM482 Internet Communication
- COM490, 491, 492 Selected Topics in Comm/Journ

Note: Internship I & II (1–3 crs.) 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.

Interdisciplinary Electives

Each student must select a 15 credit hour concentration in a second discipline from the interdisciplinary electives category. This requirement may be satisfied by the selection of a minor.

All Communication/Journalism majors are required to complete MAT117 Applied Statistics.

Communication/Journalism Minor - 18 crs.

Required Core Courses (12 crs.)

- COM111 Introduction to Mass Communication
- COM112 Media Writing
- COM245 Diversity & the Media
- COM345 Communication Law

Elective Courses (6 crs.)

Students enrolled in the minor may take any two 200–400 level 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.

Computer Science (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

MAT211 Calculus I	4 crs.
MAT225 Discrete Mathematics	4 crs.
MAT313 Statistics I	4 crs.
MAT318 Elementary Linear Algebra	3 crs.

Computer Science

CSC110,107 Computer Science I Lecture & Lab	4 crs.
CSC111 Computer Science II	4 crs.
SWE210 Design Patterns	4 crs.
CMPE220 Computer Organization	4 crs.
CSC310 Design and Analysis of Algorithms	4 crs.
CMPE320 Operating Systems	4 crs.
CSC371 Database Management	4 crs.
CSC498 Senior Research Methods	2 crs.
CSC499 Senior Research and Development	2 crs.

Additional Requirements (approx. 20 crs.)

CSC350 Introduction to Computer Graphics	4 crs.
CSC401 Simulation Techniques	4 crs.
CSC431 Computer Networks	4 crs.
CSC440 Compiler Design	4 crs.
CSC462 Artificial Intelligence	4 crs.

Concentrations

Students who wish to specialize in a particular area of computer science may opt for study in a concentration. Students may choose from pre-approved concentrations or seek department approval for a concentration of their own design. The decision to pursue a concentration is typically made during the sophomore year.

The pre-approved concentrations include:

- *Computer Graphics*, for the development of graphics intensive software;
- *Embedded Programming*, for developing software for embedded controllers;
- *Related Discipline*, for those students who would like to combine computer science with another discipline such as business, science, etc.

Concentration Requirements (approx. 20 crs.)

Students who select to pursue a concentration will take courses relevant to their concentration in lieu of the five courses listed in the Additional Requirements.

Computer Graphics Concentration

CSC350 Introduction to Computer Graphics	4 crs
CSC450 Advanced Computer Graphics	4 crs
CSC451 Computer Graphics Algorithms	4 crs
Math/CSC/SWE Elective	3 crs.
ART217 Computer Design I	3 crs.

Choose two:

ART306 Computer Design II	3 crs.
ART319 Computer Design III	3 crs.
ART425 Computer Design IV	3 crs.

Embedded Programming Concentration

CMPE322 Microcontrollers & Interfaces	4 crs.
CSC401 Simulation Techniques	4 crs.
CMPE410 Real-Time and Mobile Computing	4 crs.
CMPE420 Digital and Reconfigurable Computing	4 crs

Choose one:

CSC431 Computer Networks	4 crs.
CSC440 Compiler Design	4 crs.
CSC463 Introduction to Robotics	4 crs

Related Discipline Concentration

CSC/SWE Electives*	12 crs.
Major/Minor in other discipline	

**No electives can overlap with your other major/minor*

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.

Course Sequencing

A typical first year sequence for all computer science majors is given below:

Semester I

Computer Science I	4 crs.
Calculus I*	4 crs.
Three general education courses	9 crs.

Semester II

Computer Science II	4 crs.
Discrete Mathematics	4 crs.
Two general education courses	6 crs.

**Students unable to begin with Calculus I may be required to take MAT175 Precalculus.*

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 accreditation standards. Generally, the curriculum requires 20 credits of computer engineering, 12 credits of computer science, 6 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

Physics (20 crs.)

PHY205/123 Physics I	3 crs.
PHY206/125 Physics II	3 crs.
PHY311 Quantum I	4 crs.
PHY325 Semiconductor Devices	4 crs.
PHY355 Electronics	4 crs.

Mathematics (23 crs.)

MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.
MAT213 Calculus III	4 crs.
MAT225 Discrete Mathematics	4 crs.
MAT313 Statistics I	4 crs.
MAT322 Differential Equations	3 crs.

Computer Science & Engineering (32 crs.)

CSC110 Computer Science I - Lecture	3 crs.
CSC107 Computer Science I - Lab (Majors)	1 cr.
CSC111 Computer Science II	4 crs.
CMPE220 Computer Organization	4 crs.
CMPE320 Operating Systems	4 crs.
CMPE322 Microcontrollers and Interfaces	4 crs.
CMPE410 Real-Time and Mobile Development	4 crs.
CMPE420 Digital and Reconfigurable Computing	4 crs.
CMPE498 Engineering Research Methods	2 crs.
CMPE499 Engineering Design and Development	2 crs.

Electives (8 crs.)

CS or Engineering Elective/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.

Mathematics

MAT211 Calculus I	4 crs.
MAT225 Discrete Mathematics	4 crs.
MAT313 Statistics I	4 crs.
MAT318 Elementary Linear Algebra	3 crs.

Computer Science

CSC110/107 Computer Science I	4 crs.
CSC111 Computer Science II	4 crs.
CSC310 Design & Analysis of Algorithms	4 crs.
CPE220 Computer Organization	4 crs.
CSC310 Design & Analysis of Algorithms	4 crs.
CSC371 Database Management	4 crs.
CSC431 Computer Networks	4 crs.

Computer Engineering

CPE220 Computer Organization	4 crs.
CMPE320 Operating Systems	4 crs.

Software Engineering

SWE200 Design Patterns	4 crs.
SWE300 Crafting Quality Code	4 crs.
SWE310 Software Metrics/Process Management	4 crs.
SWE400 Large Scale Architectures	4 crs.
SWE420 Extreme Programming	4 crs.

Electives

CSC, CMPE or SWE Elective	4 crs.
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Computer Science Minor - 20 crs.

Core Courses (20 crs.)

CSC110/107 Computer Science I	4 crs.
CSC111 Computer Science II	4 crs.
CSC211 Design Patterns	4 crs.
CSC220 Computer Organization	4 crs.
or	
CSC371 Database Management Systems	4 crs.
___ Computer Science Elective	4 crs.

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.

Disability Studies Minor – 18 crs.

Core Requirements (6 crs.)

DS100 Introduction to Disability Studies
DS400 Capstone in Disability Studies

Approved Electives (12 crs.)

ANT350 Medical Anthropology
COM245 Diversity and the Media
EEC273 Introduction to Exceptionalities
EEC423 Effective Instructional Strategies
EEC444 Formal/Informal Assessment of Individuals
EEC445 Proactive Approaches for Classroom
EEC447 Special Education Topics
EEC483 Assessing Children with Exceptionalities
EEC490 Special Education Selected Topics
ENG250 Introduction to Literature (designated sections)
ENG394/490 Selected Topics as appropriate
GRN100 Introduction to Gerontology
HON411 Honors Introduction to Exceptionalities
HCS333 Communicating Identity
HCS335 Popular Culture and Gender Construction
HCS410 Feminist Perspectives on Communication
MGT340 Human Resource Management
MGT346 Human Resource Management Law
PLS374 Public Service Ethics
PSY355 Psychology of the Exceptional Child
PSY365 Multicultural Psychology
SWK265 Understanding Diversity for SW Practice
SWK347 Special Fields of SW- Behavioral health
SWK351 Special Fields of SW- Aging
SWK356 Special Fields – Developmental Disabilities
SWK420 Gender Issues for Helping Professionals
SWK450 Social Welfare Policies and Services
SOC320 Sociology of the Body/Sociology of Disability
SOC369 Medical Sociology
SOC371 Sociology of Aging
SOC445 Sexuality and Sexual Orientation
SPN150 Spanish Civilization and Culture
SPN490 Women and the City

To complete the Disability Studies minor, students will take the two core courses (DS100 and DS400) and four of the approved electives. At least 50% of the courses must be taken at Shippensburg University.

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.

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 five 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.

Required Economics (27 crs.)

ECO101 Principles of Microeconomics*	3 crs.
ECO102 Principles of Macroeconomics	3 crs.
ECO270 Intermediate Macroeconomics	3 crs.
ECO280 Managerial Economics	3 crs.
Economics Electives at the 300-level or higher	15 crs.

**Students taking Principles of Economics (4 credits) should not take Principles of Microeconomics or Macroeconomics. 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, 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

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.

Required Mathematics/Statistics (9–11 crs.)

MAT140 Finite Mathematics	3 crs.
MAT181 Applied Calculus	
<i>or</i>	3–4 crs.
MAT211 Calculus I	
MAT117 Applied Statistics	
<i>or</i>	
MAT313 Statistics I	3–4 crs.
<i>or</i>	
SCM200 Statistical Applications in Business**	

Required Business Courses (18 crs.)

ACC200 Fundamentals of Accounting	3 crs.
FIN311 Financial Management	3 crs.
MGT305 Organizational Behavior	3 crs.
MKT305 Principles of Marketing	3 crs.

Plus three credits from either a finance or accounting course, and three additional College of Business credits. Students will have completed the required 18 credits for the business minor.

** Requires ISM142 Business Computer Systems (3 credits) as a prerequisite.

Mathematics Concentration

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 Mathematical Economics and Econometrics as economics electives.

Required Math/Statistics Courses (21 crs.)

MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.
MAT313 Statistics I	4 crs.

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 one of these additional courses must be at the 300-level. Students will have completed the required 21 credits for the mathematics minor.

MAT213 Calculus III
MAT225 Discrete Mathematics
MAT318 Elementary Linear Algebra
MAT322 Differential Equations
MAT413 Statistics II
MAT425 Advanced Algebraic Structures

Political Science Concentration

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.

Required Math/Statistics Courses (10–11 crs.)

MAT140 Finite Mathematics	3 crs.
MAT181 Applied Calculus	
<i>or</i>	
MAT211 Calculus I	3–4 crs.
MAT117 Applied Statistics	
<i>or</i>	
MAT313 Statistics I	4 crs.

Required Political Science Courses (18 crs.)

PLS100 U.S. Government and Politics
PLS201 Introduction to Political Science
PLS300 Advanced U.S. Government: Institution of Public Policy
PLS301 Political Science Research Methods <i>or</i>
PLS302 Public Policy

Plus six additional political science credits, three of which must be at the 300-level or higher. Students will have fulfilled the requirements for the minor in Political Science.

Public Administration Concentration

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.

Required Math/Statistics Sequence (10–11 crs.)

MAT140 Finite Mathematics	3 crs.
MAT181 Applied Calculus	
<i>or</i>	
MAT211 Calculus I	3–4 crs.
MAT117 Applied Statistics	
<i>or</i>	
MAT313 Statistics I	4 crs.

Required Public Administration Courses (18 crs.)

PLS100 U.S. Government and Politics	3 crs.
PLS271 Introduction to Public Administration	3 crs.
PLS300 Advanced U.S. Government: Institutions and Public Policy	3 crs.
PLS371 Public Management <i>or</i>	
PLS373 Public Financial Administration	3 crs.

Plus three additional Public Administrative credits from among the following:

PLS231 State and Local Government
PLS371 Public Management
PLS372 Public Personnel Administration
PLS374 Public Service Ethics

Plus three additional political science or public administrative credits to fulfill the requirements for the minor.

Social Science Concentration

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.

Required Mathematics Sequence (10–11 crs.)

MAT140 Finite Mathematics	
<i>or</i>	
MAT175 Precalculus	3 crs.
MAT181 Applied Calculus	
<i>or</i>	
MAT211 Calculus I	3–4 crs.
MAT117 Applied Statistics	
<i>or</i>	
MAT313 Statistics I	4 crs.

Allied Fields (18 crs.)

Students concentrating in the social sciences must take the following courses and credits in the appropriate allied fields.

Political Science	6 crs.
PLS100 U.S. Government and Politics	
Political Science elective at the 300-level or higher, with advisement	
Sociology or Anthropology	6 crs.
SOC101 Introduction to Sociology: Society & Diversity	
<i>or</i>	
ANT111 Cultural Anthropology	
Plus a 300-level elective in either disciplines selected, with advisement	
Geography, History, or Philosophy	6 crs.
Two courses from one of these disciplines inclusive of a 300-level elective selected, with advisement.	

Economics Minor - 18 crs.

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

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, which can be selected to complement your major.

Non-business Majors

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 ECO101, ECO102 and four additional electives. One of these can be used for general education category D. Many students already have a sequence in economics required as related work 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, ACC200, ACC201, BSL261, ISM142, and SCM200 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.)

ECO101 Principles of Macroeconomics
ECO102 Principles of Microeconomics

Electives (12 crs.)

Course selected by advisement.

English Department

The Department of English offers undergraduate programs leading to the Bachelor of Arts degree. Students who graduate with a B.A., 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.

English (B.A.)

English (39 crs.)

For assessment and career development purposes, all English majors are required to maintain a portfolio representing their written work in courses at all levels (including ENG107 and a course at the 200, 300 and 400 levels).

Students must take one theory-criticism course, choosing among ENG304, ENG333, ENG336, ENG343 or ENG466.

Designated courses may double-count for the Historical Focus and Multicultural requirement; however, total hours for the requirement do not change. See course descriptions in the department advising material; designations change each semester, depending upon course content.

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 (21 crs.)

ENG107 Literary Studies I	3 crs.
ENG111 Literary Studies II	3 crs.
ENG233 American Literature I	3 crs.
ENG234 American Literature II	3 crs.
ENG236 British Literature I	3 crs.
ENG237 British Literature II	3 crs.
ENG330 Shakespeare	3 crs.

Multicultural Literature (3 crs.)

ENG240 World Literature	3 crs.
ENG345 Women's Literature	3 crs.
ENG358 Ethnic Literature	3 crs.
ENG370 Queer Studies	3 crs.
ENG375 African-American Literature	3 crs.

Language, Writing, and Criticism (3 crs.)

ENG238 Technical/Professional Writing I	3 crs.
ENG304 Literary Criticism	3 crs.
ENG307 Poetry Writing	3 crs.
ENG308 Fiction Writing	3 crs.
ENG323 Reviewing the Arts	3 crs.
ENG333 Cultural Studies	3 crs.
ENG335 Creative Nonfiction Writing	3 crs.
ENG336 Theories & Approaches: Language, Learning, & Literacy	3 crs.
ENG420 Studies in Writing	3 crs.
ENG427 Advanced Poetry Workshop	3 crs.
ENG428 Advanced Fiction Workshop	3 crs.
ENG438 Technical/Professional Writing II	3 crs.

Literary Traditions (9 crs.) (*at least one must be pre-1800*)

ENG256 Introduction to Mythology	3 crs.
ENG318 Studies in English Renaissance Literature	3 crs.
ENG376 Studies in Medieval Literature	3 crs.
ENG377 Studies in Restoration and 18th Century Literature	3 crs.
ENG378 Studies in Early American Literature	3 crs.
ENG380 Studies in 19th Century British Literature	3 crs.
ENG381 Studies in 19th Century American Literature	3 crs.
ENG382 Studies in 20th Century British Literature	3 crs.
ENG383 Studies in 20th Century American Literature	3 crs.
ENG385 Studies in Literature of the Postcolonial World	3 crs.
ENG394 Selected Topics	3 crs.

Seminar (3 crs.)

ENG464 Seminar in Major Author	3 crs.
ENG465 Seminar in Creative Nonfiction	3 crs.
ENG466 Seminar in Literary Theory	3 crs.
ENG467 Seminar in Drama	3 crs.
ENG468 Seminar in Fiction	3 crs.
ENG469 Seminar in Poetry	3 crs.
ENG490 Seminar in Selected Topics	3 crs.

English (B.A.) with Writing Emphasis**English (42 crs.)**

For assessment and career development purposes, all English majors are required to maintain a portfolio representing their written work in courses at all levels (including ENG107 and a course at the 200, 300 and 400 levels).

Designated courses may double-count for the Historical Focus and Multicultural requirements; however, total hours for the requirement do not change. See course descriptions in the department advising material; designations change each semester, depending upon course content.

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 (21 crs.)

ENG107 Literary Studies I	3 crs.
ENG111 Literary Studies II	3 crs.
ENG233 American Literature I	3 crs.
ENG234 American Literature II	3 crs.
ENG236 British Literature I	3 crs.
ENG237 British Literature II	3 crs.
ENG330 Shakespeare	3 crs.

Multicultural Literature (3 crs.)

ENG240 World Literature	3 crs.
ENG345 Women's Literature	3 crs.
ENG358 Ethnic Literature	3 crs.
ENG370 Queer Studies	3 crs.
ENG375 African-American Literature	3 crs.

Writing (9 crs.)

ENG238 Technical/Professional Writing I	3 crs.
ENG307 Poetry Writing	3 crs.
ENG308 Fiction Writing	3 crs.
ENG323 Reviewing the Arts	3 crs.
ENG335 Creative Nonfiction Writing	3 crs.
ENG420 Studies in Writing	3 crs.
ENG427 Advanced Poetry Workshop	3 crs.
ENG428 Advanced Fiction Workshop	3 crs.
ENG438 Technical/Professional Writing II	3 crs.

Literary Traditions (6 crs.) (*at least one must be pre-1800*)

ENG256 Introduction to Mythology	3 crs.
ENG318 Studies in English Renaissance Literature	3 crs.
ENG376 Studies in Medieval Literature	3 crs.

ENG377 Studies in Restoration/ 18th Century Literature	3 crs.
ENG378 Studies in Early American Literature	3 crs.
ENG380 Studies in 19th Century British Literature	3 crs.
ENG381 Studies in 19th Century American Literature	3 crs.
ENG382 Studies in 20th Century British Literature	3 crs.
ENG383 Studies in 20th Century American Literature	3 crs.
ENG385 Studies in Literature of the Postcolonial World	3 crs.
ENG394 Selected Topics	3 crs.

Seminar (3 crs.)

ENG464 Seminar in Major Author	3 crs.
ENG465 Seminar in Creative Nonfiction	3 crs.
ENG466 Seminar in Literary Theory	3 crs.
ENG467 Seminar in Drama	3 crs.
ENG468 Seminar in Fiction	3 crs.
ENG469 Seminar in Poetry	3 crs.
ENG490 Seminar in Selected Topics	3 crs.

English (B.A.) with Secondary Certification**English (39 crs.)**

For assessment and career development purposes, all English majors are required to maintain a portfolio representing their written work in courses at all levels (including ENG107 and a course at the 200, 300, and 400 levels).

Designated courses may double-count for the Historical Focus and Multicultural requirements; however, total hours for the requirement do not change. See course descriptions in the department advising material; designations change each semester, depending upon course content.

Students receiving certification must take one course in world literature (ENG240 or ENG385).

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.)

ENG107 Literary Studies I	3 crs.
ENG111 Literary Studies II	3 crs.
ENG233 American Literature I	3 crs.
ENG234 American Literature II	3 crs.
ENG236 British Literature I	3 crs.
ENG237 British Literature II	3 crs.
ENG330 Shakespeare	3 crs.
ENG366 History and Structure of the English Language	3 crs.
ENG426 Teaching Adolescent Literature	3 crs.

Multicultural Perspectives (3 crs.)

ENG240 World Literature	3 crs.
ENG385 Studies in Literature of the Postcolonial World	3 crs.

Topics and Approaches (6 crs.) (*1 pre-1800, 1 post-1800*)

ENG256 Introduction to Mythology	3 crs.
ENG318 Studies in English Renaissance Literature	3 crs.
ENG376 Studies in Medieval Literature	3 crs.
ENG377 Studies in Restoration/18th Century Literature	3 crs.
ENG378 Studies in Early American Literature	3 crs.
ENG380 Studies in 19th Century British Literature	3 crs.
ENG381 Studies in 19th Century American Literature	3 crs.
ENG382 Studies in 20th Century British Literature	3 crs.
ENG383 Studies in 20th Century American Literature	3 crs.
ENG385 Studies in Literature of the Postcolonial World	3 crs.
ENG394 Selected Topics	3 crs.

Seminar (3 crs.)

ENG464 Seminar in Major Author	3 crs.
ENG465 Seminar in Creative Nonfiction	3 crs.
ENG466 Seminar in Literary Theory	3 crs.
ENG467 Seminar in Drama	3 crs.
ENG468 Seminar in Fiction	3 crs.
ENG469 Seminar in Poetry	3 crs.
ENG490 Seminar in Selected Topics	3 crs.

Professional Education Requirements (33 crs.)

TCH207 Organizational and Psychological Foundations in Secondary Education	3 crs.
EDU290 Introduction to English/Language Arts Education	3 crs.
EEC273 Introduction to Exceptionality	3 crs.
EEC423 Effective Instructional Strategies	3 crs.
EEC483 Assessing Students for Curricular Decision-Making	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.
EDU422 Teaching English	3 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.

English Minor - 18 crs.**Required (3 crs.)**

ENG107 Literary Studies I

Literary Studies I 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

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.

Ethnic Studies Minor - 18 crs.

To minor in Ethnic Studies, students must take all three core classes and three approved electives.

Core Requirements (9 crs.)

ETH100 Introduction to Ethnic Studies	3 crs.
ETH101 Introduction to African-American Studies	3 crs.
ETH102 Introduction to Latino Studies	3 crs.

Approved Electives (9 crs.)

ANT111 Cultural Anthropology	
ANT341 North American Indians	
ART274 Introduction to Cultural Studio	
CRJ411 Terrorism	
CRJ452 Race, Ethnicity, and Crime	
CRJ464 Popular Culture, Crime, and Justice	
ENG248 Introduction to Culturally Diverse Literature of the U.S.	
ENG358 Ethnic Literature	
ENG375 African-American Literature	
ETH390 Internship	
GRN480 Valuing Diversity in Later Life	
HIS305 History of the Civil War Era	
HIS341 African-American History	

HIS342 Immigration and Ethnicity	
HCS270 Intergroup/Intercultural Communication	
HCS310 African American Communication	
HCS315 Asian American Communication	
HCS356 Rhetoric of African American Struggle and Progress	
MUS261 World Music	
PLS325 African American Politics	
PSY365 Multicultural Psychology	
PSY447 Multicultural Health	
SOC243 Minority Groups	
SOC351 Race Relations	
SWK102 Work in Social Welfare	
SWK250 Assessing Individuals in the Social Environment	
SWK265 Understanding Diversity for Social Work Practice	
TCH255 Multicultural Issues and Strategies in Basic Education	

To complete a minor in Ethnic Studies, students must take all three of the core classes. Two courses must be taken from at least two different disciplines. All courses must be taken at Shippensburg University.

Ethnic Studies Letter of Completion - 12 crs.

To complete the letter of completion in Ethnic Studies, students must take Introduction to Ethnic Studies (ETH100) 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.

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. 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, 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 location is important, there are reasons why areas and places are different physically and culturally, and knowledge of how territory is organized and changed is a key problem in science and society. 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 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.

Geography (B.S.)

Land Use, Geographic Information Systems (GIS) and Human-Environmental Studies concentrations. A 12-credit Geographic Information Systems (GIS) Letter of Completion Program is also offered.

Geography (15 crs.)

Core courses required for all concentrations-Land Use, Human-Environmental Studies and GIS.

Core courses (required):

GEO105 Physical Geography	3 crs.
GEO202 GIS I: Introduction to Geographic Information Systems	3 crs.
GEO230 Economic Geography	3 crs.
GEO322 Urban Geography	3 crs.
<i>or</i>	
GEO 244 Land Use	3 crs.
GEO391 Geography Seminar	3 crs.

Land Use Concentration (18 crs.)

<i>Required</i>	
GEO444 Environmental Land Use Planning	3 crs.
<i>Select five of the following:</i>	
ESS214 Geology of National Parks	3 crs.
ESS442 Environmental Geology	3 crs.
GEO326 Political Geography	3 crs.
GEO310 Transportation Geography	3 crs.
ESS413 Mineral and Rock Resources	3 crs.
GEO339 Remote Sensing	3 crs.
GEO314 Industrial Geography	3 crs.
GEO322 Urban Geography	3 crs.
GEO244 Land Use	3 crs.
GEO320 Historical Geography	3 crs.

Internship (at least 3 credits required)

Allied Courses (15 crs.)

<i>Political Science (6 crs.)</i>	
PLS231 State and Local Government	3 crs.
PLS331 Municipal Government and Administration	3 crs.
PLS431 Pennsylvania Local Government	3 crs.
PLSxxx Political Science course by advisement	
<i>Math-Computer Science (6 crs.)</i>	
<i>Required:</i>	
MAT117 Applied Statistics	4 crs.

Select one:

CSC103 Overview of Computer Science	3 crs.
CSC180 Microcomputer Basic	3 crs.
CSC110 Computer Science I	3 crs.
CSC106 Computer Science I - Lab	1 cr.
<i>Psychology (3 crs.)</i>	
PSY105 Research-Design and Statistics for Behavioral Sciences	3 crs.
<i>or</i>	
GEO441 Quantitative Methods	3 crs.

Human-Environmental Studies Concentration (34+ crs.)

Required:

GEO140 Cultural Geography	3 crs.
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Human Geography Courses (Select two):

GEO244 Land Use (if not in core)	
GEO310 Transportation Geography	3 crs.
GEO314 Industrial Geography	3 crs.
GEO320 Historical Geography	3 crs.
GEO322 Urban Geography (if not in core)	3 crs.
GEO326 Political Geography	3 crs.

Environmental Courses (Select one):

GEO301 Introduction to Biogeography	3 crs.
GEO402 Medical Geography	3 crs.
GEO404 Hydrogeology	3 crs.
ESS404 Applied Meteorology/Climatology	3 crs.
ESS442 Environmental Geology	3 crs.
GEO444 Environmental Land Use Planning	3 crs.
GEO446 Water Resources Management	3 crs.

Regional Courses (Select One):

GEO305 Geography of Europe	3 crs.
GEO308 Geography of Latin America	3 crs.
GEO313 Geography of South and Southeast Asia	3 crs.
GEO317 Geography of East Asia	3 crs.
GEO415 Regional Geographic Studies	
GEO450 Geography-Geology Field Study	1-3 crs.
<i>Technique Courses (Select one):</i>	
GEO339 Remote Sensing	3 crs.
GEO352 Cartography	3 crs.
GEO363 GIS II: Intermediate GIS	3 crs.
GEO420 GIS III: Advanced GIS	3 crs.
GEO425 Image Processing	3 crs.
GEO441 Quantitative Methods	3 crs.
GEO440 Field Techniques	3 crs.

Internship (at least 3 credits required)

Allied Courses (12 crs.)

<i>Math (Required):</i>	
MAT117 Applied Statistics	4 crs.
<i>Political Science-Economics (6 Credits)</i>	
Select one:	
PLS231 State and Local Government.	3 crs.
PLS341 International Law and Org	3 crs.
PLS384 Regional and Urban Planning	3 crs.
Select one:	
ECO321 International Economics	3 crs.
ECO325 Globalization	3 crs.
ECO340 Introduction to Regional Economics	3 crs.
ECO355 Environmental Economics	3 crs.
<i>Anthropology-Sociology (6 crs.)</i>	
<i>Select one:</i>	
ANT211 Comparative Cultures	3 crs.
ANT220 Anthropology for International Studies	3 crs.
<i>Select one:</i>	
SOC220 Social Stratification	3 crs.
SOC241 Contemporary Social Problems	3 crs.
SOC363 Population Sociology	3 crs.
SOC364 Urban Sociology	3 crs.

Geographic Information Systems Concentration (18 crs.)*Required*

GEO352 Cartography	3 crs.
GEO363 GIS II: Intermediate GIS	3 crs.
GEO420 GIS III: Advanced GIS	3 crs.
Select three:	
GEO339 Remote Sensing	3 crs.
GEO425 Image Processing	3 crs.
GEO440 Field Techniques	3 crs.
GEO441 Quantitative Methods	3 crs.
400-level Geography elective	3 crs.

Internship (at least 3 credits required)**Allied Courses (15 crs.)***Select one:*

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
CHM103 Chemistry: A Cultural Approach	3 crs.
CHM105 Chemistry: Observational Approach	3 crs.
CHM121 Chemical Bonding	3 crs.
PHY121 Introductory Physics I	3 crs.
PHY150 Engineering Graphics	3 crs.
PLS231 State and Local Government	3 crs.
PLS271 Introduction to Public Administration	3 crs.
PLS302 Public Policy Analysis	3 crs.

Select two:

CSC110 Computer Science I	3 crs.
CSC106 Computer Science I - Lab	1 cr.
CSC111 Computer Science II	4 crs.
ISM240 Introduction to Programming Concepts	3 crs.
ISM300 Information Technology and Business Operations.	3 crs.
ISM355 Database Applications	3 crs.

Select one:

ART215 Color and 2D Design	3 crs.
ART217 Computer Design I	3 crs.
<i>Required:</i>	
MAT117 Applied Statistics	4 crs.

Geoenvironmental Studies (B.S.)**Geography-Earth Science (39 crs.)****Required Core Courses (15 crs.)**

ESS210 Physical Geology	3 crs.
ESS355 Meteorology	3 crs.
GEO224 Soils	3 crs.
GEO226 Hydrology	3 crs.
GEO391 Geography Seminar	3 crs.

Geography Electives (6 crs. min.)

GEO230 Economic Geography	3 crs.
GEO244 Land Use	3 crs.
GEO305 Geography of Europe	3 crs.
GEO308 Geography of Latin America	3 crs.
GEO310 Transportation Geography	3 crs.
GEO313 Geography of South and Southeast Asia	3 crs.
GEO314 Industrial Geography	3 crs.
GEO317 Geography of East Asia	3 crs.
GEO320 Historical Geography	3 crs.
GEO322 Urban Geography	3 crs.
GEO450 Geography-Geology Field Study	1-3 crs.

* Regional geography courses may also be counted as electives by advisement.

Geoenvironmental Complex System Electives (9 crs. min.)

GEO301 Biogeography	3 crs.
GEO306 Geomorphology	3 crs.
GEO402 Medical Geography	3 crs.
GEO404 Groundwater and Hydrogeology	3 crs.
GEO444 Environmental Land Use Planning	3 crs.
GEO446 Water Resources Management	3 crs.

GEO450 Geography-Geology Field Study	1-3 crs.
GEO490 Selected Topics	3 crs.
ESS404 Applied Meteorology and Climatology	3 crs.
ESS413 Mineral and Rock Resources	3 crs.
ESS442 Environmental Geology	3 crs.
ESS490 Selected Topics	3 crs.
GEO491 Selected Topics: Environmental Law	3 crs.

Technique Course Electives (6 crs. min.)

GEO202 GIS I: Introduction to Geographic Information Systems	3 crs.
GEO339 Remote Sensing	3 crs.
GEO352 Cartography	3 crs.
GEO363 GIS II: Intermediate GIS	3 crs.
GEO420 GIS III: Advanced GIS	3 crs.
GEO425 Image Processing	3 crs.
GEO440 Field Techniques	3 crs.
GEO441 Quantitative Methods	3 crs.
GEO450 Geography-Geology Field Study	1-3 crs.

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.

GEO203 Climatology	3 crs.
GEO306 Geomorphology	3 crs.
GEO397 Introduction to Research	3 crs.
GEO450 Geography-Geology Field Study	1-3 crs.
GEO490 Selected Topics: Marine Science Consortium Courses	3 crs.
ESS212 Historical Geology	3 crs.
ESS214 Geology of National Parks	3 crs.
ESS220 Oceanography	3 crs.
Geoenvironmental Field Experience	3 crs.

Internship - 2.0 overall and major average required, junior status (60 cr.), must be taken before applying for an internship.

Allied Fields (22+ crs.)**Biology (9-11 credits by advisement)**

At least one course must be taken at or above 200 level

BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity*	4 crs.
BIO145 Problems of the Environment*	3 crs.
BIO208 Field Biology	3 crs.
BIO210 Field Zoology	3 crs.
BIO242 Ecology*	3 crs.
BIO248 Field Natural History*	3 crs.
BIO442 Hydrobiology	3 crs.
BIO448 Field Botany and Plant Taxonomy*	3 crs.

* 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 (7-8 credits by advisement)

CHM105 Chemistry: Observational Approach	3 crs.
CHM121 Chemical Bonding	3 crs.
CHM122 Chemical Dynamics	3 crs.
CHM125 Lab IB Stoichiometry and Reactions	1 cr.
CHM126 Lab IIB Equilibrium and Instrumentation	1 cr.
PHY121 Introductory Physics I + Lab PHY123	4 crs.

Computer Science (3-4 credits by advisement)

CSC103 Overview of Computer Science	3 crs.
CSC180 Microcomputer Basic	3 crs.
CSC110 Computer Science I	3 crs.
CSC106 Computer Science I - Lab	1 cr.
CSC254 Data Structures and Abstract Data Types	4 crs.
BIS142 Introduction to Business Computer Systems	3 crs.

Mathematics (3-4 credits by advisement)

MAT117 Applied Statistics	4 crs.
MAT140 Finite Mathematics	3 crs.
MAT175 Precalculus	4 crs.
MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.

Comprehensive Social Studies (B.S.Ed.)-Geography

Required Courses in Geography (12 crs.)

GEO101 World Geography	3 crs.
ESS110 Introduction to Geology	3 crs.
or	
ESS111 Introduction to the Atmosphere	3 crs.
GEO230 Economic Geography	3 crs.
GEO140 Cultural Geography	3 crs.

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 (34 crs.)

Economics (6 crs.)	
ECO101 Principles of Macroeconomics	3 crs.
ECO102 Principles of Microeconomics	3 crs.
History (9 crs.)	
HIS202 Recent History of the U.S.	3 crs.
HIS105 Historical Foundations of Global Cultures	3 crs.
HIS106 Thinking Historically in a Global Age	3 crs.
Mathematics (4 crs.)	
MAT117 Applied Statistics	4 crs.
Political Science (Government) (9 crs.)	
PLS100 Government and Politics	3 crs.
PLS141 Introduction to International Relations	3 crs.
PLSxxx See department for appropriate course	3 crs.
Psychology (3 crs.)	
PSY101 General Psychology	3 crs.
Cognate Field:(3 crs.)	
One 200-level or above courses from one of the following areas: history, political science, economics or sociology.	3 crs.

Required Professional Courses (33 crs.)

TCH207 Organizational and Psychological Foundations in Secondary Education	3 crs.
EDU412 Teaching of Social Studies I	3 crs.
EDU413 Teaching of Social Studies II	3 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.
EEC273 Introduction to Exceptionality	3 crs.
EEC423 Effective Instructional Strategies	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.
EEC483 Assessing Students for Curricular Decision Making	3 crs.

Required Field Experience (See advisor)

Earth and Space Science (B.S.Ed.)

Major (24 crs.)

Required (12 crs.)	
ESS210 Physical Geology	3 crs.
ESS212 Historical Geology	3 crs.
ESS355 Meteorology	3 crs.
ESS220 Oceanography	3 crs.

Electives in Earth Science (12 crs.)

Allied Fields (36 crs.)

Certification in earth science, general science and environmental education requires the following courses:

Biology (9 hours by advisement)	
BIO145 Problems of the Environment	3 crs.
BIO161 Principles of Biology: Cell Structure and Function	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO208 Field Biology	3 crs.
BIO242 Ecology	3 crs.
BIO248 Field Natural History	3 crs.
BIO311 Ornithology	3 crs.
BIO448 Field Botany and Plant Taxonomy	3 crs.
Chemistry (8 hours for General Science)	
CHM121 Chemical Bonding	3 crs.
CHM125 Lab IB Stoichiometry and Reactions	1 cr.
CHM122 Chemical Dynamics	3 crs.
CHM126 Lab IIB Equilibrium and Instrumentation	1 cr.
Physics (11 hours for General Science)	
PHY108 Astronomy	3 crs.
PHY121 Introductory Physics I/lab	4 crs.
PHY122 Introductory Physics II/lab	4 crs.
Math (8+ hours by advisement)	
MAT117 Applied Statistics	4 crs.
MAT175 PreCalculus	4 crs.
MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.

Professional Education Requirements (34 crs.)

EDU440 Teaching Science in the Secondary Schools	4 crs.
EDU441 Curriculum and Evaluation in the Secondary Science Classroom	3 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.
EEC273 Introduction to Exceptionality	3 crs.
EEC423 Effective Instructional Strategies	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.
TCH207 Organizational and Psychological Foundations in Secondary Education	3 crs.
EEC483 Assessing Students for Curricular Decision Making	3 crs.

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.)

Courses selected by advisement.

Geographic Information Systems Minor - 18 crs.

Required Core (9 crs.)

GEO202 GIS I: Introduction to GIS
GEO363 GIS II: Intermediate GIS
GEO420 GIS III: Advanced GIS

Allied Geo-techniques (6 crs.) Choose two:

GEO339 Remote Sensing
GEO352 Cartography
GEO425 Image Processing
GEO440 Field Techniques
GEO441 Quantitative Methods in Geography

Geography-Earth Science courses (3 crs.) Choose one:

ESS210 Physical Geology
 ESS220 Oceanography
 GEO226 Hydrology
 GEO230 Economic Geography
 GEO244 Land Use
 GEO301 Introduction to Biogeography
 GEO310 Transportation Geography
 GEO322 Urban Geography
 GEO444 Environmental Land Use Planning

Geographic Information Systems (GIS) Letter of Completion - 12 crs.

Required

GEO202 GIS I: Introduction to GIS 3 crs.
 GEO363 GIS II: Intermediate GIS 3 crs.

Select two:

GEO339 Remote Sensing 3 crs.
 GEO352 Cartography 3 crs.
 GEO420 GIS III: Advanced GIS 3 crs.
 GEO425 Image Processing 3 crs.
 GEO440 Field Techniques 3 crs.
 GEO441 Quantitative Methods 3 crs.

Healthcare Administration

Healthcare Administration (B.S.)

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.

Foundation Courses (3 crs.)

HCA400 Introduction to Health Care Systems

Core Courses (12 crs.)

ENG438 Technical Professional Writing II
 ISM300 Information Technology and Business Operations
 MGT305 Organizational Behavior
 HCS385 Resolving Conflict through Communications:

Health Care Professional Courses (12 crs.)

HCA451 Legal Aspects of Health Care
 HCA452 Health Care Financial Management
 HCA453 Human Resources Management for Health Care Administrators
 HCA454 Health Care Strategic Management

Electives (12 crs.)

Health care professional electives selected with advisement from an approved list of courses.

Internship (6 crs.):

Internship or completion of a professional research project

Schedule of Courses

The Bachelor of Science in Healthcare Administration is organized so students take six credits of core courses, professional courses, or health care professional electives during the evening each academic semester.

The remaining required general education or free elective courses may be completed at Harrisburg Area Community College (HACC) or at Shippensburg University. Students may continue to take general education courses while matriculated in the Healthcare Administration program or complete them after finishing the major courses. There are no prerequisite courses required prior to enrollment in HCA400. It is recommended students take algebra or economics as part of the general education courses prior to enrollment in HCA courses. HCA400, the foundation course, is a prerequisite for all other HCA courses.

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.

History (B.A.)

History-Field of Specialization (36 crs.)

Required (18 crs.)

HIS105 Historical Foundations of Global Cultures	3 crs.
HIS106 Thinking Historically in Global Age	3 crs.
HIS201 Early History of U.S.	3 crs.
HIS202 Recent History of U.S.	3 crs.
HIS203 Theory and Practice of History	3 crs.
HIS397 Seminar in Comparative History	3 crs.

Restricted Electives (12 crs.)

American History	3 crs.
European History	3 crs.
Africa/Asia/Latin America	6 crs.

Free Electives in History (6 crs.)

At 300 level or above	6 crs.
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History-Public History Concentration (42 crs.)

Required (18 crs.)

HIS105 Historical Foundations of Global Cultures	3 crs.
HIS106 Thinking Historically in Global Age	3 crs.
HIS201 Early History of U.S.	3 crs.
HIS202 Recent History of U.S.	3 crs.
HIS203 Theory and Practice of History	3 crs.
HIS397 Seminar in Comparative History	3 crs.

Restricted Electives (12 crs.)

American History	3 crs.
European History	3 crs.
Africa/Asia/Latin America	6 crs.

Public History Methods (6 crs.)

Required

HIS319 Introduction to Public History	3 crs.
<i>Select one:</i>	3 crs.

HIS430 Cultural History
or HIS413 Pennsylvania History
or HIS433 Oral History
or HIS390 or HIS490 Selected Topics (with advisement)

Required Internship (6 crs.)

HIS387 or 389 History Internship	3 crs.
HIS391 History Internship	3 crs.

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.

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.

Comprehensive Social Studies (B.S.Ed.) - History

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.)

HIS105 Historical Foundations of Global Cultures	3 crs.
HIS106 Thinking Historically in Global Age	3 crs.
HIS201 Early History of U.S.	3 crs.
HIS202 Recent History of U.S.	3 crs.

Restricted Electives (12 crs.)

American History Elective	3 crs.
European History Elective	3 crs.
Africa/Asia/Latin America/Middle East	6 crs.
<i>Free Electives (6 crs.) at 300 level or above</i>	

Required Allied Social Studies (27 crs.)

Political, Economic and Geographic Science (6 crs.)

ECO101 Principles of Macroeconomics	3 crs.
GEO101 World Geography	3 crs.

Social and Behavior Science (6 crs.)

PSY101 General Psychology	3 crs.
SOC101 Introduction to Sociology	3 crs.

Social Studies Certification Requirements (15 crs.)

GEO103 Geography of U.S. and Canada	3 crs.
PLS100 U.S. Government and Politics	3 crs.
PLS elective	3 crs.

PLS141 or 200- or 300-level. Suggested courses

PLS231, 251 and 300.

Social Science elective 3 crs.

Social Science elective 3 crs.

ANT111, ECO102, INT200, any 200 or 300 level GEO or PLS, any PHL course

Specific General Education Courses for Certification (15+ crs.)

Students must complete a total of two college math courses, two English courses, and a course in environmental science. The following courses, which may also simultaneously count toward the fulfillment of general education requirements, may be used to complete these requirements:

One Writing course

One Literature course

One Environmental Science course

Two Math courses

Required Professional Education Courses (33 crs.)

TCH207 Organizational and Psychological Foundations in Secondary Education	3 crs.
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Course must be completed before EDU412 and EDU413.

RDG413 Teacher Reading to English Language Learners	3 crs.
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EEC273 Introduction to Exceptionalities	3 crs.
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EEC423 Effective Instructional Strategies	3 crs.
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EEC483 Assessing Students w/Exceptionalities	3 crs.
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EDU412 Teaching of Social Studies I*	3 crs.
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EDU413 Teaching of Social Studies II*	3 crs.
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**These two courses must be taken simultaneously.*

EDU495 Student Teaching and Professional Practicum	12 crs.
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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 Minor - 18 crs.

Required (9 crs.)

HIS105 Historical Foundations of Global Cultures

HIS106 Thinking Historically in Global Age

HIS201 Early History of the U.S.

or

HIS202 Recent History of the U.S.

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.

PHL248 History of Ancient and Medieval Philosophy <i>or</i>	
PHL249 History of Modern Philosophy	3 crs.
PHL340 Contemporary Ethics	3 crs.
PHL200 level course except PHL248 or PHL249	3 crs.
PHL300 level course	3 crs.
Remaining courses at any level	6 crs.

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 implications 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 and then 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, communication/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.

Human Communication Studies (B.A.)**Course Offerings (36 crs.)****Required Courses (24 crs.)**

HCS200 Human Communication Theory
HCS210 Public Speaking
HCS250 Interpersonal Communication
HCS270 Intergroup/Intercultural Communication
HCS350 Theories of Organizational Communication
HCS360 Research Methods
HCS370 Rhetorical Criticism
HCS400 Senior Seminar

Major Electives (12 crs. required)

Complete at least 12 credits from the course offering and internships categories below.

Rhetoric & Symbolism

HCS220 Nonverbal Communication
HCS325 Rhetoric of African-American Struggle and Progress
HCS333 Communicating Identity
HCS352 Argumentation and Debate
HCS356 Persuasion
HCS365 Language and Meaning

Organizational Communication

HCS260 Computer-Mediated Communication
HCS280 Professional Communication
HCS305 Communication for Training & Instruction

Cultural Perspectives

HCS310 African-American Communication
HCS315 Asian-American Communication
HCS335 Popular Culture and Gender Construction
HCS340 Gender and Communication
HCS410 Feminist Perspective on Communication Theory and Research Methods

Interpersonal Communication

HCS230 Small Group Communication
HCS240 Interviewing
HCS385 Resolving Conflict through Communication
HCS393 Selected Topics

Internships

(Department Permission Required. Six credits of Internship may apply to major; three credits to Free Electives)

HCS390 HCS Internship I
HCS391 HCS Internship II
HCS392 HCS Internship III

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.

Human Communication Studies Minor**Required Courses (6 crs.)**

HCS200 Human Communication Theory
HCS250 Interpersonal Communication
HCS270 Intergroup/Intercultural Communication
HCS350 Theories of Organizational Communication
HCS360 Research Methods
HCS370 Rhetorical Criticism

Electives (12 crs.)

Select four courses from the following categories with at least two (2) courses from 300 level or above:

Rhetoric & Symbolism

HCS210 Public Speaking
HCS220 Nonverbal Communication
HCS325 Rhetoric of African-American Struggle and Progress
HCS333 Communicating Identity
HCS365 Language and Meaning

Organizational Communication

HCS260 Computer-Mediated Communication
HCS280 Professional Communication
HCS305 Communication for Training & Instruction

Cultural Perspectives

HCS310 African-American Communication
HCS315 Asian-American Communication
HCS335 Popular Culture and Gender Construction
HCS340 Gender and Communication
HCS410 Feminist Perspective on Communication Theory and Research Methods

Interpersonal Communication

HCS230 Small Group Communication
HCS240 Interviewing
HCS385 Resolving Conflict through Communication
HCS393 Selected Topics

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 painting, sculpture, dance, music, theater, film, photography, and creative writing.

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.

Career Opportunities

Although areas of study will vary, the overall goal of the Interdisciplinary Arts Program is to provide its majors with a general context for study of the creative arts, as well as an ability to appreciate, understand, and interpret relationships among the arts. As a result, graduates with a B.A. in Interdisciplinary Arts can enter the arts industry with both a broad-based perspective and a unique combination of professional skills. The program provides its graduates with a foundation for careers in the performing arts, as well as in related professions such as arts education, art and cultural journalism, media production services, arts organization and fundraising, and government and community arts administration.

Interdisciplinary Arts (B.A.)

Foundation Courses

IAP111 Introduction to Interdisciplinary Arts (*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*)

ENG243 The Art of the Film

ENG250 Introduction to Literature

ENG248 Introduction to Culturally Diverse Literature of the U.S.

Three of the following courses: (*One of these (except COM211) will also satisfy a General Education Category B: Humanities requirement, and the other two can be counted either as electives or in the primary or secondary areas of the curriculum track.*)

ART101 Art Appreciation or ART274 Introduction to Cultural Studio

COM111 Introduction to Mass Communications

MUS121 Introduction to Music

THE121 Introduction to Theater

Curriculum Track (42 crs.)

Students must select at least one course from each of the following four categories. These and additional course selections will determine the student's primary area of study (18 credits) and two secondary areas of study (12 credits each, 24 credits total). The primary area and at least one of the secondary areas must be in the arts, and course work in at least three different art forms is required. With permission of the program director, courses in other colleges or departments, special topics courses, internships, or individualized instruction may satisfy certain category requirements. Be aware that some of the courses listed below have prerequisites or require proficiency in another language, and that 40 percent of course work in the major must be at 300-400 level.

A. History and Culture

ART231 Art History I

ART232 Art History II

ART233 Art History III

ART339 History of American Art

DNC145 Historical Perspectives on Dance (Wilson College)

DNC235 History of Women in American Modern Dance (Wilson College)

ENG256 Introduction to Mythology

ENG318 Studies in English Renaissance Literature

ENG375 African-American Literature

ENG376 Studies in Medieval Literature

ENG377 Studies in Restoration and 18th Century British Literature

ENG378 Studies in Early American Literature

ENG380 Studies in 19th Century British Literature

ENG381 Studies in 19th Century American Literature

ENG382 Studies in 20th Century British Literature

ENG383 Studies in 20th Century American Literature

ENG385 Studies in 20th Century World Literature

FRN204 Ideas and Cultures from the French Speaking World
 GER151 German Cinema
 GER204 Ideas and Cultures from the German Speaking World
 SPN204 Ideas and Cultures from the Spanish Speaking World

MUS222 Music History and Literature of the Renaissance and Baroque Periods
 MUS224 Music History and Literature of the Classic and Romantic Eras
 MUS226 20th Century Music
 MUS261 World Music
 MUS315 Music in the United States
 MUS327 Opera and Music Theatre
 MUS330 Women in Music

THE329 Theatre History

B. Theory and Criticism

ART356 Social Structures of Aesthetics, Philosophy, and Criticism in the Arts
 COM345 Communication Law
 ENG304 Literary Criticism
 ENG333 Cultural Studies
 ENG343 Film Criticism
 ENG466 Seminar in Literary Theory

MUS212 Music Theory I
 MUS312 Music Theory II
 MUS380 Basic Conducting

SOC370 Sociology of the Arts

HCS335 Popular Culture and Gender

C. Arts Praxis

ART110 Basic Drawing
 ART210 Drawing II
 ART215 Color and Two-Dimensional Design
 ART218 Three-Dimensional Design
 ART211 Figure Drawing
 ART306 Computer Design II: Illustration
 ART319 Computer Design III: Photo Manipulation and Painting
 ART321 Watercolor I
 ART322 Watercolor II
 ART326 Painting I
 ART327 Painting II
 ART331 Printmaking I
 ART332 Printmaking II
 ART340 Ceramics
 ART341 Advanced Ceramics
 ART370 Sculpture
 ART425 Computer Design IV: Multimedia
 ART430 Computer Design V: Web Design
 ART435 Computer Design VI: Book and Portfolio Design

COM360 Basic Digital Photographic Communication
 COM370 Television Studio Production
 COM470 Advanced Digital Photographic Communication

DNC110 Beginning Ballet (Wilson College)
 DNC151 Beginning Modern Technique (Wilson College)
 DNC231 Intermediate Modern Technique (Wilson College)
 DNC234 Dance Performance Projects (Wilson College)
 DNC270 Intermediate Ballet/Topics in Dance
 DNC362 Advanced Modern Techniques
 DNC370 Advanced Ballet/Topics in Dance

ENG307 Poetry Writing
 ENG308 Fiction Writing
 ENG428 Advanced Creative Writing

MUS110 Fundamental Music Skills
 MUS140 Piano I
 MUS150 Basic Guitar
 MUS260 Voice Class I
 MUS270 Brass Instrument Class
 MUS273 Woodwind Instrument Class
 MUS340 Piano II
 MUS360 Voice Class II
 Performing Ensembles (Brass Ensemble, Concert Band, Concert Choir, Women's Chorale, Jazz Ensemble, Madrigals, Marching Band, Orchestra, Woodwind Ensemble).

THE123 Fundamentals of Acting
 THE222 Acting: Scene Study
 THE229 Introduction to Technical Production
 THE320 Directing
 THE324 Theatre Practicum
 THE327 Costumes and Make-up
 THE395 Theatre Internship

D. Professional Skills

ART217 Computer Design I: Page Composition
 ART385 Senior Art Seminar
 ART400 Contemporary Methods in Art Education

COM112 Media Writing
 COM241 Public Relations Writing
 COM381 Promotional Publication Design
 COM425 Feature Writing
 COM481 Interactive Media Design

ENG209 Creative Nonfiction Writing
 ENG238 Technical/Professional Writing I
 ENG323 Reviewing the Arts for Publication
 ENG438 Technical/Professional Writing II

Senior Capstone (6 crs.)

IAP449 Interdisciplinary Arts Senior Thesis
 IAP451 Interdisciplinary Arts Showcase
or
 IAP452 Interdisciplinary Arts Internship

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.*

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 letters of completion (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.

International Studies (B.A.) - 39 crs.

Required courses INT200 Introduction to International Studies (3 crs.) and INT300 International Studies Seminar (3 crs.) 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:

- a. Comparative & Global Cultures
- b. Global Political Relations *or*
- c. 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:

- a. African & Middle Eastern Studies,
- b. Asian Studies,
- c. European Studies *or*
- d. 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 INT200 and INT300, 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.

Required Courses (6 crs.)

INT200 Introduction to International Studies
INT300 International Studies Seminar*

**HON399 Honors Independent Study may serve as a substitute for INT300 with an appropriate international topic, interdisciplinary research project, and permission of the director.*

Foreign Language Requirement (9-18 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 letter of completion (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 (9 crs.)

All majors must choose one of these two Category E general education courses:

- ANT111 Cultural Anthropology *or*
GEO140 Cultural Geography

Majors with concentrations in Comparative & Global Culture and Global Political Relations must take these two Category D courses:

- GEO101 World Geography
PLS141 Introduction to International Politics

Majors with the Business & Economics Concentration must choose Category D courses from each of the following two choices:

1. ECO101 Principles of Macroeconomics *or* ECO102 Principles of Microeconomics *or* ECO113 Principles of Economics
2. GEO101 World Geography *or* PLS141 Introduction to International Politics

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 & Global Cultures Concentration

ANT150 Introduction to Archaeology
ANT211 Comparative Cultures
ANT220 Anthropology for International Studies
ANT310 Magic, Science and Religion
ANT312 Comparative Marriage & Family
ANT320 Comparative Gender Roles
ANT350 Medical Anthropology
ART231 Art History I
ART232 Art History II
ART233 Art History III
ENG240 World Literature
ENG385 Studies in Literature of the Postcolonial World
GRN480 Valuing Diversity in Later Life
HCS270 Intergroup/Intercultural Communication
HIS407 Women in Comparative Perspective
INT390 International Studies Internship
MUS261 World Music
PHL295 Comparative Religions
PSY365 Multicultural Psychology
PSY447 Multicultural Health Psychology

Global Political Relations Concentration

CRJ411 Terrorism
CRJ463 Comparative Criminal Justice
HIS304 American Diplomatic History
HIS345 Military History of the United States
HIS351 World History Since 1945
INT390 International Studies Internship
PHL230 The Ethics of War and Terrorism
PLS251 Introduction to Comparative Government
PLS341 International Law and Organizations
PLS343 Global Economic and Political Conflict
PLS347 Applied Diplomacy
PLS356 Politics of Developing Regions
PLS357 Comparative Revolution
SOC365 Elites in Society

Global Business & Economics Concentration

ECO321 International Economics
ECO325 Globalization: Issues and Policies
ECO345 The Economics of Growth and Development
**FIN425 Global Financial Management
GEO230 Economic Geography
INT390 International Studies Internship
MGT370 International Business
**MGT349 International Human Resource Administration

MGT470 International Management
 **MKT360 International Marketing
 SCM20 Global Logistics Systems

***Students taking these courses 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.

African & 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.

FRN150 French Civilization
 †FRN204 Ideas and Cultures from the French Speaking World
 †FRN331 Masterpieces of Francophone Literature
 GEO307 Geography of the Middle East and North Africa
 GEO415 Regional Geographic Studies (*requires approval of Director*)
 GEO450 Geography-Geology Field Studies (*requires approval of Director*)
 HIS339 The Central Islamic Lands
 HIS344 Modern Middle East: 1500 to Present
 HIS376 History of Africa South of the Sahara
 HIS410 The Islamic World
 INT390 International Studies Internship

Asian Studies Concentration

An Asian language is required to fulfill the language requirement. Study abroad in Asia is highly recommended.

GEO313 Geography of South and Southeast Asia
 GEO317 Geography of East Asia
 GEO415 Regional Geographic Studies (*requires approval of Director*)
 GEO450 Geography-Geology Field Studies (*requires approval of Director*)
 HCS315 Asian-American Communication
 HIS350 History of Modern Japan
 HIS353 Modern Southeast Asia
 HIS354 Traditional China
 HIS355 History of Modern China
 HIS381 Modern South Asia
 HIS454 China and the Outside World
 INT390 International Studies Internship
 PHL336 Concepts in Buddhism

European Studies Concentration

French, German, Spanish or another continental European language is required to fulfill the requirement. Study abroad in Europe is highly recommended.

ANT351 Peoples and Cultures of Europe
 ENG236 British Literature I 700-1798
 ENG237 British Literature II 1798-1945
 ENG318 Studies in English Renaissance Literature
 ENG376 Studies in Medieval Literature
 ENG377 Studies in Restoration/18th- Century Literature
 ENG380 Studies in 19th-century British Literature
 ENG382 Studies in 20th-century British Literature
 FRN150 French Civilization
 †FRN204 Ideas and Cultures from the French Speaking World
 †FRN320 French for the Professions
 †FRN330 Masterpieces of French Literature
 †FRN340 Genres Littéraires
 †FRN380 Aspects De La Civilisation Française/Francophone
 †FRN392 French Cultural Studies Immersion
 †FRN400 Seminar: Advanced Studies in French Language and Literature

GEO305 Geography of Europe
 GEO415 Regional Geographic Studies (*requires approval of Director*)
 GEO450 Geography-Geology Field Studies (*requires approval of Director*)
 GER150 German Civilization and Culture
 GER151 German Cinema
 †GER204 Ideas and Cultures from the German-Speaking World
 †GER215 German for the Professions
 †GER320 Berlin
 †GER322 Readings in 19th and 20th Century German Literature
 †GER400 German Seminar
 HIS320 Europe in the Early and High Middle Ages: 300 to 1270
 HIS321 Late Medieval Europe: 1270 to 1517
 HIS325 Tsarist Russia
 HIS326 History of USSR
 HIS330 History of Modern Germany
 HIS331 Modern France
 HIS332 England 1066-Present
 HIS348 Rome & the Ancient World
 HIS356 19th Century Europe
 HIS357 History of Holocaust
 HIS423 Issues in 20th Century Europe
 INT390 International Studies Internship
 MUS222 Music of the Renaissance and Baroque Periods
 MUS224 Music of the Classic and Romantic Eras
 PLS351 European Politics
 SPN150 Spanish Civilization and Culture
 †SPN204 Ideas and Cultures from the Spanish Speaking World
 †SPN330 Spanish for the Professions
 †SPN343 Introduction to Literary Study
 †SPN360 Masterpieces of Spanish Literature
 †SPN385 Aspectos De La Civilización Hispana
 †SPN400 Seminar: Advanced Studies in Spanish Language and Literature

Latin American & Caribbean Studies Concentration

Spanish 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.

ANT360 Aztec and Maya Archaeology
 GEO308 Geography of Latin America
 GEO415 Regional Geographic Studies (*requires approval of Director*)
 GEO450 Geography-Geology Field Studies (*requires approval of Director*)
 HIS349 History of Latin America
 HIS360 History of Mexico
 HIS366 History of Brazil
 INT390 International Studies Internship
 PLS347 Applied Diplomacy (with Model Organization of American States topic)
 SPN150 Spanish Civilization and Culture
 †SPN204 Ideas and Cultures from the Spanish Speaking World
 †SPN330 Spanish for the Professions
 †SPN361 Masterpieces of Spanish-American Literature
 †SPN385 Aspectos De La Civilización Hispana
 †SPN400 Seminar: Advanced Studies in Spanish Language and Literature

†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.

International Studies Minor - 21 crs.

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 INT200 and INT300 at Shippensburg University.

Required (6 crs.)

INT200 Introduction to International Studies
INT300 International Studies Seminar

Core courses (6 crs.)

ANT220 Anthropology for International Studies
MGT370 International Business
GEO101 World Geography
PLS141 Introduction to International Politics

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. 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.

Area Studies Letter of Completion - 12 crs. each

- African & Middle Eastern Studies Letter of Completion
- Asian Studies Letter of Completion
- European Studies Letter of Completion
- Latin American Studies Letter of Completion

Required (3 crs.)

INT200 Introduction to International Studies (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. 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.

*International Studies minors and students completing a second letter of completion must choose an appropriate substitute course with the permission of the Director of International Studies.

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.

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 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 in a related discipline or an interdisciplinary sequence and series of allied electives to explore how mathematics can be applied to other disciplines.

Interdisciplinary Sequences and Allied Electives

An interdisciplinary sequence is an 8-9 credit sequence in an area to which math and/or statistics is applied, such as business, psychology, and environmental science. A list of suggested interdisciplinary sequences is maintained by the department. In general, an allied elective is any course at or above the 300 level with prefixes ACC, BIO, CHM, CSC, ECO, ESS, MAT, PHY; the department list includes a few additional courses which may be used for this purpose.

Required Mathematics (29 crs.)

MAT211 Calculus I	4 crs.
MAT212 Calculus II	4 crs.
MAT213 Calculus III	4 crs.
MAT225 Discrete Mathematics	4 crs.
MAT313 Statistics I	4 crs.
MAT318 Elementary Linear Algebra	3 crs.
MAT320 Introduction to Abstract Algebra	3 crs.
MAT430 Complex Analysis	3 crs.
or	
MAT441 Real Analysis	3 crs.

Required Computer Science (3-4 crs.)

CSC180 Microcomputer Basic	3 crs.
or	
CSC110 Computer Science I with CSC106 or CSC107 Lab	3 crs. 1 cr.

Concentration Requirements

Statistics Concentration (29-30 crs.)

MAT413 Statistics II	3 crs.
MAT476 Probability	3 crs.
MAT486 Mathematical Statistics	3 crs.
MAT3xx or 4xx elective	3 crs.
MAT3xx or 4xx elective	3 crs.
Allied Electives and Interdisciplinary Sequence**	14-15 crs.

Applied Math Concentration (29–30 crs.)

MAT322 Differential Equations	3 crs.
MAT326 Mathematical Modeling	3 crs.
Applied Math Elective: One of MAT410, MAT413, MAT421, MAT422, MAT456 or MAT476	3 crs.
MAT4xx elective	3 crs.
MAT4xx elective	3 crs.
<i>Allied Electives and Interdisciplinary Sequence**</i>	14–15 crs.

B.S. without concentration (24–27 crs.)

MAT3xx or 4xx elective	3 crs.
MAT3xx or 4xx elective	3 crs.
MAT3xx or 4xx elective	3 crs.
MAT4xx elective	3 crs.
MAT4xx elective	3 crs.
<i>Three Allied Electives**</i>	9–12 crs.

**These may be replaced by a minor in any discipline.

Secondary Education Certification (45 crs.)

MAT326 Mathematical Modeling	3 crs.
MAT333 Geometry	3 crs.
MAT400 History of Mathematics	3 crs.
MAT4xx elective	3 crs.
<i>Professional Sequence</i>	
RDG413 Teaching Reading to English Language Learners	3 crs.
EEC273 Introduction to Exceptionalities	3 crs.
EEC423 Effective Instructional Strategies	3 crs.
EEC483 Assessing Students for Curricular Decision Making	3 crs.
TCH207 Organizational and Psychological Foundations in Secondary Education	3 crs.
EDU371 Technology in the Mathematics Classroom***	3 crs.
EDU434 Teaching of Mathematics in the Middle Grades and High School I	3 crs.
EDU435 Teaching of Mathematics in the Middle Grades and High School II***	3 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.

***These courses are taken as a block.

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

MAT211 Calculus I
Four General Education courses

Semester II

MAT212 Calculus II
MAT225 Discrete Mathematics
Three General Education courses

Mathematics Minor - 18-21 crs.

The mathematics minor consists of six courses. 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. (*There is one exception: MAT181 may be taken in place of MAT211 for credit toward the minor; however, doing so may restrict your access to some upper-level math courses.*)

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.

French (B.A.)

French (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.)

FRN202 Intermediate French Conversation	3 crs.
FRN204 Ideas and Cultures from the French-Speaking World	3 crs.
FRN211 Intermediate French Grammar	3 crs.
FRN300 Advanced French Conversation	3 crs.
FRN308 Diction et Compréhension	3 crs.
FRN309 French Grammar	3 crs.
FRN316 Composition and Stylistics	3 crs.
FRN330 Masterpieces of French Literature	3 crs.
FRN331 Masterpieces of Francophone Literature	3 crs.
FRN340 Genres littéraires	3 crs.

French Electives (6 crs.)

Two French courses at the 300 or 400 level.

French majors and minors are strongly urged to take history, political science, and geography courses that deal with French-speaking countries.

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.) with Secondary Certification

French (36 crs.)

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.

Required (24 crs.)

FRN202 Intermediate French Conversation	3 crs.
FRN204 Ideas and Cultures from the French-Speaking World	3 crs.
FRN300 Advanced French Conversation	3 crs.
FRN308 Diction and Compréhension	3 crs.
FRN309 French Grammar	3 crs.
FRN316 Composition and Stylistics	3 crs.
FRN330 Masterpieces of French Literature	3 crs.
FRN331 Masterpieces of Francophone Literature	3 crs.
FRN340 Genres littéraires	3 crs.

French Electives (12 crs.)

Four additional French courses at the 300 or 400 level.

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*)

TCH207 Organizational & Psychological Foundations	3 crs.
TCH251 Elements of Middle Level Instruction	3 crs.
EEC273 Introduction to Exceptionality	3 crs.
EEC423 Effective Instructional Strategies	3 crs.

EEC483 Assessing Children with Exceptionalities for Curricular Decision-Making	3 crs.
EDU426 Methods of Teaching Foreign Languages	3 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.

**Secondary Ed majors in French must take a math course to satisfy the Category A requirement. This cannot be the same course used for Required Skills. They must also take an environmental course and two English courses. 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.*

French Minor - 18 crs.

All courses required for the French minor are taught in French. Courses numbered below French 200 do not count for the minor.

Required (12 crs.)

FRN202 Intermediate French Conversation	3 crs.
FRN204 Ideas and Cultures from the French-Speaking World	3 crs.
FRN211 Intermediate French Grammar	3 crs.
FRN309 Advanced French Grammar	3 crs.

Electives (6 crs.)

Two additional French courses at the 300 or 400 level.

French Cultural Studies Minor - 18 crs.

The approach for this minor is interdisciplinary and has less of a focus on language than the standard French minor and more focus on the culture, taught in English. The minor is capped with a summer course in Quebec for culture and language immersion.

Required (12 crs.)

FRN202 Intermediate French Conversation	3 crs.
FRN204 Ideas and Cultures from the French-Speaking World	3 crs.
FRN392 French Cultural Studies Immersion *Course taught in Quebec or France	3 crs.

One of the following French courses:

FRN211 Intermediate French Grammar OR	
FRN308 Diction et Compréhension OR	3 crs.
FRN316 Composition and Stylistics OR	
FRN330 Masterpieces of French Literature OR	
FRN331 Masterpieces of Francophone Literature	

Related Courses (6 crs.)

Two courses chosen from the following:

ANT220 Anthropology for International Studies	3 crs.
ART233 Art History	3 crs.
COM245 Diversity and the Media	3 crs.
ENG240 World Literature	3 crs.
GEO103 Geography of the U.S. and Canada	3 crs.
GEO140 Cultural Geography	3 crs.
GEO305 Geography of Europe	3 crs.
HCS270 Intergroup/Intercultural Communication	3 crs.
HIS320 Europe in the Early and High Middle Ages	3 crs.
HIS321 Late Medieval Europe	3 crs.
HIS331 History of Modern France	3 crs.
MUS222 Music of the Renaissance and Baroque Periods	3 crs.
MUS224 Music of the Classic and Romantic Eras	3 crs.
MUS461 World Music	3 crs.

French Letter of Completion - 12 crs.

Select four courses from the major. Courses selected by advisement.

French Translation Specialization Letter of Completion

In order to be admitted directly to the Translation Specialization 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 Specialization 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.)

FRN202 Intermediate French Conversation	3 crs.
FRN204 Ideas and Cultures from the French-Speaking World	3 crs.
FRN211 Intermediate French Grammar	3 crs.
FRN300 Advanced French Conversation	3 crs.
FRN308 Diction et Compréhension	3 crs.
FRN309 French Grammar	3 crs.
FRN316 Composition and Stylistics	3 crs.
FRN330 Masterpieces of French Literature	
or FRN331 Masterpieces of Francophone Literature	3 crs.
or FRN340 Intro to French Literature and Interpretation	

Spanish (B.A.)

Spanish (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.)

SPN202 Intermediate Spanish Conversation	3 crs.
SPN204 Ideas and Cultures from the Spanish-Speaking World	3 crs.
SPN211 Intermediate Spanish Grammar	3 crs.
SPN302 Advanced Spanish Conversation	3 crs.
SPN309 Spanish Phonetics	3 crs.
SPN312 Advanced Contextualized Grammar	3 crs.
SPN313 Advanced Composition and Stylistics	3 crs.
SPN343 Introduction to Literary Studies	3 crs.
SPN360 Masterpieces of Spanish Literature	3 crs.
SPN361 Masterpieces of Spanish American Literature	3 crs.

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.

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.) with Secondary Certification

Spanish (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 (27 crs.)

SPN202 Intermediate Spanish Conversation	3 crs.
SPN204 Ideas and Cultures from the Spanish-Speaking World	3 crs.
SPN302 Advanced Spanish Conversation	3 crs.
SPN309 Spanish Phonetics	3 crs.
SPN312 Advanced Contextualized Grammar	3 crs.
SPN313 Advanced Composition and Stylistics	3 crs.
SPN343 Introduction to Literary Studies	3 crs.
SPN360 Masterpieces of Spanish Literature	3 crs.
SPN361 Masterpieces of Spanish American Literature	3 crs.

Spanish Electives (9 crs.)

Three 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*)

TCH207 Organizational & Psychological Foundations	3 crs.
TCH251 Elements of Middle Level Instruction	3 crs.
EEC273 Introduction to Exceptionality	3 crs.
EEC423 Effective Instructional Strategies	3 crs.
EEC483 Assessing Children with Exceptionalities for Curricular Decision-Making	3 crs.
EDU426 Methods of Teaching Foreign Languages	3 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.

*Secondary Ed majors in Spanish must take a math course to satisfy the Category A requirement. This cannot be the same course used for Required Skills. They must also take an environmental course and two English courses. 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.

Spanish Minor - 18 crs.

All courses required for the Spanish minor are taught in Spanish. Courses numbered below Spanish 200 do not count for the minor.

Required (12 crs.)

SPN202 Intermediate Spanish Conversation	3 crs.
SPN204 Ideas and Cultures from the Spanish-Speaking World	3 crs.
SPN211 Intermediate Spanish Grammar	3 crs.
SPN312 Advanced Contextualized Grammar	3 crs.

Electives (6 crs.)

Two additional Spanish courses at the 300 or 400 level

Spanish Letter of Completion - 12 crs.

Select four courses from the major. Courses selected by advisement.

Spanish Translation Specialization Letter of Completion

In order to be admitted directly to the Translation Specialization program at Shippensburg University, students need to have reached the Advanced Low proficiency level in Spanish 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 Spanish (24 credits). Once admitted in the Translation Specialization program, students complete 12 credits in Spanish. In parallel, students also need to complete a minimum of 18 credits in a subject area specialty outside of Spanish 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 Spanish (24 crs.)

SPN202 Intermediate Spanish Conversation	3 crs.
SPN204 Ideas and Cultures from the Spanish-Speaking World	3 crs.
SPN211 Intermediate Spanish Grammar	3 crs.
SPN302 Advanced Spanish Conversation	3 crs.
SPN309 Spanish Phonetics	3 crs.
SPN312 Advanced Contextualized Grammar	3 crs.
SPN313 Advanced Composition and Stylistics	3 crs.
SPN360 Masterpieces of Spanish Literature or SPN361 Masterpieces of Spanish American Literature	3 crs.

Translation Specialization Courses: (12 crs.)

SPN330 Spanish for the Professions	3 crs.
SPN385 Aspects of Hispanic Civilization	3 crs.
SPN420 Theory and Practice of Translation	3 crs.
SPN400 Special Topics in Spanish or any 300- or 400-level course or an internship whose main focus is translation	3 crs.

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.

German Studies Minor - 18 crs.

Not all courses required for the German Studies Minor are taught in German.

Required (9 crs.)

GER150 German Civilization and Culture	3 crs.
GER203 Intermediate German Communication	3 crs.
GER204 Ideas and Cultures from the German-Speaking World	3 crs.

Electives (9 crs.)

Three additional German courses beyond GER150 and/or from courses listed below in agreement with the director of the German Studies Minor and the instructor of the course. At least one of the electives must be taught in German and a maximum of two may be taken outside the German Studies program.

ANT351 Peoples and Cultures of Europe
 EDU426 Methods of Teaching Foreign Languages
 GEO305 Geography of Europe
 HIS330 History of Modern Germany: 1919 to Present
 HIS357 History of the Holocaust
 MUS224 Music History and Literature of the Classic and Romantic Eras
 PHL105 Introduction to Ethical Theories and Problems

German Letter of Completion - 12 crs.

Select four courses from the minor. Courses selected by advisement.

Music and 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.

Music Minor - 18 crs.

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. Introduction to Music (MUS121) is required prior to declaring a minor in music and does not count toward the required 18 credits. It also fulfills the university General Education, Category B requirement. Students then proceed through the nine required and nine elective credits to complete the minor.

Required Courses (9 crs.)

MUS212 Music Theory I – 3 crs.
 MUS312 Music Theory II – 3 crs.

1 Performance Course – 3 crs.

MUS140 Class Piano I
 MUS150 Basic Guitar
 MUS260 Voice Class I
 MUS270 Brass Instrument Class
 MUS273 Woodwind Instrument Class
 MUS340 Class Piano II
 MUS360 Voice Class II
 MUS380 Basic Conducting

Elective Courses (9 crs.)

Chosen in your area of interest in consultation with the Department Chair:

Performance Course (3 crs.)**Literature and Musicianship (3 crs.)**

MUS110 Fundamental Music Skills
 MUS222 Music of the Renaissance & Baroque Eras
 MUS224 Music of the Classic & Romantic Eras
 MUS226 Twentieth Century Music
 MUS227 Opera & Music Theatre*
 MUS261 World Music*
 MUS315 Music in the United States
 MUS330 Women in Music

Performing Ensembles (1 cr.)

Brass Ensembles
 Concert Band
 Concert Choir
 Jazz Ensemble
 Madrigals
 Red Raider Marching Band
 University-Community Orchestra
 Women's Chorale
 Woodwind Ensemble

*Denotes university general education course

Theatre Minor - 18 crs.

The minor in theatre enables students to gain a general knowledge of acting and theatre history. 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 12 required and 6 elective credits to complete the minor.

The training available within a theatre curriculum enriches careers in elementary 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.

Required Courses (12 crs.)

THE121 Introduction to Theatre
 THE123 Acting I: Fundamentals of Acting
 THE222 Acting II: Scene Study (Acting I is a pre-requisite)
 THE329 Theatre History

Elective Courses (6 crs.)

Chosen in your area of interest in consultation with the Department Chair:

ART110 Basic Drawing
 ART215 Color & 2D Design
 ART232 Art History II
 ART233 Art History III
 ENG323 Reviewing the Arts
 ENG330 Shakespeare
 ENG467 Seminar in Drama
 MGT325 Advertising & Promotional Strategy
 MGT340 Human Resource Administration
 MGT342 Managing Organizational Relations
 MGT370 Services Management
 MGT433 Small Business Management
 MUS227 Opera & Musical Theatre
 MUS260 Voice I
 MUS360 Voice II
 THE229 Introduction to Technical Production
 THE320 Directing
 THE324 Theatre Practicum
 THE327 Costumes & Make-up
 THE395/396 Theatre Internship
 THE490 Selected Topics in Theatre Art

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 several tracks, as well as a concentration in nanotechnology. A Physics Minor is also available.

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.)

PHY107	Freshman Seminar	2 crs.
PHY221*	Fundamentals of Physics I and Lab	5 crs.
PHY222	Fundamentals of Physics II and Lab	5 crs.
PHY301	Math. And Numerical Techniques and Lab	4 crs.
PHY311	Quantum mechanics I and Lab	4 crs.
PHY321	Electricity and Magnetism I and Lab	4 crs.
PHY331	Mechanics I and Lab	4 crs.
PHY341	Classical and Statistical Thermodynamics and Lab	4 crs.

Courses in allied fields (23 hrs.)

MAT211*	Calculus I	4 crs.
MAT212*	Calculus II	4 crs.
MAT213	Calculus III	4 crs.
MAT322	Differential Equations	3 crs.
CHM121*	Chemical Bonding	3 crs.
CHM125	Chemical Bonding Lab IB	1 cr.
CSC110	Computer Science I	1 crs.
CSC106	Computer Science I - Lab	1 cr.

*Note: These courses satisfy general education requirements as well, for Skills (MAT211), Category A (MAT212), and Category C (PHY221 and CHM121), 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 majoring in Physics spend three years at Shippensburg University, completing 98 credits, and then proceed to complete their studies in two years at one of the participating engineering schools (most notably Penn State University and the University of Maryland). 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. The Shippensburg 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.)

MAT318	Elementary Linear Algebra	3 crs.
CHM122	and CHM126 Chemical Dynamics and Lab	4 crs.
IIB		

*See note at the end of the Core Courses description above.

Physics (B.S.)

The Physics B.S. offers the following tracks:

1. *Advanced Physics:* Designed for students planning to go on to graduate school in physics. The track 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 track can also complete a minor in computer science by taking one extra computer science course after fulfilling the track requirements. This track prepares students well for the job market by offering applicable skills as well as experience through its project or internship requirement.
3. *General Physics:* The most flexible of the tracks, it provides a substantial number of general electives for students interested in obtaining concentrations or minors in other fields, or even double majors. This track is favored by students planning careers requiring interdisciplinary backgrounds such as biophysics, medical physics, etc., or careers in fields other than pure physics but where students with a physics background have used their scientific and problem solving abilities to excel: finance, law, medicine etc.

Advanced Physics Track (120 crs.)

General Education requirements (36 crs. see note* at the end of the Core Curriculum description above)

Physics Core (55 crs.)

Additional courses (29 crs.)

<i>Chemistry (4 crs.)</i>		
CHM122	Chemical Dynamics	3 crs.
CHM126	Chemical Dynamics Lab. IIB	1 cr.
<i>Physics (25 crs.)</i>		
PHY411	Quantum Mechanics II	3 crs.
PHY421	Electricity and Magnetism II	3 crs.
PHY431	Mechanics II	3 crs.
PHY4xx	Four 400 level Electives	13 crs.
PHY397/398	Research	3 crs.

Computational Physics Track (122 crs.)

General Education requirements (36 crs. see note* at the end of the Core Curriculum description above)

Physics Core (55 crs.)**Additional courses (31 crs.)**

Math (6 crs.)

MAT318 Elementary Linear Algebra 3 crs.

MAT410 Numerical Analysis 3 crs.

Computer Science (12 crs.)

CSC111 Computer Science II 4 crs.

CSC220 Computer Organization 4 crs.

CSC310 Design and Analysis of Algorithms 4 crs.

Physics (13 crs.)

PHY471 Computational Physics 4 crs.

PHY395/397/398 Internship/Research 3 crs.

PHY4xx 400 level Physics elective 3 crs.

PHY4xx 400 level Physics elective 3 crs.

General Physics Track (120 crs.)**General Education requirements (36 crs.)*****Physics Core (55 crs.)****Additional courses (29 crs.)**

PHY4xx 400 level Physics elective 3 crs.

PHY4xx 400 level Physics elective 3 crs.

PHY4xx 400 level Physics elective 3 crs.

General electives

20 hours of general electives including at least 12 20 crs.

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 above.

Nanofabrication Concentration

The nanofabrication concentration 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 concentration is very popular with students in part because of the employment opportunities offered to its graduates.

The concentration 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 (26 crs.)

Engineering: Penn State-NSF NMT summer courses 18 crs.

PHY325 Semi-conductor devices 4 crs.

PHY450 Quantum Materials 4 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. (127 crs.)**General Education requirements (33 crs.)*****Physics Core (51 crs.)****Additional courses (43 crs.)**

Physics (3 crs.)

PHY4xx 400 level Physics elective 3 crs.

Biology (4 crs.)

BIO162* Principles of Biology: Organismal Diversity 4 crs.

Earth-Space Sciences (3 crs.)

ESS110 Introduction to Geology 3 crs.

or

ESS210 Physical Geology 3 crs.

Professional Education Requirements (33 crs.)

TCH207 Organizational and Psychological Foundations in Secondary Education 3 crs.

EDU440 Teaching Science in Secondary School 3 crs.

EDU441 Curriculum and Evaluation in the Secondary Science Classroom 3 crs.

EDU495 Student Teaching and Practicum 12 crs.

EEC273 Introduction to Exceptionality 3 crs.

EEC423 Effective Instructional Strategies for Children with Exceptionalities 3 crs.

EEC483 Assessing Students with Exceptionalities for Curricular Decision-Making 3 crs.

RDG413 Teaching Reading to English Language Learners 3 crs.

*See note at the end of the Core Curriculum description above. BIO162 also meets a General Education Category C requirement.

Physics Minor - 24-26 crs.

PHY221*** Fundamentals of Physics I and Lab 5 crs.

PHY222*** Fundamentals of Physics II and Lab 5 crs.

PHY301 Math. And Numerical Techniques and Lab 4 crs.

PHY311 Quantum Mechanics I and Lab 4 crs.

PHY321 Electricity and Magnetism I and Lab 4 crs.

PHY331 Mechanics I and Lab 4 crs.

***Note: If the student declaring the minor has already taken either the PHY121/122 sequence or the PHY205/206 with their associated labs, the PHY221/222 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 and Bachelor of Science in Public Administration. The undergraduate political science major is designed to provide students with a broad-based understanding of governmental institutions, political behavior, global politics, and theory and law. The public administration major provides students with a foundation in public management practices and behaviors, as well as exposes students to several areas of specialization within the field of 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 elect courses in designated subareas of political science, as well as completing core requirements. Public administration students take a core of public management courses, then select a group of electives to complete their public administration program. Students in both majors have the opportunity to perform an internship with governmental agencies, non-profit organizations, and law firms to complement and supplement their course work.

Internship Policy

A student can count a maximum of three internship credits toward completion of the electives within the political science or public administration majors. Additional internship credit hours will count as free electives.

Political Science 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.

Students interested in a legal career 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.

Political Science (B.A.)

Political Science (39 crs.)

Required (18 crs.)

PLS100 U.S. Government and Politics	3 crs.
PLS141 Introduction to International Politics	3 crs.
PLS201 Introduction to Political Science	3 crs.
PLS300 Advanced U.S. Government: Institutions and Public Policy	3 crs.
PLS301 Political Science Research Methods	3 crs.
PLS399 Senior Seminar	3 crs.

Students must earn a C or better in each required core course.

Areas of Concentration (12 crs.)

Students must take one course from each of the four areas of concentration.

Global

PLS251 Introduction to Comparative Politics	3 crs.
PLS341 International Law and Organization	3 crs.
PLS342 American Foreign Policy	3 crs.
PLS356 Politics of Developing Regions	3 crs.
PLS357 Group Mobilization and State Change	3 crs.

Government

PLS231 State and Local Government	3 crs.
PLS271 Introduction to Public Administration	3 crs.
PLS311 The Legislative Process	3 crs.
PLS312 The American Presidency	3 crs.
PLS313 The Judicial Process	3 crs.
PLS331 City Politics and Administration	3 crs.
PLS332 Federal-State-Local Relations	3 crs.
PLS431 Pennsylvania Local Government	3 crs.

Behavior

PLS302 Public Policy Analysis	3 crs.
PLS321 Public Opinion and Political Media	3 crs.
PLS322 Interest Groups in American Society	3 crs.
PLS323 Campaigns, Elections and Political Parties	3 crs.
PLS324 Women in American Politics	3 crs.
PLS325 African American Politics	3 crs.

Theory and Law

PLS361 Political Theory from Ancient Times Through the 19th Century	3 crs.
PLS362 20th Century Political Ideologies	3 crs.
PLS363 American Political Thought	3 crs.
PLS365 Constitutional Law: The Federal System	3 crs.
PLS366 Constitutional Law: First Amendment Rights	3 crs.
PLS367 Constitutional Law: Criminal Law and Equal Protection	3 crs.

Electives in Major (9 crs.)

Students **must** take nine additional hours of course work in political science. Contemporary Issues (PLS291), Selected Topics (PLS391), or an internship (PLS395) may also be used to satisfy this requirement. At least six hours must be taken at the 300-level or above.

Allied Fields (16 crs.)

Economics (6 crs.)

ECO101 Principles of Macroeconomics	3 crs.
ECO102 Principles of Microeconomics or	3 crs.
ECO113 Principles of Economics	4 crs.
Any Economics course at or above 200 level	3 crs.

Sociology (6 crs.)

SOC101 Introduction to Sociology: Society and Diversity	3 crs.
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An additional sociology elective selected from the following list:

SOC241 Contemporary Social Problems	3 crs.
SOC243 Minority Groups	3 crs.
SOC258 Women's Roles and Status	3 crs.
SOC346 Urban Sociology	3 crs.
SOC351 Race Relations	3 crs.
SOC354 Social Movements and Social Change	3 crs.
SOC363 Population Problems	3 crs.
SOC365 Elites in Society	3 crs.
SOC425 Sociology of Law	3 crs.

Mathematics (4 crs.)

MAT117 Applied Statistics	4 crs.
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A student can count a maximum of six internship credits toward the major. Additional internship credit hours can be used as general education credits.

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.

Public Administration (B.S.)

Political Science (39 crs.)

Required (27 crs.)

PLS100 U.S. Government and Politics	3 crs.
PLS231 State and Local Government	3 crs.
PLS271 Introduction to Public Administration	3 crs.
PLS300 Advanced U.S. Government Institutions and Public Policy	3 crs.
PLS301 Political Science Research Methods	3 crs.
PLS302 Public Policy Analysis	3 crs.
PLS371 Public Management	3 crs.
PLS372 Public Personnel Administration	3 crs.
PLS373 Public Financial Administration	3 crs.

Students must earn a C or better in each required core course.

Public Administration Electives (6 crs.)

PLS331 City Politics and Administration	3 crs.
PLS332 Federal-State-Local Relations	3 crs.
PLS374 Public Service Ethics	3 crs.
PLS381 Principles of Labor Relations	3 crs.
PLS395 Internship I	3 crs.
PLS396 Internship II	3 crs.
PLS397 Internship III	3 crs.
PLS431 Pennsylvania Local Government	3 crs.

Electives (6) - Any Political Science course

With the approval of the department chair and the student's academic advisor, political science courses may be substituted for public administration elective(s).

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 in the public administration major. Students must have completed the following courses to be eligible to apply for an internship: PLS100, PLS231, PLS271, PLS300, PLS301, and either PLS371, PLS372, or PLS373.

A student can count a maximum of six internship credits toward the major. Additional internship credit hours can be used as general education credits.

Allied Fields (16 crs.)

Students majoring in public administration must also take the following courses in allied fields. Some of these courses also satisfy general education requirements.

Economics (6 crs.)

ECO101 Principles of Macroeconomics
ECO102 Principles of Microeconomics or
ECO113 Principles of Economics
Any Economics course at or above 200 level

Sociology (6 crs.)

SOC101 Introduction to Sociology: Society and Diversity
And either an additional economics course or an additional sociology course from the following:

SOC241 Contemporary Social Problems
SOC243 Minority Groups
SOC258 Women's Roles and Status
SOC346 Urban Sociology
SOC351 Race Relations
SOC354 Social Movements and Social Change
SOC363 Population Problems
SOC365 Elites in Society
SOC425 Sociology of Law

Mathematics (4 crs.)

MAT117 Applied Statistics

Political Science Minor - 18 crs.**Required (9 crs.)**

PLS100 U.S. Government and Politics	3 crs.
PLS141 Introduction to International Politics	3 crs.
PLS300 Advanced U.S. Government: Institutions and Public Policy	3 crs.

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 PLS291 Contemporary Issues or PLS391 Selected Topics in Political Science as one elective.

PLS231 State and Local Government
PLS251 Introduction to Comparative Politics
PLS271 Introduction to Public Administration
PLS291 Contemporary Issues
PLS301 Political Science Research Methods
PLS302 Public Policy Analysis
PLS311 The Legislative Process
PLS312 The American Presidency
PLS313 The Judicial Process
PLS321 Public Opinion and Political Media
PLS322 Interest Groups in American Society
PLS323 Campaigns, Elections, and Political Parties
PLS324 Women in American Politics
PLS325 African American Politics
PLS331 City Politics and Administration
PLS332 Federal-State-Local Relations
PLS341 International Law and Organization
PLS342 American Foreign Policy
PLS356 Politics of Developing Regions
PLS357 Group Mobilization and State Change
PLS361 Political Theory from Ancient Times Through the 19th Century
PLS362 20th Century Political Ideologies
PLS363 American Political Thought
PLS365 Constitutional Law: The Federal System
PLS366 Constitutional Law: First Amendment Freedoms
PLS367 Constitutional Law: Criminal Law and Equal Protection
PLS374 Public Service Ethics
PLS391 Selected Topics in Political Science
PLS431 Pennsylvania Local Government

Public Administration Minor - 18 crs.**Required (9 crs.)**

PLS100 U.S. Government and Politics
PLS271 Introduction to Public Administration
PLS300 Advanced U.S. Government: Institutions and Public Policy

Public Administration Electives (6 crs.)

PLS231 State and Local Government
PLS371 Public Management
PLS372 Public Personnel Administration
PLS373 Public Financial Administration
PLS374 Public Service Ethics

Elective (3 crs.)

Students must select one public administration/political science course to fulfill this requirement.

Professional Studies**Professional Studies (B.S.) - Technical Leadership and Administration Concentration**

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.

Core Courses (12 crs.)

ENG338 Technical Writing for the Professions
ISM300 Information Technology and Business Operations
MGT305 Organizational Behavior
HCS385 Resolving Conflict Through Communications

Foundation Courses (19 crs.)

ECO113 Principles of Economics
HCS270 Intergroup/Intercultural Communications
HCS280 Professional Communication
MGT311 Principles of Management
MGT340 Human Resource Management (pre-requisite: MGT305 & MGT311)
MGT394 Leadership I (pre-requisite: MGT305 & MGT311)

Electives (12 crs.)

Technical leadership and administration professional electives selected with advisement

Capstone Course (3 crs.):

ISM446 Applied Project Management

**No more than 30 credits may be taken in the John L. Grove College of Business.*

Schedule of Courses

The Bachelor of Science in Professional Studies, Technical Leadership and Administration is organized so students can take six credits of core courses, professional courses, or technical administration professional electives during the evening and/or online each academic semester. Courses in the foundation and core will be offered at least once every two years.

Students may complete their remaining required general education or free elective courses at Harrisburg Area Community College (HACC) or at Shippensburg University. Students may continue to take general education courses while they are matriculated in the Professional Studies, Technical Leadership and Administration program or they may complete them after finishing major courses.

Psychology Department

The Department of Psychology offers an undergraduate program leading to the Bachelor of Arts degree. The psychology program is designed to provide you with knowledge of psychology's basic terminology, major theories, philosophical assumptions, and classic and current research and in-depth knowledge in your area 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 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 health behavior, dating scripts, substance use, learned flavor preference, behavioral neuroscience, personality disorders, and crisis intervention.

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 crisis worker, attendant at a halfway house, personnel manager's assistant, or any psychology-related job and by writing a paper on the experience.
- You can join the Psychology Club and meet other majors, hear guest speakers, and take trips to conferences, institutions, and research facilities.
- 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 3.8 QPA overall. 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: PSY379 Capstone Seminar in Psychology, PSY381 Honors Thesis I, and PSY382 Honors Thesis II. 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 Knowledge Base, Skills/Careers, and Social Awareness requirements). With departmental permission, 500-level graduate courses can be taken to fulfill the requirements for these 6 credits.

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.

Psychology (B.A.)

Psychology (39 crs.)

Knowledge Base (15 crs.)

Required Core Courses

PSY101 General Psychology

or

PSY102 Foundations of Psychology

At least 1 course from:

PSY240 Psychology of Personality

PSY270 Social Psychology

PSY330 Abnormal Psychology

At least 1 course from:

PSY265 Child and Adolescent Psychology
 PSY352 Psychology of Adulthood and Aging*
 PSY440 History and Systems of Psychology

At least 2 courses from:

PSY235 Conditioning and Learning
 PSY320 Behavioral Neuroscience
 PSY325 Psychology of Human Cognition
 PSY397 Human Cognitive Development
 PSY430 Sensation and Perception
 PSY445 The Psychology of Thinking

Skills/Careers (12 crs.)**Required Core Courses**

PSY105 Research Design and Statistics I
 PSY205 Research Design and Statistics II
 PSY301 Experimental Psychology

or

PSY305 Applied Research Psychology

At least 1 course from:

PSY340 Introduction to Clinical Psychology
 PSY361 Group Interaction
 PSY384 Person-to-Person Interaction
 PSY420 Health Psychology
 PSY432 The Psychology of Computers and the Internet
 PSY435 Psychopharmacology
 PSY450 Crisis Intervention
 PSY465 Human Factors
 PSY470 Legal Psychology
 PSY475 Industrial and Organizational Psychology
 PSY485 Tests and Measurements

Social Awareness (6 crs.)

At least 2 courses from:

PSY335 Psychology of Social Influence
 PSY352 Psychology of Adulthood and Aging*
 PSY355 Psychology of the Exceptional Child
 PSY365 Multicultural Psychology
 PSY410 Psychology and Women
 PSY422 Social Psychology of Aging (*online in summer*)
 PSY447 Multicultural Health Psychology

Psychology Electives (6 crs.)

Students can take any 2 courses from any Goal categories or the following:

PSY374 Advanced Research I
 PSY375 Advanced Research II
 PSY393 Selected Topics in Psychology
 PSY395 Seminar in Selected Topics
 PSY490 Selected Topics in Psychology

Capstone Requirement

Can be fulfilled in one of the following ways: PSY379 Capstone Seminar in Psychology; Internship; or Advanced Research.

All psychology majors must fulfill the capstone requirement as a requirement for graduation. Students may meet this requirement by taking at least one of the following courses: Advanced Research I or II, Internship, and/or PSY379 Capstone in Psychology (pre-requisites of this course are 21 credits in psychology and junior or senior status).

Free Electives (33 crs.)

Free electives can include any courses outside psychology, courses to satisfy a minor, additional psychology courses or psychology internship courses.

*PSY352 *Psychology of Adulthood and Aging* satisfies either Knowledge Base or Social Awareness Goals but not both.

Note: Students can also take PSY385 Internship I and PSY386 Internship II. However, internship does not apply to the 39 credits required for the major. Internship can be used as additional free electives.

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.

Note: Extra courses taken from the required or foundation categories can be used as electives. Also, only six credits of research can be used as elective credits for the B.A. degree from the following: PSY374 and PSY375 Advanced Research in Psychology I, II. Internship credit (PSY385, PSY386) does not apply toward the 36 credits of psychology required for the B.A. degree.

Psychology Minor - 18 crs.**A. One Introductory Course (3 credits)**

PSY101 General Psychology
 PSY102 Foundations of Psychology

B. Goal: Knowledge Base (9 credits)

PSY235 Conditioning & Learning
 PSY240 Psychology of Personality
 PSY265 Child & Adolescent Psychology
 PSY270 Social Psychology
 PSY320 Behavioral Neuroscience
 PSY325 Psychology of Human Cognition
 PSY330 Abnormal Psychology
 PSY397 Human Cognitive Development
 PSY430 Sensation and Perception
 PSY440 History and Systems of Psychology

C. Goal: Skills/Career (3 credits)

PSY420 Health Psychology
 PSY432 Psychology of Computers and Internet
 PSY435 Psychopharmacology
 PSY470 Legal Psychology
 PSY475 Industrial & Organizational Psychology
 PSY485 Tests and Measurements

D. Goal: Social Awareness (3 credits)

PSY335 Psychology of Social Influence
 PSY352 Psychology of Adulthood and Aging
 PSY355 Psychology of the Exceptional Child
 PSY365 Multicultural Psychology
 PSY410 Psychology and Women
 PSY422 Social Psychology of Aging (*online in summer*)
 PSY447 Multicultural Health Psychology

Sociology and 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.

Sociology (B.A.)

Sociology (36 crs.)

Required (21 crs.)

SOC101 Introduction to Sociology: Society and Diversity	3 crs.
SOC201 Sociological Practice	3 crs.
SOC220 Social Stratification	3 crs.
SOC380 Classical Social Theory	3 crs.
SOC385 Introduction to Social Research	3 crs.
SOC386 Data Collection and Analysis	3 crs.
SOC415 Senior Seminar	3 crs.

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.

ANT111 Cultural Anthropology	3 crs.
MAT117 Applied Statistics	4 crs.
Economics elective	3 crs.
Sequence in Political Science	6 crs.
Geography elective	3 crs.
Philosophy elective	3 crs.
PSY101 General Psychology	3 crs.

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.

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

- Cultural Anthropology
- Comparative Cultures
- Peoples and Cultures of Europe
- Comparative Marriage and Family

Archaeology

- Introduction to Archaeology
- Mammoth Hunters and Moundbuilders
- Aztec and Maya Archaeology

Culture and Social Change

- Sociology of the Arts
- Sociology of Mass Communications
- Women's Roles and Status
- Social Movements and Social Change

Family and Marriage

- Family and Society
- Population Problems
- Sociological Patterns of Courtship and Marriage
- Sociology of Death

Social Problems

- Contemporary Social Problems
- Criminology
- Juvenile Delinquency
- Population Problems

Gerontology

- Social Dynamics of Aging
- Sociology of the Body
- Sociology of Death
- Medical Sociology

Human Relations

- Minority Groups
- Race Relations
- Women's Roles and Status

Social Institutions/Organizations

- Family and Society
- Elites in Society
- Social Stratification
- Gender and Leadership
- Sociology of Religion

Students should refer to the sociology course listings in the catalog for other courses which may apply to their special interest areas.

Anthropology Minor - 18 crs.

Core Courses (9 crs.)

ANT111 Cultural Anthropology
 ANT121 Physical Anthropology
 ANT150 Introduction to Archaeology

Elective Courses (9 crs.)

ANT211 Comparative Cultures
 ANT220 Anthropology for International Studies
 ANT312 Comparative Marriage and Family
 ANT320 Comparative Gender Roles
 ANT330 Archaeology of North America
 ANT341 North American Indians
 ANT350 Medical Anthropology
 ANT351 Peoples and Cultures of Europe
 ANT393 Selected Topics in Anthropology

Sociology Minor - 21 crs.

Required (9 crs.)

SOC101 Introduction to Sociology: Society and Diversity
 SOC385 Introduction to Social Research
 SOC450 Classical Social Theory

Electives (12 crs.)

Courses selected by advisement.

Technical/Professional Communications

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.

Technical/Professional Communications Minor - 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:

CSC103 Overview of Computer Science
 or
 CSC110 Computer Science I (*Computer Science Majors Only*)
 or
 ISM142 Business Computer Systems
 and
 ENG238 Technical/Professional Writing I

Electives (12 crs.)

The remaining 12 credits may be completed by taking any of the following courses (excepting internships, no more than two courses per department can count for minor credit):

ART217 Computer Design I (Page Composition)*
 ART306 Computer Design II (Illustration)
 ART319 Computer Design III (Painting and Photo Manipulation)
 ART425 Computer Design IV (Multimedia)
 ART430 Computer Design V (Web Design)
 ART435 Computer Design VI (Book and Portfolio Design)
 COM112 Media Writing*
 COM224 Electronic Media Writing
 COM285 News Writing and Reporting
 COM290 Advertising Copy Writing
 COM425 Feature Writing
 CSC434 Web Programming (*Computer Science Majors Only*)
 ENG323 Reviewing the Arts for Publication
 ENG438 Technical/Professional Writing II
 HCS350 Theories of Organizational Communication
 PHL240 Ethical Issues and the Media
 PHL332 Ethical Issues and Computer Technology
 Optional Internship (up to 3 hours): Upon completing 12 course hours, with permission of minor director.

*Note: Pre-requisite to any other courses listed in that department.

Women's and Gender Studies

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.

Women's and Gender Studies Minor – 18 crs.

Core Requirements (6 crs.)

WST100 Introduction to Women's Studies

WST300 Seminar in Women's Studies

Approved Electives (12 crs.)

ANT312 Comparative Marriage and Family

ANT320 Comparative Gender Roles

BIO301 Seminar: Contributions of Women to Biology

CRJ466 Women and Criminal Justice

ECO303 Labor Economics: Theory and Policy

ENG345 Women's Literature

ENG370 Queer Studies

GRN391 Selected Topics in Gerontology: Women & Aging

HCS335 Popular Culture and Gender Construction

HCS340 Gender and Communication

HCS410 Feminist Perspectives on Communication Theory and
Research

HIS318 History of U.S. Women

HIS407 Women in Global Perspective

MAT400 History of Mathematics

MUS330 Women in Music

PLS324 Women in American Politics

PSY410 Psychology and Women

SOC257 Sociological Patterns of Courtship and Marriage

SOC258 Women's Roles & Status

SOC320 Sociology of the Body

SOC435 Gender and Leadership

SWK359 Violence in Interpersonal Relationships

SWK420 Gender Issues for Helping Professionals

TCH440 Gender Equity in Education

WST200 Independent Study in Women's Studies

WST390 Internship in Women's Studies

Additional electives and special topics courses continue to be developed by affiliated Women's and Gender Studies faculty.

Note: *To complete the Women's and Gender Studies minor, students will take the two core courses (WST100 and WST300) 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.*

Letter of Completion in Women's and Gender Studies

Students can earn a Letter of Completion in Women's and Gender Studies by completing the two core courses (WST100 and WST300) 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 letter of completion. Verification of the WST letter of completion will appear on the student's transcript. Three courses must be taken at Shippensburg University.

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.), and in cooperation with the College of Education and Human Services, the Bachelor of Science in Education (B.S.Ed.), with certification to teach in the secondary schools of Pennsylvania. The B.S.B.A. degree programs 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.

Departments

Accounting, Management Information Systems, and Information Technology for Business Education
Finance and Supply Chain Management
Management and Marketing

Degree Programs

Bachelor of Science in Business Administration

Accounting
Finance
Personal Financial Planning
Information Technology for Business Education
Management
Entrepreneurship
International
Human Resource Management
Management Information Systems
Marketing
Supply Chain Management
Logistics Management

Business Minor

Business Internship Program

Juniors and seniors in the John L. Grove College of Business, who are in good academic standing, 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 MAT140A/B College

Algebra (or equivalent) and/or MAT181 Applied Calculus I (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 *Admissions 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 MAT140A/B College Algebra and/or MAT181 Applied Calculus I (or higher) or an SAT math score of at least 600, a C or higher in ENG106 Writing Intensive First Year Seminar, 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.

Bachelor of Science in Business Administration

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 entitled *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 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 and the student's major courses as outlined below.
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 ENG106 Writing Intensive First Year Seminar or ENG110 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 ENG106 Writing Intensive First Year Seminar or MAT140A/B 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. BSN101 Foundations of Business Administration should be taken in the first year.
2. MAT140A/B College Algebra, if required, MAT181 Applied Calculus and SCM200 Statistical Applications in Business, should be completed by the end of the sophomore year.
3. ISM142 Business Computer Systems should be completed the first year and BSL261 American Legal Environment should be completed by the end of the sophomore year.
4. The ACC200 Financial Accounting, ACC201 Managerial Accounting, and ECO113 Principles of Economics, 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.

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

MAT140A/B College Algebra
MAT181 Applied Calculus I

Required Courses in the John L. Grove College of Business

ACC200 Fundamentals of Financial Accounting
ACC201 Managerial Accounting
BSL261 American Legal Environment
BSN101 Foundations of Business Administration (2 crs.)
ECO113 Principles of Economics (4 crs.)
ECO280 Managerial Economics
FIN311 Financial Management
MGT305 Organizational Behavior
MGT447 Business & Society**
MGT497 Strategic Management
MIS142 Business Computer Systems
MKT305 Principles of Marketing
SCM200 Statistical Applications in Business
SCM330 Supply Chain and Operations Management

* Students who place at the advanced level in the mathematics placement/competency test are not required to take MAT140A/B. In lieu of MAT140A/B, students are required to take an additional free elective.

** 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.

Business Minor - 18 crs.

In order to be admitted to the minor, you must successfully complete the general education prerequisites for the program. The first prerequisite is ECO101 Principles of Macroeconomics or ECO102 Principles of Microeconomics or ECO113 Principles of Economics. The second prerequisite is the completion of MAT140A/B College Algebra or a higher level mathematics course or a Math SAT score of 550 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.

Required Core Courses

ACC200 Fundamentals of Financial Accounting
 FIN311 Financial Management
 MGT305 Organizational Behavior
 MKT305 Principles of Marketing

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.

Accounting, Management Information Systems, and Information Technology for Business Education Department

The department offers B.S.B.A. degrees in Accounting, Management Information Systems, and Information Technology for Business Education with optional teaching certification.

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:

Required (18 crs.)

ACC306 Tax Accounting
 ACC310 Intermediate Accounting I
 ACC311 Intermediate Accounting II
 ACC312 Cost Determination and Analysis
 ACC404 Auditing
 MIS300 Information Technology and Business Operations

Accounting Electives (3 crs.)

(One course from the following 3-credit courses)

ACC401 Advanced Accounting
 ACC406 Advanced Tax Accounting
 ACC412 Advanced Cost Analysis and Control
 ACC490 Selected Topics in Accounting

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.

Information Technology for Business Education (B.S.B.A. with optional teaching certification)

The Information Technology for Business Education major offers students the opportunity to earn a B.S.B.A. with a major focus on the application of computer technology to the management of systems and the education and/or training of students or workers. The program is designed to prepare graduates who are technically qualified to work in educational or corporate environments as teachers, trainers, software specialists, and technology coordinators.

Required Courses (18 crs.)

BUS305 Business Information Processing I	3 crs.
BUS306 Business Information Processing II	3 crs.
MIS240 Introduction to Programming Concepts	3 crs.
MIS242 Development of User Information Systems	3 crs.
MIS355 Database Applications	3 crs.
MIS420 Telecommunications and Distributed Processing	3 crs.

Required Education/Business Education Courses for Students Pursuing Optional Certification (21 crs.)

EEC273 Introduction to Exceptionalities	3 crs.
EEC423 Effective Instructional Strategies	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.
TCH 207 Organizational and Psychological Foundations in Secondary Education	3 crs.
EDU429 Methods of Teaching Business Subjects I	3 crs.
EDU431 Methods of Teaching Business Subjects II	3 crs.
EEC483 Assessing Students with Exceptionalities for Curricular Decision Making	3 crs.

Certification Option

Students who complete the requirements of the B.S.B.A. in Information Technology for Business Education have the option of enrolling for one additional semester of student teaching. Admission to the certification option is available to students with a qualifying QPA on all undergraduate credits earned at Shippensburg University. After successful completion of the professional student teaching semester and the appropriate sections of the Praxis examination, students will be recommended for secondary teaching certification in business information technology.

At Shippensburg University, the College of Education and Human Services provides supervision and coordination for students whose career goal includes becoming a certified business information and technology teacher in Pennsylvania. To be admitted to the certification option, students must present a qualifying QPA, a verified work history, and the required criminal and health clearances.

For additional information about the teacher education program at Shippensburg University, please consult the Teacher Education Department section of this catalog.

Certification Option (12 crs., pre- or post-baccalaureate)
EDU495 Student Teaching and Professional Practicum

Career Opportunities

Graduates of this major will have a choice of career paths available upon graduation. Some graduates will chose to be teachers, technology coordinators, or network specialists for public or private schools, school districts, or other post-secondary educational institutions. Others will secure employment in businesses and corporations where there is a need for information technology specialists.

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 the 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.

Required (18 crs.)

MIS240 Introduction to Programming Concepts
MIS340 Business Programming
MIS344 Business Systems Analysis and Design
MIS355 Database Applications
MIS420 Telecommunications and Distributed Processing
MIS446 Applied Project Management

Optional Electives

MIS242 Design and Development of User Information Systems
MIS399 Introduction to Corporate Cybersecurity
MIS442 Electronic Commerce and Technology Integration
CSC110 Computer Science I
CSC106 Computer Science I - Lab

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 and Supply Chain Management Department

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.

Required (12 crs.)

FIN312 Investments
FIN313 Advanced Financial Management
FIN314 Financial Institutions
FIN333 Applied Company and Security Analysis

Electives (6 crs.)

(Two courses from the following 3-credit courses)

FIN320 Risk Management and Insurance
FIN322 Estate Planning
FIN324 Retirement Planning and Employee Benefits
FIN340 Principles of Real Estate
FIN393 Selected Topics in Finance
FIN405 Real Estate Appraisal and Investment Analysis
FIN414 Bank Management
FIN421 Personal Financial Planning Capstone
FIN425 Global Financial Management
FIN434 Investment Management Program I
FIN435 Investment Management Program II
FIN442 Derivatives Markets
FIN490 Selected Topics in Finance

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.

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.)

FIN312 Investments
FIN320 Risk Management and Insurance
FIN321 Personal Financial Planning
FIN322 Estate Planning
FIN324 Retirement Planning & Employee Benefits
FIN333 Applied Company and Security Analysis
ACC306 Tax Accounting

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.

Required (15 crs.)

SCM315 Strategic Procurement
SCM355 Quality Management and Continuous Improvement
SCM370 Integrated Supply Chain Systems
SCM380 Data Mining for Supply Chain Management
SCM420 Global Logistics Systems

Electives (3 crs.)

(One course from the following 3-credit courses)

MGT340 Human Resource Management
MGT370 International Business
MKT342 Business to Business Marketing and Analysis
MKT370 Services Marketing
SCM390 Strategic Warehouse Management
SCM410 Distribution Systems in Supply Chains

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.

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.)

SCM370 Integrated Supply Chain Systems
SCM390 Strategic Warehouse Management
SCM410 Distribution Systems in Supply Chains
SCM420 Global Logistics Systems

Electives (6 crs.)

(Two courses from the following 3-credit courses)

GEO202 Geographic Information Systems
MGT340 Human Resource Management
MGT342 Labor Relations and Collective Bargaining
MGT370 International Business
MKT315 Sales Management
MKT342 Business to Business Marketing and Analysis
MKT370 Services Marketing
SCM315 Strategic Procurement
SCM355 Quality Management and Continuous Improvement
SCM380 Data Mining for Supply Chain Management

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 and Marketing Department

Management (B.S.B.A.)

Entrepreneurship Concentration

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.

Required (15 crs.)

MGT337 Issues in Entrepreneurship
MGT370 International Business
MGT431 Corporate Entrepreneurship
MGT432 Entrepreneurship
MGT433 Small Business Management

Electives (3 crs.)

(One course from the following 3-credit courses)
MGT340 Human Resource Management
MGT342 Labor Relations and Collective Bargaining
MGT394 Leadership and Decision-Making
MGT470 International Management
MGT490 Selected Topics in Management
MKT430 Marketing Research

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.

Human Resource Management Concentration

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.

Required (12 crs.)

MGT340 Human Resource Management
MGT342 Labor Relations and Collective Bargaining
MGT346 Human Resource Management Law
MGT348 Compensation Administration

Electives (6 crs.)

(Two courses from the following 3-credit courses)
MGT349 International Human Resource Management
MGT368 Senior Seminar I
MGT370 International Business
MGT394 Leadership and Decision-Making
MGT431 Corporate Entrepreneurship
MGT432 Entrepreneurship
MGT433 Small Business Management
MIS300 Business Technology and Business Operations
FIN324 Retirement Planning and Employee Benefits

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.

International Management Concentration

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.

Required (12 crs.)

MGT340 Human Resource Management
MGT370 International Business
MGT470 International Management
MKT360 International Marketing

Electives (6 crs.)

(Two courses from the following 3-credit courses)

*ANT220 Anthropology for International Studies

ECO321 International Economics

ECO325 Globalization: Issues and Policies

FIN425 Global Financial Management

*GEO101 World Geography

MGT349 International Human Resource Management

MGT380 Global Business Exploration Program I

MGT381 Global Business Exploration Program II

*PLS141 World Politics

** Only one of the courses 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., FRN320, GER215, SPN330) 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 Concentration

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.

Required (15 crs.)

MGT340 Human Resource Management

MGT370 International Business

MGT394 Leadership and Decision-Making

MGT431 Corporate Entrepreneurship

MGT498 Strategy Implementation

Electives (3 crs.)

(One course from the following 3-credit courses)

MGT337 Issues in Entrepreneurship

MGT342 Labor Relations and Collective Bargaining

MGT432 Entrepreneurship

MGT433 Small Business Management

MGT450 Negotiation

MGT470 International Management

MGT490 Selected Topics in Management

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.

Required (9 crs.)

MKT306 Buyer Behavior

MKT430 Marketing Research

MKT495 Marketing Analysis and Strategy Development

Electives (9 crs.)

(Three courses from the following 3-credit courses)

MKT310 Personal Selling

MKT315 Sales Management

MKT325 Advertising and Promotional Strategy

MKT335 E-Marketing

MKT342 Business to Business Marketing and Analysis

MKT352 Principles of Retailing

MKT360 International Marketing

MKT365 Relationship Marketing

MKT370 Services Marketing

MKT380 Sports Marketing

MKT390/490 Selected Topics in Marketing

MGT432 Entrepreneurship

MGT433 Small Business Management

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.

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 Development 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.

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, and Business 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.

Departments

Counseling and College Student Personnel
Criminal Justice
Educational Leadership and Special Education
Exercise Science
Military Science
Social Work/Gerontology
Teacher Education

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. Business, 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

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 and the John L. Grove College of Business. 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

Business

- Information Technology for Business Education

Interdisciplinary Additional Certifications

- Environmental Education
- General Science

Required Professional Education Courses (30 crs.)

TCH205 The American School	3 crs.
TCH260 Educational Psychology	3 crs.
Required field experience (see advisor)	
Methods I and II courses	6 crs.
EDU495 Student Teaching and Professional Practicum	12 crs.
EEC273 Introduction to Exceptionality	3 crs.
or	
PSY355 Psychology of the Exceptional Child	3 crs.

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 http://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.

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.

Criminal Justice (B.S.)

Criminal Justice (60 crs.)

Required Core (21 crs.)

CRJ100 Introduction to Criminal Justice	3 crs.
CRJ211 Criminal Law and Procedure	3 crs.
CRJ221 Policing a Democracy	3 crs.
CRJ241 Survey of Corrections	3 crs.
CRJ309 Theories of Crime and Crime Control	3 crs.
CRJ310 Research Methods	3 crs.
CRJ452 Race, Ethnicity, and Crime	3 crs.
Criminal Justice Electives (21 crs.)	
CRJ321 Criminal Investigation	3 crs.
CRJ326 Victimology: The Victim and the Law	3 crs.
CRJ336 Introduction to Forensic Science	3 crs.
CRJ345 Organization and Management of CRJ Agencies	3 crs.
CRJ348 Clinical, Intervention and Treatment	3 crs.
CRJ351 Juvenile Justice	3 crs.
CRJ356 Organized Crime	3 crs.
CRJ365 White Collar Crime	3 crs.
CRJ370 Mock Trial	3 crs.
CRJ390 Selected Topics in Criminal Justice	3 crs.
CRJ393 Selected Topics in Criminal Justice	3 crs.
CRJ396 Selected Topics in Criminal Justice	3 crs.
CRJ397 Selected Topics in Criminal Justice	3 crs.
CRJ411 Terrorism	3 crs.
CRJ433 Evidence Law	3 crs.
CRJ456 Forensic Science: Evidence Analysis	3 crs.
CRJ463 Comparative Criminal Justice	3 crs.
CRJ464 Popular Culture, Crime and Justice	3 crs.

CRJ466 Women and Criminal Justice	3 crs.
CRJ471 Internship I*	3 crs.
CRJ472 Internship II*	3 crs.
CRJ473 Internship III*	3 crs.
CRJ474 Internship IV*	3 crs.

* Each 3 credit Internship = 120 hours of work

Capstone Course (3 crs.)

CRJ454 Policy, Professionalism and Ethics	3 crs.
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Interdisciplinary Courses (15 crs.)

Students must complete five courses, 200-level or above. Criminal Justice courses do not qualify as interdisciplinary courses.

Pre-Forensic Sciences Program

Forensic science is a rapidly developing field that draws from many disciplines and is an attractive profession to people from various academic, social, and economic backgrounds. Opportunities exist for employment and further education in criminal investigation, forensic law, forensic psychology, forensic anthropology, forensic nursing, wildlife forensics, and toxicology. Students who want to pursue post-graduate training in forensic sciences can declare pre-forensic sciences as an option at the baccalaureate level through one of three departments: biology, chemistry, or criminal justice. The courses required for the pre-forensic sciences option are in accordance with the guidelines established by the American Academy of Forensic Sciences.

The pre-forensic sciences program is under the direction of Dr. Tim Maret (Biology). Biology, chemistry, or criminal justice majors who are interested in a career in forensic science should contact Dr. Maret via email at TJMaret@ship.edu. Students are also encouraged to communicate their interest in the pre-forensics sciences program to their respective faculty academic advisor as early as possible. More information about the pre-forensics sciences program can be found online at http://www.ship.edu/Academics/Programs/Undergraduate/Biotechnology_and_Pre-Forensic_Sciences/.

Criminal Justice Minor - 18 crs.

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:

Required

CRJ100 Introduction to Criminal Justice*	3 crs.
<i>Complete two of the following courses at the 200 level:</i>	
CRJ211 Criminal Law and Procedure*	3 crs.
CRJ221 Policing a Democracy*	3 crs.
CRJ241 Survey of Corrections*	3 crs.

Required 300 level course:

CRJ309 Theories of Crime and Crime Control	3 crs.
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Complete two additional CRJ elective courses at the 300-400 level (excludes Internships)

*Note: These courses 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.

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.

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 BIO161 or BIO162.
- Selection is competitive and students will be selected from those who fulfill the above requirements.

Exercise Science Requirements (45–51 crs.)

ESC244 Mechanical Analysis of Sport	3 crs.
ESC250 Introduction to Kinesiology	3 crs.
ESC321 Exercise Physiology I	4 crs.
ESC333 Biomechanics	3 crs.
ESC340 Prevention and Care of Athletic Injuries	3 crs.
ESC336 Motor Behavior	3 crs.
ESC350 Nutrition for Sport and Fitness	3 crs.
ESC352 Psychology of Physical Activity	3 crs.
ESC353 Research Design and Stats for Exercise Science	3 crs.
ESC420 Cardiac Rehabilitation and Special Populations	4 crs.
ESC421 Exercise Physiology II	4 crs.
ESC422 Exercise Testing and Prescription	3 crs.
ESC424 Internship	6, 9, or 12 crs
Electives	6–12 crs.

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 students 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.

Exercise Science Minor - 18 crs.

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.**

Course Requirements (18 crs.)

Prerequisites

BIO150 Human Biology
PSY101 General Psychology

Required

ESC243 Physiological Basis of Sport
ESC244 Mechanical Analysis of Sport
ESC250 Introduction to Kinesiology
ESC352 Psychology of Physical Activity

Two of the three following:

ESC340 Prevention and Care of Athletic Injuries
ESC336 Motor Behavior
ESC350 Nutrition for Sport & Fitness

Coaching Minor - 18 crs.

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.**

NOTE: *Education majors who student teach during their senior year are encouraged to declare the minor early.*

Coaching Requirements – (18 crs.)

BIO150 Human Biology
ESC243 Physiological Basis of Sport
ESC244 Mechanical Analysis of Sport
ESC325 Sport Psychology
ESC340 Prevention and Care of Athletic Injuries
ESC400 Methods of Coaching

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 (MIL131/132 and 231/232) 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 (MIL331/332 and 350/351) 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.

A total of eight credits from the 18 available in the core curriculum are credited towards graduation as restricted free electives. All 18 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 (LTC, MIL240), 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 (MIL240)

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 earn four credit hours and 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.

Program Requirements

Basic Program

MIL131, MIL132, MIL231, MIL232 (each 2 crs.)

or

MIL240 Leaders Training Course (LTC) (4 crs.)

or

Prior military service (up to 4 or more crs.)

Current Reserve/National Guard service (up to 4 or more crs.)

Advanced Program

MIL331, MIL332 (each 2 crs.)

Leadership Development and Assessment Course (LDAC) (0 crs.)

MIL350, MIL351 (each 3 crs.)

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 and 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 social work department 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. Admission procedures are fully described in the social work student handbook and in the Social Work Practice with Individuals course, which is a required course for all students, including transfers.

The program is organized by educational objectives 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.

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 help integrate the knowledge, values, and skills for competent generalist entry-level practice. Our social work program provides the professional foundation of social work knowledge, values, and skills and integrates these with the liberal arts perspective.

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 outcomes.

Required Courses (55 crs.)

SWK102 Social Work in Social Welfare	3 crs.
SWK150 Human Relations Lab	3 crs.
SWK250 Assessing Individuals in the Social Environment	3 crs.
SWK265 Understanding Diversity for Social Work Practice	3 crs.
SWK270 Social Work Practice with Individuals*	3 crs.
SWK275 Social Work Skills for Working with Groups	3 crs.
SWK327 Social Work Skills for Working with Families	3 crs.
SWK340 Assessing Organizations and Communities in Society	3 crs.
SWK347-359 Special Fields (<i>choose 1</i>)	3 crs.
SWK360 Research Techniques for Social Workers	3 crs.
SWK370 Social Work Practice with Organizations and Communities	3 crs.
SWK420 Gender Issues for Helping Professionals	3 crs.
SWK450 Social Welfare Policy and Services	3 crs.
SWK388 Preparation for Field Practicum	1 cr.
SWK391 Seminar in Social Work Methods**	3 crs.
SWK389 & SWK390 Field Work in Social Work**	12 crs.

* **Note:** This course is required of all students who wish to declare a social work major. Upon successful completion of the course, the pre-social work major may apply for full professional standing. 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 before they are eligible for field work and Seminar in Social Work Methods.*

Special Fields of Social Work (3 crs.)

- One of the following courses is required:
 SWK262 Introduction to Child Welfare Practice
 SWK347 Special Fields of Social Work: Behavioral Health Settings
 SWK348 Special Fields of Social Work: Substance Abuse Settings
 SWK351 Special Fields of Social Work: Aging Settings
 SWK356 Special Fields of Social Work: Developmental Disabilities Settings
 SWK357 Special Fields of Social Work: Health Care Settings
 SWK358 Special Fields of Social Work: School Settings
 SWK359 Special Fields of Social Work: Violence in Interpersonal Relationships

Electives (6 crs.)

- SWK383 Selected Topics 1 3 crs.
 SWK490 Selected Topics 1 3 crs.

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.

- PSY101 General Psychology 3 crs.
 BIO150 Human Biology 3 crs.
 SOC101 Introduction to Sociology: Society and Diversity 3 crs.
 PLS100 U.S. Government and Politics 3 crs.
 MAT117 Applied Statistics (recommended) 4 crs.
 or
 MAT165 Probability with Statistical Reasoning 3 crs.

Gerontology Minor – 18 crs.

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.

Core Requirements (6 crs.)

- To gain a foundation in aging knowledge and service, all students are required to complete the following courses:
 GRN100 Introduction to Gerontology
 GRN301 Gerontology Internship

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:
 ESC200 Lifestyle Management
 ESC250 Introduction to Kinesiology
 ESC352 Psychology of Physical Activity (prerequisite of PSY101 and ESC250)
 GRN303 Gerontology Internship II
 GRN391 Selected Topics in Gerontology*
 GRN480 Valuing Diversity in Later Life
 PSY352 Adult Development and Aging
 PSY391 Social Psychology of Aging**
 PSY420 Health Psychology
 PSY435 Psychopharmacology
 SOC249 Introduction to Social Gerontology
 SOC344 Sociology of Death
 SOC369 Medical Sociology
 SOC371 Social Dynamics of Aging
 SWK351 Special Fields of Social Work: Aging
 SWK357 Special Fields of Social Work: Health
 SWK420 Gender Issues for Helping Professionals
 SWK450 Social Welfare Policies and Services

Selected Topics with an aging theme or significant aging content from any department may count towards the gerontology minor. Contact the director for approval.

University requirements dictate that no more than 6 semester credit hours from your major may be applied to your minor.

**May be repeated.*

*** Taught as summer course through Professional, Continuing and Distance Education.*

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. 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.

Early Childhood/Elementary Education: PK-4 (B.S.Ed.)

(Minimum of 120 credit hours required)

Required Courses

ENG106 Writing Intensive First Year Seminar

or

ENG101 College Writing

HCS100 Introduction to Human Communication

HIS105 Historical Foundations of Global Cultures

HIS106 Thinking Historically in a Global Age

MAT110 Fundamentals of Mathematics I

MAT111 Fundamentals of Mathematics II

PSY101 General Psychology

Choose one:

ANT111 Cultural Anthropology

GEO140 Cultural Geography

SOC101 Introduction to Sociology: Society and Diversity

Biology (3 crs.)

Choose one:

BIO100 Basic Biology

BIO142 Introduction to Ecology*

BIO150 Human Biology

BIO162 Principles of Biology: Organismal Diversity

BIO208 Field Biology*

BIO242 Ecology*

Physical Sciences (3 crs.)

Choose one:

PHY108 Astronomy

PHY110 Physics for Society

PHY115 Physical Science: A Laboratory Approach*

PHY121 Introductory Physics I*

PHY205 Intermediate Physics I*

CHM103 A Cultural Approach

CHM105 An Observational Approach*

CHM121 Chemical Bonding

Earth Sciences (3 crs.)

Choose one:

ESS108 Conservation of Natural Resources

ESS110 Introduction to Geology*

ESS111 Introduction to the Atmosphere*

ESS210 Physical Geology*

BIO145 Environmental Biology

*Note: One course in either biology, physical sciences, or earth sciences must be a lab course which is indicated by an asterisk.

Fine Arts (6 crs.)

(Choose 2 from different disciplines)

ART101 MUS110

ART231 MUS121

ART232 MUS261

ART274 THE121

ART339

Political, Geographic and Economic (6 crs.)

(Choose 2 from different disciplines)

ECO101 GEO101

ECO102 PLS100

Literature Elective (3 crs.)

Choose one:

ENG243 The Art of the Film

ENG248 Introduction to Culturally Diverse Literature of the U.S.

ENG250 Introduction to Literature

Foreign Literature course, with advisement

Professional Core (60 crs.)

ECH210 The Early Childhood Profession (3 crs.)

ECH220 The Developing Child I: Physical, Motor, Health and Well-being (3 crs.)

ECH253 Early Literacy for Children and Families, Birth - 5 years (3 crs.)

ECH260 The Developing Child II: Cognitive and Language Development (3 crs.)

ECH320 The Developing Child III: Social and Emotional Development and Guiding Children's Behavior (3 crs.)

ECH333 Social Studies Methods in PK-4 (3 crs.)

ECH343 Mathematics Methods I, PK-1(3 crs.)

ECH370 Assessing Young Children (3 crs.)

ECH373 Science and Technology Methods in PK-4 (3 crs.)

ECH393 Mathematics Methods II, grades 2-4 (2 crs.)

ECH415 Professional Practicum in PK-4 (3 crs.)

ECH440 Building Family and Community Partnerships (3 crs.)

ECH453 Integrated Curriculum, PK-4 (3 crs.)

ECH480 Early Childhood Professional Seminar (3 crs.)

EEC273 Introduction to Exceptionalities: Understanding Diverse Learners (3 crs.)

EEC423 Effective Instructional Strategies for Children with Exceptionalities (3 crs.)

EEC483 Assessing Children with Exceptionalities for Curricular Decision Making (3 crs.)

RDG323 Processes of Word/Text/Comprehension in Grades 1-4 (3 crs.)

RDG363 Reading and Writing in PK-4 (2 crs.)

RDG383 English Language Learners in PK-4 (2 crs.)

RDG443 Reading Measures and Interventions (3 crs.)

Student Teaching Semester

ECH489 Student Teaching and Professional Practicum (12 crs.)

Environmental Education Certification - 24 crs.

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 EDU410 Environmental Education Practicum.

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.

Required Course

EDU410 Environmental Education Practicum (3 crs.)

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.

- A. BIO142 Introduction to Ecology
BIO 242 Ecology
- B. BIO208 Field Biology
BIO210 Field Zoology
BIO448 Field Botany and Plant Taxonomy
- C. ESS110 Introduction to Geology
ESS111 Introduction to the Atmosphere
ESS210 Physical Geology
- D. BIO145 Environmental Biology
ESS108 Conservation of Natural Resources

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.

ANT111 Cultural Anthropology
ANT121 Physical Anthropology
BIO205 Marine Biology*
BIO220 Microbiology
BIO245 Marine Ecology*
BIO444 Conservation Biology
BIO446 Ecology of Marine Plankton*
BIO455 Algae and Aquatic Plants
BIO462 Invertebrate Zoology
BIO463 Vertebrate Zoology
BIO514 Aquatic Entomology
BIO547 Wetland Ecology
BIO558 Microbial Ecology
CHM103 A Cultural Approach
CHM105 An Observational Approach

ECO310 Public Finance
ECO340 Introduction to Regional Economics
ECO345 The Economics of Growth and Development
ESS220 Oceanography
ESS355 Meteorology
ESS413 Mineral and Rock Resources
ESS442 Environmental Geology
GEO103 Geography of the U.S. and Canada
GEO140 Cultural Geography
GEO203 Climatology
GEO224 Soils
GEO226 Hydrology
GEO244 Land Use
GEO440 Field Techniques
GEO444 Environmental Land Use Planning
PLS331 City Politics and Administration
PLS371 Public Management
PLS384 Regional and Urban Planning
MAT117 Applied Statistics
MAT165 Probability with Statistical Reasoning

* 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.

Elementary/Middle Level Education: Grades 4-8 (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.

An asterisk* indicates a class that meets a general education requirement.

Science

Concentration Area

Science (31 crs.)

BIO161 Principles of Biology: Cell Structure and Function*	4 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.
BIO208 Field Biology	3 crs.
or	
BIO242 Ecology	3 crs.
CHM105 An Observational Approach*	3 crs.
CHM121 Chemical Bonding	3 crs.
and	
CHM125 Chemical Bonding Lab	1 cr.
or	
PHY122 Introduction to Physics II	3 crs.
and	
PHY125 Introduction to Physics II Lab	1 cr.
PHY121 Physics I	3 crs.
PHY123 Physics I Lab	1 cr.

ESS110 Introduction to Geology*	3 crs.	TCH366 Teaching Science at the Middle Level	3 crs.
ESS111 Introduction to Atmosphere	3 crs.	TCH251 Elements of Middle Level Instruction	3 crs.
ESS210 Physical Geography	3 crs.	RDG413 Teaching Reading to English Language Learners	3 crs.
<i>or</i>		<i>Student Teaching</i>	
ESS220 Oceanography	3 crs.	EDU495 Student Teaching Experience	12 crs.
<i>or</i>			
ESS355 Meteorology	3 crs.		
<i>or</i>			
ESS404 Applied Meteorology and Climatology	3 crs.		
<i>Cognate Areas</i>			
Social Studies (12 crs.)		Mathematics	
GEO101 World Geography*	3 crs.	<i>Concentration Area</i>	
ECO101 Macroeconomics*	3 crs.	Mathematics (30 crs.)	
<i>or</i>		MAT110 Fundamentals of Mathematics I*	3 crs.
PLS100 U.S. Government and Politics*	3 crs.	MAT111 Fundamentals of Mathematics II*	3 crs.
HIS105 Historical Foundations of Global Cultures*	3 crs.	MAT211 Calculus I	4 crs.
HIS106 Thinking Historically in a Global Age*	3 crs.	MAT225 Discrete Mathematics	4 crs.
Mathematics (14 crs.)		MAT313 Statistics	4 crs.
MAT110 Fundamentals of Mathematics I*	3 crs.	MAT318 Elementary Linear Algebra	3 crs.
MAT111 Fundamentals of Mathematics II*	3 crs.	MAT326 Mathematical Modeling	3 crs.
MAT211 Calculus I	4 crs.	MAT333 Euclidean and Non-Euclidean Geometry	3 crs.
MAT225 Discrete Mathematics	4 crs.	MAT400 History of Mathematics	3 crs.
Language Arts (12 crs.)		<i>Cognate Areas</i>	
ENG106 Writing Intensive Seminar*	3 crs.	Language Arts (12 crs.)	
<i>or</i>		ENG106 Writing Intensive Seminar*	3 crs.
ENG101 College Writing*	3 crs.	<i>or</i>	
<i>or</i>		ENG101 College Writing*	3 crs.
ENG110 Advanced Placement Writing*	3 crs.	ENG110 Advanced Placement Writing*	3 crs.
HCS100 Introduction to Human Communication*	3 crs.	HCS100 Introduction to Human Communication*	3 crs.
RDG232 Reading in the Elementary School	3 crs.	RDG232 Reading in the Elementary School	3 crs.
RDG340 Seminar in Literacy Tutoring	3 crs.	RDG340 Seminar in Literacy Tutoring	3 crs.
<i>Additional Coursework</i>		Science (12 crs.)	
Literature (3 crs.)		BIO100 Basic Biology*	3 crs.
ENG243 Art of the Film*	3 crs.	CHM105 An Observational Approach*	3 crs.
ENG248 Introduction to Culturally Diverse Literature of the U.S.*	3 crs.	PHY121 Physics I	3 crs.
ENG250 Introduction to Literature*	3 crs.	ESS110 Introduction to Geology*	3 crs.
Fine Arts (6 crs.) (Select two from different disciplines)		Social Studies (12 crs.)	
<i>Music</i>		GEO101 World Geography*	3 crs.
MUS110 Fundamental Music Skills*	3 crs.	ECO101 Macroeconomics*	3 crs.
MUS121 Introduction to Music*	3 crs.	<i>or</i>	
MUS261 World Music*	3 crs.	PLS100 U.S. Government and Politics*	3 crs.
<i>Art</i>		HIS105 Historical Foundations of Global Cultures*	3 crs.
ART101 Art Appreciation* (<i>recommended</i>)	3 crs.	HIS106 Thinking Historically in a Global Age*	3 crs.
ART231 Art History I*	3 crs.	Literature (3 crs.)	
ART232 Art History II*	3 crs.	ENG243 Art of the Film*	3 crs.
ART274 Introduction to Cultural Studio*	3 crs.	ENG248 Introduction to Culturally Diverse Literature of the U.S.*	3 crs.
ART339 History of American Art*	3 crs.	ENG250 Introduction to Literature*	3 crs.
<i>Theatre</i>		Fine Arts (6 crs.) (Select two from different disciplines)	
THE121 Introduction to Theatre*	3 crs.	<i>Music</i>	
Social and Behavioral Sciences (6 crs.)		MUS110 Fundamental Music Skills*	3 crs.
PSY101 General Psychology*	3 crs.	MUS121 Introduction to Music*	3 crs.
<i>Choose one of the following:</i>		MUS261 World Music*	3 crs.
ANT111 Cultural Anthropology*	3 crs.	<i>Art</i>	
GEO140 Cultural Geography*	3 crs.	ART101 Art Appreciation* (<i>recommended</i>)	3 crs.
SOC101 Introduction to Sociology: Society and Diversity*	3 crs.	ART231 Art History I*	3 crs.
Professional Core and Student Teaching (39 crs.)		ART232 Art History II*	3 crs.
TCH206 Social Foundations of Middle Level Education	3 crs.	ART274 Introduction to Cultural Studio*	3 crs.
TCH261 Adolescent Development and Learning Theory	3 crs.	ART339 History of American Art*	3 crs.
EEC273 Introduction to Exceptionalities: Understanding Diverse Learners	3 crs.	<i>Theatre</i>	
EEC423 Effective Instructional Strategies for Students with Exceptionalities	3 crs.	THE121 Introduction to Theatre*	3 crs.
EEC447 Instructional Content and Practices for Special Education	3 crs.	Social and Behavioral Sciences (6 crs.)	
EEC483 Assessing Children with Exceptionalities for Curricular Decision Making	3 crs.	PSY101 General Psychology*	3 crs.
		<i>Choose one of the following:</i>	
		ANT111 Cultural Anthropology*	3 crs.
		GEO140 Cultural Geography*	3 crs.
		SOC101 Introduction to Sociology: Society and Diversity*	3 crs.

Professional Core and Student Teaching (39 crs.)

TCH206 Social Foundations of Middle Level Education	3 crs.
TCH261 Adolescent Development and Learning Theory	3 crs.
EEC483 Assessing Children with Exceptionalities for Curricular Decision Making	3 crs.
EEC273 Introduction to Exceptionalities: Understanding Diverse Learners	3 crs.
EEC423 Effective Instructional Strategies for Students with Exceptionalities	3 crs.
EEC447 Instructional Content and Practices for Special Education	3 crs.
TCH342 Teaching Middle Level Mathematics	3 crs.
TCH251 Elements of Middle Level Instruction	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.
<i>Student Teaching</i>	
EDU495 Student Teaching Experience	12 crs.

Social Studies*Concentration Area***Social Studies (33 crs.)**

GEO101 World Geography*	3 crs.
GEO140 Cultural Geography*	3 crs.
<i>Choose one:</i>	
GEO305 Geography of Europe	3 crs.
GEO308 Geography of Latin America	3 crs.
GEO313 Geography of South and South-East Asia	3 crs.
GEO317 Geography of East Asia	3 crs.
GEO415 Regional Geography Studies	3 crs.
GEO450 Field Studies	1-3 crs.
PLS100 US Government and Politics	3 crs.
<i>Choose One:</i>	
PLS311 The Legislative Process	3 crs.
PLS312 The American Presidency	3 crs.
PLS313 The Judicial Process	3 crs.
PLS342 American Foreign Policy	3 crs.
PLS356 Politics of Developing Regions	3 crs.
ECO101 Macroeconomics*	3 crs.
ECO325 Globalization Issues and Policies	3 crs.
<i>or</i>	
ECO345 Economics of Growth and Development	3 crs.
HIS105 Historical Foundations of Global Cultures*	3 crs.
HIS106 Thinking Historically in a Global Age*	3 crs.
HIS201 Early History of the United States	3 crs.
<i>or</i>	
HIS202 Recent History of the United States	3 crs.
<i>Choose one:</i>	
HIS301 The West in American History	3 crs.
HIS302 American Economic History	3 crs.
HIS304 American Diplomatic History	3 crs.
HIS305 The Civil War	3 crs.
HIS306 History of the South	3 crs.
HIS309 History of the American Worker	3 crs.
HIS314 Jacksonian America	3 crs.
HIS318 History of U.S. Women	3 crs.
HIS338 Colonial America	3 crs.
HIS341 African American History	3 crs.
HIS342 U.S. Immigration and Ethnicity	3 crs.
HIS345 Military History of the United States	3 crs.
HIS402 Revolutionary America	3 crs.
HIS413 Pennsylvania History	3 crs.

*Cognate Areas***Mathematics (14 crs.)**

MAT110 Fundamentals of Mathematics I*	3 crs.
MAT111 Fundamentals of Mathematics II*	3 crs.
MAT211 Calculus I	4 crs.
MAT225 Discrete Mathematics	4 crs.

Science (12 crs.)

BIO100 Basic Biology*	3 crs.
CHM105 An Observational Approach*	3 crs.
PHY121 Physics I	3 crs.
ESS110 Introduction to Geology*	3 crs.
Language Arts (12 crs.)	
ENG106 Writing Intensive Seminar*	3 crs.
<i>or</i>	
ENG101 College Writing*	3 crs.
<i>or</i>	
ENG110 Advanced Placement Writing*	3 crs.
HCS100 Introduction to Human Communication*	3 crs.
RDG232 Reading in the Elementary School	3 crs.
RDG340 Seminar in Literacy Tutoring	3 crs.
Literature (3 crs.)	
ENG243 Art of the Film*	3 crs.
ENG248 Introduction to Culturally Diverse Literature of the U.S.*	3 crs.
ENG250 Introduction to Literature*	3 crs.
Fine Arts (6 crs.) (Select two from different disciplines)	
<i>Music</i>	
MUS110 Fundamental Music Skills*	3 crs.
MUS121 Introduction to Music*	3 crs.
MUS261 World Music*	3 crs.
<i>Art</i>	
ART101 Art Appreciation* (<i>recommended</i>)	3 crs.
ART231 Art History I*	3 crs.
ART232 Art History II*	3 crs.
ART274 Introduction to Cultural Studio*	3 crs.
ART339 History of American Art*	3 crs.
<i>Theatre</i>	
THE121 Introduction to Theatre*	3 crs.

Social and Behavioral Sciences (3 crs.)

PSY101 General Psychology*	3 crs.
Professional Core and Student Teaching (39 crs.)	
TCH206 Social Foundations of Middle Level Education	3 crs.
TCH261 Adolescent Development and Learning Theory	3 crs.
EEC483 Assessing Children with Exceptionalities for Curricular Decision Making	3 crs.
EEC273 Introduction to Exceptionalities: Understanding Diverse Learners	3 crs.
EEC423 Effective Instructional Strategies for Students with Exceptionalities	3 crs.
EEC447 Instructional Content and Practices for Special Education	3 crs.
TCH348 Teaching Middle Level Social Studies	3 crs.
TCH251 Elements of Middle Level Instruction	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.
<i>Student Teaching</i>	
EDU495 Student Teaching Experience	12 crs.

English/Language Arts*Concentration Area***Language Arts (30 crs.)**

ENG106 Writing Intensive Seminar*	3 crs.
<i>or</i>	
ENG101 College Writing*	3 crs.
<i>or</i>	
ENG110 Advanced Placement Writing*	3 crs.
ENG190 Literacy in America*	3 crs.
ENG248 Introduction to Culturally Diverse Literature*	3 crs.
ENG250 Introduction to Literature*	3 crs.
ENG366 History and Structure of the English Language	3 crs.
ENG420 Studies in Writing	3 crs.
ENG426 Adolescent Literature	3 crs.
HCS100 Introduction to Human Communication*	3 crs.
TCH303 Books and Materials	3 crs.

RDG232 Reading in the Elementary School	3 crs.
RDG334 Reading Assessment	3 crs.
RDG340 Seminar in Literacy Tutoring	3 crs.
<i>Cognate Areas</i>	
Mathematics (14 crs.)	
MAT110 Fundamentals of Mathematics I*	3 crs.
MAT111 Fundamentals of Mathematics II*	3 crs.
MAT211 Calculus I	4 crs.
MAT225 Discrete Mathematics	4 crs.
Science (12 crs.)	
BIO100 Basic Biology*	3 crs.
CHM105 An Observational Approach*	3 crs.
PHY121 Physics I	3 crs.
ESS110 Introduction to Geology*	3 crs.
Social Studies (12 crs.)	
GEO101 World Geography*	3 crs.
ECO101 Macroeconomics*	3 crs.
<i>or</i>	
PLS100 U.S. Government and Politics*	3 crs.
HIS105 Historical Foundations of Global Cultures*	3 crs.
HIS106 Thinking Historically in a Global Age*	3 crs.
Fine Arts (6 crs.)	
(Select two from different disciplines)	
<i>Music</i>	
MUS110 Fundamental Music Skills*	3 crs.
MUS121 Introduction to Music*	3 crs.
MUS261 World Music*	3 crs.
<i>Art</i>	
ART101 Art Appreciation* (<i>recommended</i>)	3 crs.
ART231 Art History I*	3 crs.
ART232 Art History II*	3 crs.
ART274 Introduction to Cultural Studio*	3 crs.
ART339 History of American Art*	3 crs.
<i>Theatre</i>	
THE121 Introduction to Theatre*	3 crs.
Social and Behavioral Sciences (6 crs.)	
PSY101 General Psychology*	3 crs.
<i>Choose one of the following:</i>	
ANT111 Cultural Anthropology*	3 crs.
GEO140 Cultural Geography*	3 crs.
SOC101 Introduction to Sociology: Society and Diversity*	3 crs.
Professional Core and Student Teaching (42 crs.)	
TCH206 Social Foundations of Middle Level Education	3 crs.
TCH261 Adolescent Development and Learning Theory	3 crs.
EEC483 Assessing Children with Exceptionalities for Curricular Decision Making	3 crs.
EEC273 Introduction to Exceptionalities: Understanding Diverse Learners	3 crs.
EEC423 Effective Instructional Strategies for Students with Exceptionalities	3 crs.
EEC447 Instructional Content and Practices for Special Education	3 crs.
TCH322 Teaching Middle Level Language Arts	3 crs.
TCH251 Elements of Middle Level Instruction	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.
<i>Student Teaching</i>	
EDU495 Student Teaching Experience	15 crs.

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.

An asterisk * indicates a class that meets a general education requirement.

Mathematics and Science

Concentration Areas

Mathematics (21 crs.)

MAT110 Fundamentals of Mathematics I*	3 crs.
MAT111 Fundamentals of Mathematics II*	3 crs.
MAT211 Calculus I	4 crs.
MAT225 Discrete Mathematics	4 crs.
MAT313 Statistics	4 crs.
MAT318 Elementary Linear Algebra	3 crs.
<i>or</i>	
MAT326 Mathematical Modeling	3 crs.
<i>or</i>	
MAT333 Euclidean and Non-Euclidean Geometry	3 crs.

Science (22-23 crs.)

BIO100 Basic Biology*	3 crs.
<i>or</i>	
BIO162 Principles of Biology: Organismal Diversity	4 crs.
CHM105 An Observational Approach*	3 crs.
PHY108 Astronomy	3 crs.
PHY121 Physics I	3 crs.
PHY123 Physics I Lab	1 cr.
ESS110 Introduction to Geology*	3 crs.
ESS111 Introduction to the Atmosphere	3 crs.
BIO142 Introduction to Ecology	3 crs.
<i>or</i>	
BIO145 Environmental Biology	3 crs.

Cognate Areas

Social Studies (12 crs.)

GEO101 World Geography*	3 crs.
ECO101 Macroeconomics*	3 crs.
<i>or</i>	
PLS100 U.S. Government and Politics*	3 crs.
HIS105 Historical Foundations of Global Cultures*	3 crs.
HIS106 Thinking Historically in a Global Age*	3 crs.

Language Arts (12 crs.)

ENG106 Writing Intensive Seminar*	3 crs.
<i>or</i>	
ENG101 College Writing*	3 crs.
<i>or</i>	
ENG110 Advanced Placement Writing*	3 crs.
HCS100 Introduction to Human Communication*	3 crs.
RDG232 Reading in the Elementary School	3 crs.
RDG340 Seminar in Literacy Tutoring	3 crs.

Literature (3 crs.)

ENG243 Art of the Film*	3 crs.
ENG248 Introduction to Culturally Diverse Literature of the U.S.*	3 crs.
ENG250 Introduction to Literature*	3 crs.

Fine Arts (6 crs.) (Select two from different disciplines)

<i>Music</i>	
MUS110 Fundamental Music Skills*	3 crs.
MUS121 Introduction to Music*	3 crs.
MUS261 World Music*	3 crs.

<i>Art</i>					
ART101 Art Appreciation* (<i>recommended</i>)	3 crs.			ECO325 Globalization Issues and Policies	3 crs.
ART231 Art History I*	3 crs.			<i>or</i>	
ART232 Art History II*	3 crs.			ECO345 Economics of Growth and Development	3 crs.
ART274 Introduction to Cultural Studio*	3 crs.			<i>Cognate Areas</i>	
ART339 History of American Art*	3 crs.			Language Arts (12 crs.)	
<i>Theatre</i>				ENG106 Writing Intensive Seminar*	3 crs.
THE121 Introduction to Theatre*	3 crs.			<i>or</i>	
Social and Behavioral Sciences (6 crs.)				ENG101 College Writing*	3 crs.
PSY101 General Psychology*	3 crs.			<i>or</i>	
<i>Choose one:</i>				ENG110 Advanced Placement Writing*	3 crs.
ANT111 Cultural Anthropology*	3 crs.			HCS100 Introduction to Human Communication*	3 crs.
GEO140 Cultural Geography*	3 crs.			RDG232 Reading in the Elementary School	3 crs.
SOC101 Introduction to Sociology: Society and Diversity*	3 crs.			RDG340 Seminar in Literacy Tutoring	3 crs.
Professional Core and Student Teaching: 39 credits				Mathematics (14 crs.)	
TCH206 Social Foundations of Middle Level Education	3 crs.			MAT110 Fundamentals of Mathematics I*	3 crs.
TCH261 Adolescent Development and Learning Theory	3 crs.			MAT111 Fundamentals of Mathematics II*	3 crs.
EEC483 Assessing Children with Exceptionalities for Curricular Decision Making	3 crs.			MAT211 Calculus I	4 crs.
EEC273 Introduction to Exceptionalities: Understanding Diverse Learners	3 crs.			MAT225 Discrete Mathematics	4 crs.
EEC423 Effective Instructional Strategies for Students with Exceptionalities	3 crs.			Literature (3 crs.)	
EEC447 Instructional Content and Practices for Special Education	3 crs.			ENG243 Art of the Film*	3 crs.
TCH342 Teaching Middle Level Mathematics	3 crs.			ENG248 Introduction to Culturally Diverse Literature of the U.S.*	3 crs.
TCH366 Teaching Science at the Middle Level	3 crs.			ENG250 Introduction to Literature*	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.			Fine Arts (6 crs.)	
<i>Student Teaching</i>				(Select two from different disciplines)	
EDU495 Student Teaching Experience	12 crs.			<i>Music</i>	
Science and Social Studies				MUS110 Fundamental Music Skills*	3 crs.
<i>Concentration Areas</i>				MUS121 Introduction to Music*	3 crs.
Science (22-23 crs.)				MUS261 World Music*	3 crs.
BIO100 Basic Biology*	3 crs.			<i>Art</i>	
<i>or</i>				ART101 Art Appreciation* (<i>recommended</i>)	3 crs.
BIO162 Principles of Biology: Organismal Diversity	4 crs.			ART231 Art History I*	3 crs.
CHM105 An Observational Approach*	3 crs.			ART232 Art History II*	3 crs.
PHY108 Astronomy	3 crs.			ART274 Introduction to Cultural Studio*	3 crs.
PHY121 Physics I	3 crs.			ART339 History of American Art*	3 crs.
PHY123 Physics I Lab	1 cr.			<i>Theatre</i>	
ESS110 Introduction to Geology*	3 crs.			THE121 Introduction to Theatre*	3 crs.
ESS111 Introduction to the Atmosphere	3 crs.			Social and Behavioral Sciences (6 crs.)	
BIO142 Introduction to Ecology	3 crs.			PSY101 General Psychology*	3 crs.
<i>or</i>				<i>Choose one of the following:</i>	
BIO145 Environment Biology	3 crs.			ANT111 Cultural Anthropology*	3 crs.
Social Studies (21 crs.)				GEO140 Cultural Geography*	3 crs.
GEO101 World Geography*	3 crs.			SOC101 Introduction to Sociology: Society and Diversity*	3 crs.
ECO101 Macroeconomics*	3 crs.			Professional Core and Student Teaching: 39 credits	
HIS105 Historical Foundations of Global Cultures*	3 crs.			TCH206 Social Foundations of Middle Level Education	3 crs.
HIS106 Thinking Historically in a Global Age*	3 crs.			TCH261 Adolescent Development and Learning Theory	3 crs.
<i>Choose one:</i>				EEC483 Assessing Children with Exceptionalities for Curricular Decision Making	3 crs.
GEO305 Geography of Europe	3 crs.			EEC273 Introduction to Exceptionalities: Understanding Diverse Learners	3 crs.
GEO308 Geography of Latin America	3 crs.			EEC423 Effective Instructional Strategies for Students with Exceptionalities	3 crs.
GEO313 Geography of South and South-East Asia	3 crs.			EEC447 Instructional Content and Practices for Special Education	3 crs.
GEO317 Geography of East Asia	3 crs.			TCH348 Teaching Middle Level Social Studies	3 crs.
GEO415 Regional Geography Studies	3 crs.			TCH366 Teaching Science at the Middle Level	3 crs.
GEO450 Field Studies	3 crs.			RDG413 Teaching Reading to English Language Learners	3 crs.
<i>Choose one:</i>				<i>Student Teaching</i>	
PLS311 The Legislative Process	3 crs.			EDU495 Student Teaching Experience	12 crs.
PLS312 The American Presidency	3 crs.				
PLS313 The Judicial Process	3 crs.				
PLS342 American Foreign Policy	3 crs.				
PLS356 Politics of Developing Regions	3 crs.				

Science and English/Language Arts*Concentration Areas***Science (22-23 crs.)**

BIO100 Basic Biology* 3 crs.

or

BIO162 Principles of Biology: Organismal Diversity 4 crs.

CHM105 An Observational Approach* 3 crs.

PHY108 Astronomy 3 crs.

PHY121 Physics I 3 crs.

PHY123 Physics I Lab 1 cr.

ESS110 Introduction to Geology* 3 crs.

ESS111 Introduction to the Atmosphere 3 crs.

BIO142 Introduction to Ecology 3 crs.

or

BIO145 Environmental Biology 3 crs.

Language Arts (21 crs.)

ENG190 Literacy in America* 3 crs.

or

ENG248 Introduction to Culturally Diverse Literature of the U.S.* 3 crs.

or

ENG250 Introduction to Literature* 3 crs.

ENG420 Studies in Writing 3 crs.

ENG426 Adolescent Literature 3 crs.

RDG232 Reading in the Elementary School 3 crs.

RDG334 Reading Assessment 3 crs.

RDG340 Seminar in Literacy Tutoring 3 crs.

ENG106 Writing Intensive Seminar* 3 crs.

or

ENG101 College Writing* 3 crs.

or

ENG110 Advanced Placement Writing* 3 crs.

*Cognate Areas***Social Studies (12 crs.)**

GEO101 World Geography* 3 crs.

ECO101 Macroeconomics* 3 crs.

or

PLS100 U.S. Government and Politics* 3 crs.

HIS105 Historical Foundations of Global Cultures* 3 crs.

HIS106 Thinking Historically in a Global Age* 3 crs.

Mathematics (14 crs.)

MAT110 Fundamentals of Mathematics I* 3 crs.

MAT111 Fundamentals of Mathematics II* 3 crs.

MAT211 Calculus I 4 crs.

MAT225 Discrete Mathematics 4 crs.

Writing/Fluency Competencies (3 crs.)

HCS100 Introduction to Human Communication* 3 crs.

Fine Arts (6 crs.)

(Select two from different disciplines)

Music

MUS110 Fundamental Music Skills* 3 crs.

MUS121 Introduction to Music* 3 crs.

MUS261 World Music* 3 crs.

Art

ART101 Art Appreciation* (recommended) 3 crs.

ART231 Art History I* 3 crs.

ART232 Art History II* 3 crs.

ART274 Introduction to Cultural Studio* 3 crs.

ART339 History of American Art* 3 crs.

Theatre

THE121 Introduction to Theatre* 3 crs.

Social and Behavioral Sciences (6 crs.)

PSY101 General Psychology* 3 crs.

Choose one:

ANT111 Cultural Anthropology* 3 crs.

GEO140 Cultural Geography* 3 crs.

SOC101 Introduction to Sociology: Society and Diversity* 3 crs.

Professional Core and Student Teaching: 39 credits

TCH206 Social Foundations of Middle Level Education 3 crs.

TCH261 Adolescent Development and Learning Theory 3 crs.

EEC483 Assessing Children with Exceptionalities for Curricular Decision Making 3 crs.

EEC273 Introduction to Exceptionalities: Understanding Diverse Learners 3 crs.

EEC423 Effective Instructional Strategies for Students with Exceptionalities 3 crs.

EEC447 Instructional Content and Practices for Special Education 3 crs.

TCH322 Teaching Middle Level Language Arts 3 crs.

TCH366 Teaching Science at the Middle Level 3 crs.

RDG413 Teaching Reading to English Language Learners 3 crs.

Student Teaching

EDU495 Student Teaching Experience 12 crs.

Mathematics and Social Studies*Concentration Areas***Mathematics (21 crs.)**

MAT110 Fundamentals of Mathematics I* 3 crs.

MAT111 Fundamentals of Mathematics II* 3 crs.

MAT211 Calculus I 4 crs.

MAT225 Discrete Mathematics 4 crs.

MAT313 Statistics 4 crs.

MAT318 Elementary Linear Algebra 3 crs.

or

MAT326 Mathematical Modeling 3 crs.

or

MAT333 Euclidean and Non-Euclidean Geometry 3 crs.

Social Studies (21 crs.)

GEO101 World Geography* 3 crs.

ECO101 Macroeconomics* 3 crs.

HIS105 Historical Foundations of Global Cultures* 3 crs.

HIS106 Thinking Historically in a Global Age* 3 crs.

Choose one:

GEO305 Geography of Europe 3 crs.

GEO308 Geography of Latin America 3 crs.

GEO313 Geography of South and South-East Asia 3 crs.

GEO317 Geography of East Asia 3 crs.

GEO415 Regional Geography Studies 3 crs.

GEO450 Field Studies 3 crs.

Choose one:

PLS311 The Legislative Process 3 crs.

PLS312 The American Presidency 3 crs.

PLS313 The Judicial Process 3 crs.

PLS342 American Foreign Policy 3 crs.

PLS356 Politics of Developing Regions 3 crs.

ECO325 Globalization Issues and Policies 3 crs.

or

ECO345 Economics of Growth and Development 3 crs.

*Cognate Areas***Science (12 crs.)**

BIO100 Basic Biology* 3 crs.

CHM105 An Observational Approach 3 crs.

PHY121 Physics I 3 crs.

ESS110 Introduction to Geology* 3 crs.

Language Arts (12 crs.)

RDG232 Reading in the Elementary School 3 crs.

RDG340 Seminar in Literacy Tutoring 3 crs.

ENG106 Writing Intensive Seminar* 3 crs.

or

ENG101 College Writing* 3 crs.

or

ENG110 Advanced Placement Writing* 3 crs.

HCS100 Introduction to Human Communication* 3 crs.

Literature (3 crs.)					
ENG243 Art of the Film*	3 crs.			ENG106 Writing Intensive Seminar*	3 crs.
ENG248 Introduction to Culturally Diverse Literature of the U.S.*	3 crs.			<i>or</i>	
ENG250 Introduction to Literature*	3 crs.			ENG101 College Writing*	3 crs.
Fine Arts (6 crs.)				<i>or</i>	
(Select two from different disciplines)				ENG110 Advanced Placement Writing*	3 crs.
<i>Music</i>				<i>Cognate Areas</i>	
MUS110 Fundamental Music Skills*	3 crs.			Science (12 crs.)	
MUS121 Introduction to Music*	3 crs.			BIO100 Basic Biology*	3 crs.
MUS261 World Music*	3 crs.			CHM105 An Observational Approach*	3 crs.
<i>Art</i>				PHY121 Physics I	3 crs.
ART101 Art Appreciation* (<i>recommended</i>)	3 crs.			ESS110 Introduction to Geology*	3 crs.
ART231 Art History I*	3 crs.			Social Studies (12 crs.)	
ART232 Art History II*	3 crs.			GEO101 World Geography*	3 crs.
ART274 Introduction to Cultural Studio*	3 crs.			ECO101 Macroeconomics*	3 crs.
ART339 History of American Art*	3 crs.			<i>or</i>	
<i>Theatre</i>				PLS100 U.S. Government and Politics*	3 crs.
THE121 Introduction to Theatre*	3 crs.			HIS105 Historical Foundations of Global Cultures*	3 crs.
Social and Behavioral Sciences (6 crs.)				HIS106 Thinking Historically in a Global Age*	3 crs.
PSY101 General Psychology*	3 crs.			Writing/Fluency Competencies (3 crs.)	
<i>Choose one of the following:</i>				HCS100 Introduction to Human Communication*	3 crs.
ANT111 Cultural Anthropology*	3 crs.			Fine Arts (6 crs.)	
GEO140 Cultural Geography*	3 crs.			(Select two from different disciplines)	
SOC101 Introduction to Sociology: Society and Diversity*	3 crs.			<i>Music</i>	
Professional Core and Student Teaching: 39 credits				MUS110 Fundamental Music Skills*	3 crs.
TCH206 Social Foundations of Middle Level Education	3 crs.			MUS121 Introduction to Music*	3 crs.
TCH261 Adolescent Development and Learning Theory	3 crs.			MUS261 World Music*	3 crs.
EEC483 Assessing Children with Exceptionalities for Curricular Decision Making	3 crs.			<i>Art</i>	
EEC273 Introduction to Exceptionalities: Understanding Diverse Learners	3 crs.			ART101 Art Appreciation* (<i>recommended</i>)	3 crs.
EEC423 Effective Instructional Strategies for Students with Exceptionalities	3 crs.			ART231 Art History I*	3 crs.
EEC447 Instructional Content and Practices for Special Education	3 crs.			ART232 Art History II*	3 crs.
TCH342 Teaching Middle Level Mathematics	3 crs.			ART274 Introduction to Cultural Studio*	3 crs.
TCH348 Teaching Middle Level Social Studies	3 crs.			ART339 History of American Art*	3 crs.
RDG413 Teaching Reading to English Language Learners	3 crs.			<i>Theatre</i>	
<i>Student Teaching</i>				THE121 Introduction to Theatre*	3 crs.
EDU495 Student Teaching Experience	12 crs.			Social and Behavioral Sciences (6 crs.)	
				PSY101 General Psychology*	3 crs.
				<i>Choose one:</i>	
				ANT111 Cultural Anthropology*	3 crs.
				GEO140 Cultural Geography*	3 crs.
				SOC101 Introduction to Sociology: Society and Diversity*	3 crs.
				Professional Core and Student Teaching: 39 credits	
				TCH206 Social Foundations of Middle Level Education	3 crs.
				TCH261 Adolescent Development and Learning Theory	3 crs.
				EEC483 Assessing Children with Exceptionalities for Curricular Decision Making	3 crs.
				EEC273 Introduction to Exceptionalities: Understanding Diverse Learners	3 crs.
				EEC423 Effective Instructional Strategies for Students with Exceptionalities	3 crs.
				EEC447 Instructional Content and Practices for Special Education	3 crs.
				TCH322 Teaching Middle Level Language Arts	3 crs.
				TCH342 Teaching Middle Level Mathematics	3 crs.
				RDG413 Teaching Reading to English Language Learners	3 crs.
				<i>Student Teaching</i>	
				EDU495 Student Teaching Experience	12 crs.
Mathematics and English/Language Arts					
<i>Concentration Areas</i>					
Mathematics (21 crs.)					
MAT110 Fundamentals of Mathematics I*	3 crs.				
MAT111 Fundamentals of Mathematics II*	3 crs.				
MAT211 Calculus I	4 crs.				
MAT225 Discrete Mathematics	4 crs.				
MAT313 Statistics	4 crs.				
MAT318 Elementary Linear Algebra	3 crs.				
<i>or</i>					
MAT326 Mathematical Modeling	3 crs.				
<i>or</i>					
MAT333 Euclidean and Non-Euclidean Geometry	3 crs.				
Language Arts (21 crs.)					
ENG190 Literacy in America*	3 crs.				
<i>or</i>					
ENG248 Introduction to Culturally Diverse Literature of the U.S.*	3 crs.				
<i>or</i>					
ENG250 Introduction to Literature*	3 crs.				
ENG420 Studies in Writing	3 crs.				
ENG426 Adolescent Literature	3 crs.				
RDG232 Reading in the Elementary School	3 crs.				
RDG334 Reading Assessment	3 crs.				
RDG340 Seminar in Literacy Tutoring	3 crs.				

Courses of Instruction



Course Abbreviations

Course descriptions are organized in alphabetical order by subject. Information on courses can be found under appropriate headings in the following sequence:

ASP	Academic Success Program
ACC	Accounting
ANT	Anthropology
ART	Art & Design
BIO	Biology
BSN	Business (General)
BUS	Business Education, Information Technology for
BSL	Business Law
CHM	Chemistry
COM	Communication/Journalism
CMPE	Computer Engineering
CSC	Computer Science
CRJ	Criminal Justice
DS	Disability Studies
ECH	Early Childhood/Elementary Education: PK-4
ESS	Earth Science
ECO	Economics
EDU	Educational Foundations
EEC	Education of Exceptional Children/Special Education Elementary Education (see TCH)
ENG	English
ETH	Ethnic Studies
ESC	Exercise Science
FIN	Finance
FRN	French
GEO	Geography
GER	German
GRN	Gerontology
HCA	Health Care Administration
HIS	History
HON	Honors
HCS	Human Communication Studies
IAP	Interdisciplinary Arts
INT	International Studies
ISM	Management Information Systems
MGT	Management
MKT	Marketing
MAT	Mathematics
MIL	Military Science
MUS	Music
PHL	Philosophy
PHY	Physics
PLS	Political Science
PSY	Psychology
RDG	Reading
SWE	Software Engineering
SWK	Social Work
SOC	Sociology
SPN	Spanish
	Special Education (see EEC)
SCM	Supply Chain Management
TCH	Teacher Education
THE	Theatre
WST	Women's & Gender Studies

Dual Level (400) Courses

Courses numbered 400 to 499 are open to undergraduate students in their junior or senior year and to graduate students. 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.

Academic Success Program (ASP)

ASP101 Introduction to Higher Education (3 crs.)

Provides an extended orientation to the academic expectations and demands of higher education. Leads students through a systematic development of values, beliefs, and skills necessary to achieve success in academic endeavors.

ASP102 Student Voices: Leadership and Community (3 crs.)

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.

Accounting (ACC)

ACC200 Fundamentals of Financial Accounting (3 crs.)

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.

ACC201 Managerial Accounting (3 crs.)

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: ACC200*

ACC203 Personal Income Tax Accounting (3 crs.)

Analyzes the federal income tax law and its application to individuals. Includes a series of applications concerning exclusions and inclusions from gross income, individual returns, and personal exemptions; basis, determination, and recognition of gain and loss; capital gain and loss of individuals; dividends and the various deductions of expenses, interest, taxes, contributions, medical expenses, depreciation, losses, and bad debts. *Prerequisite: ACC200. Not open to accounting majors.*

ACC306 Tax Accounting (3 crs.)

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. *Prerequisites: ACC200 and ACC201 (C grade or better).*

ACC310 Intermediate Accounting I (3 crs.)

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. *Prerequisites: ACC200 & ACC201 (C grade or better).*

ACC311 Intermediate Accounting II (3 crs.)

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: ACC310 (C grade or better).*

ACC312 Cost Determination and Analysis (3 crs.)

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. *Prerequisites: ACC200 and ACC201 (C grade or better) and SCM200.*

ACC401 Advanced Accounting (3 crs.)

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: ACC311 (C grade or better).*

ACC404 Auditing (3 crs.)

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: ACC311 (C grade or better).*

ACC406 Advanced Tax Accounting (3 crs.)

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. *Prerequisite: ACC306 (C grade or better).*

ACC412 Advanced Cost Analysis and Control (3 crs.)

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: ACC312 (C grade or better).*

ACC418 Accounting Information and Control Systems (3 crs.)

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: ACC312 (C grade or better).*

ACC490 Selected Topics in Accounting (3 crs.)

Considers contemporary accounting issues affecting society and businesses (private, public, and not-for-profit) in both the national and international spheres. *Prerequisite: ACC311 (C grade or better) or departmental permission.*

Anthropology (ANT)

ANT111 Cultural Anthropology (3 crs.)

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.

ANT121 Physical Anthropology (3 crs.)

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.

ANT150 Introduction to Archaeology (3 crs.)

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.

ANT211 Comparative Cultures (3 crs.)

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: ANT111 or permission of the instructor.*

ANT220 Anthropology for International Studies (3 crs.)

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.

ANT305 Food, Drink and Culture (3 crs.)

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.

ANT310 Magic, Science and Religion (3 crs.)

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.

ANT312 Comparative Marriage and Family (3 crs.)

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: ANT111 or WST100.*

ANT320 Comparative Gender Roles (3 crs.)

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: ANT111.*

ANT330 Mammoth Hunters and Moundbuilders (3 crs.)

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.

ANT341 North American Indians (3 crs.)

Considers the many aspects of Native American cultures. Topics include the peopling of the New World, prehistoric Indians, Aztecs and Mayas, religion and rituals, Columbus and the “discovery” of America, the struggle for the West, cultures of various nations, and contemporary problems. *Prerequisite: ANT111.*

ANT350 Medical Anthropology (3 crs.)

Includes the cross-cultural consideration of concepts of health, illness, and curing. Differences and similarities between ethnomedicine and biomedicine are considered, as is the historical and current impact of European cultures on the health of indigenous people. *Prerequisite: ANT111.*

ANT351 Peoples and Cultures of Europe (3 crs.)

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.

ANT360 Aztec and Maya Archaeology (1-3 crs.)

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.

ANT390 Internship I (3 crs.)

Contact the department for further information on internships.

ANT391 Internship II (3 crs.)

Contact the department for further information on internships.

ANT392 Internship III (3 crs.)

Contact the department for further information on internships.

ANT393 Selected Topics in Anthropology (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ANT490 Selected Topics in Anthropology (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Art & Design (ART)

ART101 Art Appreciation (3 crs.)

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.

ART110 Basic Drawing (3 crs.)

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.

ART210 Drawing II (3 crs.)

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: ART110.*

ART211 Figure Drawing (3 crs.)

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: ART110.*

ART215 Color and Two-Dimensional Design (3 crs.)

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.)

ART217 Computer Design I (Page Composition) (3 crs.)

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.

ART218 Three-Dimensional Design (3 crs.)

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.)

ART231 Art History I (3 crs.)

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.)

ART232 Art History II (3 crs.)

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.)

ART233 Art History III (3 crs.)

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.)

ART274 Introduction to Cultural Studio (3 crs.)

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.*)

ART300 Independent Studio/Ceramics (3 crs.)

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, ART301, 302, 303, 304, 305, or 309 may be substituted.

ART301 Independent Studio/Drawing (3 crs.)

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, ART300, 302, 303, 304, 305, or 309 may be substituted.

ART302 Independent Studio/Enameling (3 crs.)

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, ART300, 301, 303, 304, 305, or 309 may be substituted.

ART303 Independent Studio/Painting (3 crs.)

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, ART300, 301, 302, 304, 305, or 309 may be substituted.

ART304 Independent Studio/Sculpture (3 crs.)

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, ART300, 301, 302, 303, 305, or 309 may be substituted.

ART305 Independent Studio/Computer Design (3 crs.)

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, ART300, 301, 302, 303, 304, or 309 may be substituted.

ART306 Computer Design II (Illustration) (3 crs.)

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. *Prerequisite: ART217.* (Offered in spring only.)

ART309 Independent Studio (3 crs.)

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, ART300, 301, 302, 303, 304, or 305 may be substituted.

ART319 Computer Design III (Painting and Photo Manipulation) (3 crs.)

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. *Prerequisites ART217.*

ART321 Watercolor I (3 crs.)

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.)

ART322 Watercolor II (3 crs.)

Intermediate level that stresses the exploration of watercolor painting media as a means of unique personal expression with increased emphasis on composition and structure. *Prerequisite: ART321.* (Offered in fall only.)

ART326 Painting I (3 crs.)

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.)

ART327 Painting II (3 crs.)

Intermediate level that stresses the exploration of oil/acrylic painting media as a means of unique personal expression with increased emphasis on composition and structure. *Prerequisite: ART326.* (Offered in spring only.)

Art 337 Printmaking I (3 crs.)

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.

ART339 History of American Art (3 crs.)

Chronological study of American art—painting, sculpture, and architecture from the Colonial period to the 20th century. (Offered odd years, fall only.)

ART340 Ceramics (3 crs.)

Exploration of the potential of clay with emphasis on both hand building and wheel throwing techniques.

ART341 Advanced Ceramics (3 crs.)

Studio course that further develops knowledge of clay and the various working processes. Emphasis on mastery and refinement of skills—hand building and/or wheel throwing. Greater attention placed on mixing glazes and clay bodies and on firing techniques. *Prerequisite: ART340.* (Offered in spring only.)

ART356 Social Structures of Aesthetics, Philosophy and Criticism in the Arts (3 crs.)

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.

ART370 Sculpture (3 crs.)

Is an aesthetic analysis of three-dimensional form utilizing both traditional and contemporary materials and techniques. (Offered in fall only.)

ART385 Senior Art Seminar (3 crs.)

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. Résumé preparation and developing a career portfolio will also be included. (*Required of all art majors.*)

ART393 Selected Topics in Art (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ART395,396,397 Internship in Art I, II, III (3 crs. each)

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 and the cooperating agency is required.)

ART399 Independent Study (3 crs.)

ART400 Contemporary Methods in Art Education (3 crs.)

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. Students introduced to 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 for others to understand that process. Competency in lesson planning, organization, classroom management and assessment plus an 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.

ART425 Computer Design IV (3 crs.)

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. Elements and principles of design, working between software programs, 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: ART217.*

ART430 Computer Design V (Web Design) (3 crs.)

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.

ART435 Computer Design VI (Book and Portfolio Design) (3 crs.)

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 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 use in book design. Computer illustration, painting, and digital photographic skills used 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: Computer Design I.*

ART490 Selected Topics in Art (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Biology (BIO)

BIO100 Basic Biology (3 crs.)

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. Three hours of lecture/week. *Credit earned in this course is not applicable to the credits required of the biology major.*

BIO142 Introduction to Ecology (3 crs.)

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.*

BIO145 Environmental Biology (3 crs.)

Examines human impacts on the environment. Students will explore issues resulting from the expanding human population and our increasing consumption of resources, and will consider sustainable alternatives. Topics include: basic ecology, human population growth, biodiversity and conservation, climate change, resource use, and pollution. Three hours lecture/week. *Credit earned in this course is not applicable to the credits required of the biology major.*

BIO150 Human Biology (3 crs.)

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.*

BIO161 Principles of Biology: Cell Structure and Function (4 crs.)

Introductory course for majors that examines cell structure and function, genetics, population genetics, and evolution. Three hours lecture and two hours lab/week.

BIO162 Principles of Biology: Organismal Diversity (4 crs.)

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.

BIO208 Field Biology (3 crs.)

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. (Students may not count both BIO208 and BIO210 towards major requirements.) *Prerequisite: BIO162.* (Offered fall semester)

BIO210 Field Zoology (3 crs.)

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. Requires one weekend field trip. Two hours lecture and three hours lab/week (Students may not count both BIO208 and BIO210 towards major requirements.) *Prerequisite: BIO162.* (Offered summer)

BIO220 Microbiology (3 crs.)

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. Two hours lecture and two hours lab/week. *Prerequisites: BIO161, BIO162.*

BIO230 Botany (3 crs.)

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. Two hours lecture and two hours lab/week. *Prerequisites: BIO161, BIO162* (Offered fall semester)

BIO242 Ecology (3 crs.)

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. *Prerequisites: BIO162 and sophomore standing.*

BIO260 Genetics (4 crs.)

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. *Prerequisites: BIO161, BIO162.*

BIO300 Careers in the Health Professions (1 cr.)

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. (Offered fall semester, every other year.)

BIO317 Parasitology (3 crs.)

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: BIO220.* (Offered spring semester)

BIO324 Pathogenic Microbiology (3 crs.)

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. *Prerequisites: BIO161, BIO162 and BIO220.* (Offered spring semester.)

BIO325 Medical Botany (3 crs.)

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: BIO350 or BIO351.* (Offered spring semester, every other year)

BIO330 Animal Behavior (3 crs.)

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. *Prerequisites: BIO161, BIO162.* (Offered fall semester, every other year)

BIO350 Human Physiology (4 crs.)

Study of the function of the human organ systems and their role in maintaining homeostasis. Three hours lecture and two hours lab/week. *Prerequisites: BIO161, BIO162.* (Recommended for pre-health professions and secondary education students. Students may not count both BIO350 and BIO351 towards major requirements.)

BIO351 Animal Physiology (4 crs.)

Study of the function of organ systems of animals. Related anatomy is taught as needed. Three hours lecture and two hours lab/week. (Students may not count both BIO350 and BIO351 towards major requirements.) *Prerequisites: BIO161, BIO162 and junior standing as Biology major or permission of instructor.* (Offered fall semester)

BIO362 Invertebrate Zoology (3 crs.)

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 live history adaptations. *Prerequisites: Upper division standing or permission of instructor.* (Offered spring semester, every other year)

BIO363 Vertebrate Zoology (3 crs.)

Explores the diversity, function, and phylogenetic relationships among the vertebrate animals. Two hours lecture and two hours lab/week. *Prerequisites: BIO161, BIO162, or permission of instructor.*

BIO370 Comparative Vertebrate Anatomy (4 crs.)

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. Three hours lecture and two hours lab/week. *Prerequisites: BIO161, BIO162.* (Offered spring semester, every other year)

BIO371 Human Anatomy (4 crs.)

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. *Prerequisites: BIO161, BIO162.* (Offered fall semester)

BIO373 Developmental Biology (3 crs.)

Introductory course in developmental biology. Emphasis on the molecules and mechanisms that control gametogenesis and the process of development from a single fertilized egg to an adult organism. Topics 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: BIO260.* (Offered fall semester, every other year)

BIO374 Hematology (2 crs.)

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. *Prerequisite: BIO220.* (Offered spring semester, every other year)

BIO375 Histology (3 crs.)

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. *Prerequisites: BIO161, BIO162.* (Offered spring semester.)

BIO385 Cell Biology (3 crs.)

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. *Prerequisites: BIO260 and CHM122.*

BIO391 Biology Internship I (1-3 crs.)

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.]*

BIO392 Biology Internship II (1-3 crs.)

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.]*

BIO393 Selected Topics in Biology (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

BIO396 Research III (1-3 crs.)

Opportunity to do research under the guidance of selected faculty members. Students should register for this course only if they have credit for BIO398. 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.]*

BIO397 Introduction to Research (1-3 crs.)

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.]*

BIO398 Research II (1-3 crs.)

Opportunity to do research under the guidance of selected faculty members. Students should register for this course only if they have credit for BIO397. 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.]*

BIO406 Mammalogy (3 crs.)

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. *Prerequisites: BIO161, BIO162.* (Offered fall semester, every other year)

BIO408 Principles of Virology (3 crs.)

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. *Prerequisites: BIO260 and pre- or co-requisite BIO385.* (Offered fall semester)

BIO409 Immunology (3 crs.)

Introduction to immunology, including immunity, serology, immunochemistry, and immunobiology. Other topics include immunodeficiency diseases, tumor immunology, transplantation immunology, autoimmune diseases, and allergies. Three hours lecture/week. *Prerequisites: BIO260 and pre- or co-requisite BIO385.*

BIO412 Ichthyology (3 crs.)

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. Two hours lecture and two hours lab/week. *Prerequisites: BIO162 and BIO242 or graduate status.*

BIO417 Herpetology (3 crs.)

Study of amphibians and reptiles including classification, evolution, functional morphology, ecology, and husbandry. Laboratory work includes anatomical study, identification, and field trips. Two hours lecture and two hours lab/week. *Prerequisite: BIO161, BIO162.* (Offered spring semester, every other year)

BIO418 Molecular Biology (3 crs.)

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 online resources for analysis of DNA sequences. *Prerequisite: BIO260.*

BIO419 Ornithology (3 crs.)

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. *Prerequisites: BIO161, BIO162.* (Offered spring semester, every other year)

BIO423 Plant Pathology (3 crs.)

Basic course in plant pathology considers the major general groups of plant diseases together with specific representative diseases for each group and methods for their control. Three hours lecture/week. *Prerequisite: BIO230.*

BIO425 Biota of Florida (2 crs.)

Seminar/field course deals with the biology of warm temperate and subtropical Florida including vegetation, fauna, geology, history, and economy. Requires a single weekly one-hour class meeting plus an intensive 10-day field trip to parks, natural areas, and refuges in Florida over spring break. Field trip costs for the student include food, transportation, entrance and camping fees. *Prerequisite: Biology major with junior standing.* (Offered spring semester, every other year)

BIO430 Principles of Evolution (3 crs.)

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. Three hours lecture/week. *Prerequisite: BIO260.* (Offered spring semester)

BIO442 Aquatic Ecology (3 crs.)

Examines the ecology 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. A weekend field trip is required. Graduate students enrolled in this class will be required to complete additional course requirements. Two hours lecture and three hours lab/week. *Prerequisites: BIO162 or graduate standing; ecology and one year of chemistry strongly recommended.* (Offered fall semester, every other year)

BIO444 Conservation Biology (3 crs.)

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. Two hours lecture and two hours lab/discussion per week. Includes midweek and weekend field trips. *Prerequisite: College course in ecology or wildlife biology.* (Offered spring semester, every other year)

BIO448 Field Botany and Plant Taxonomy (3 crs.)

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 the Pennsylvania and Delmarva Peninsula. Two hours lecture and two hours lab/week. *Prerequisite: BIO100 or BIO162.* (Offered fall semester)

BIO450 Endocrinology (3 crs.)

Study of the glands of internal secretion and their biochemical and physiological role in the development, growth, metabolism, homeostasis, and reproduction of animals. Three hours lecture/week. *Prerequisite: BIO350 or BIO351.* (Offered fall semester)

BIO461 Techniques in Biotechnology (3 crs.)

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. One hour lecture and four hours lab/week. *Prerequisite: BIO385 or BIO418 or CHM301.* (Offered spring semester)

BIO485 Biological Microscopy and Imaging (3 crs.)

Covers principles and techniques in macrophotography, light microscopy, especially microphotography 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. *Prerequisite: Upper division or graduate standing.* (Offered spring semester, every other year)

BIO491 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by regular courses.

BIO494 Field Research Techniques (3 crs.)

Overview of methods for investigating biological field problems. Students will learn to use a variety of techniques in field conditions. Collections, 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. *Prerequisite: Graduate or upper division standing.* (Offered summer only)

BIO499 Capstone Seminar in Biology (1 cr.)

Required senior capstone course. One-hour seminar includes reading, discussion, and analysis of the primary literature in diverse areas of biology. Allows 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: Biology major with 26 biology credits in the major including successful completion of BIO350 or BIO351. Not open to graduate students.*

Biology (WIMSC)

The following courses are offered at the Marine Science Consortium at Wallops Island, Virginia, during the summer.

BIO205 Marine Biology (3 crs.)

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: BIO162.*

BIO245 Marine Ecology (3 crs.)

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: BIO162.*

BIO315 Marine Invertebrates (3 crs.)

Survey of invertebrate phyla indigenous to coastal waters. Structural and functional adaptations discussed. Only at WIMSC during summers. *Prerequisite: BIO162.*

BIO331 Behavior of Marine Organisms (3 crs.)

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: 9 hours of biology or psychology.*

BIO413 Marine Ichthyology (3 crs.)

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: 16 credits of biology or graduate status.*

BIO446 Ecology of Marine Plankton (3 crs.)

Deals with the phytoplankton of near-shore and pelagic waters. Importance of phytoplankton in energy flow emphasized. Only at WIMSC during summers. *Prerequisite: BIO162 and BIO142 or BIO242.*

Business (BSN)

BSN101 Foundations of Business Administration (2 cr.)

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. Restricted to declared business majors.

BSN408 Internship in Business Administration I (1 cr.)

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: 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.*

BSN409 Internship in Business Administration I (2 crs.)

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: 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.*

BSN410 Internship in Business Administration I (3 crs.)

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: 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.*

BSN411 Internship in Business Administration II (3 crs.)

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: BSN410 but, if with same employer, at least 25 percent must be new duties or involve increased responsibility.*

BSN412 Internship in Business Administration II (2 crs.)

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: BSN409 but, if with same employer, at least 25 percent must be new duties or involve increased responsibility.*

BSN413 Internship in Business Administration II (1 cr.)

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: BSN408 but, if with same employer, at least 25 percent must be new duties or involve increased responsibility.*

BSN420 Internship in Business Administration I (6 crs.)

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 research paper related to their job, major, and career field assigned by their supervising faculty; complete a book report on assigned internship text; and have all internship evaluations completed. This is a graded internship. *Prerequisite: 55 credits, 2.0 or greater QPA in business, major, and overall.*

BSN421 Internship in Business Administration II (9 crs.)

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 research paper related to their job, major, and career field assigned by their supervising faculty; complete a book report on the assigned internship text; and have all internship evaluations completed. Also required to give a presentation

or conduct interviews with alumni in their chosen major, on their internship. This is a graded internship. *Prerequisite: 55 credits, 2.0 or greater QPA in business, major, and overall.*

Business Education, Information Technology for (BUS)

BUS220 American Business Systems (3 crs.)

Interdisciplinary approach to relationships existing between business firms and other institutions and individuals in American society. Deals with the historical background of modern business systems, basic tools of management, the productive process, marketing, finance, competition and risk, and the internal and external organization of business. *Students in the College of Business may not satisfy business elective requirements with this course. May be taken by College of Business freshmen and sophomore students as a free elective. Not open to junior and senior business students. Open to all other majors.*

BUS305 Business Information Processing I (3 crs.)

Focuses on information processing as it is used in competitive, contemporary business environments. Specific attention is on the use of page layout and 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 web pages. *Prerequisite: MIS142 Business Computer Systems (or its equivalent).*

BUS306 Business Information Processing II (3 crs.)

Focuses on advanced information processing using intermediate and advanced applications in the Microsoft Office software suite. Specific attention given to completion of projects requiring the integration of word processing, spreadsheet, database, and presentation applications in a client-based environment. *Prerequisite: MIS142 Business Computer Systems (or its equivalent).*

BUS393 Selected Topics in Business (1-3 crs)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

BUS490 Selected Topics in Business (1-3 crs)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Business Law (BSL)

BSL261 American Legal Environment (3 crs)

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.

Chemistry (CHM)

CHM103 A Cultural Approach (3 crs.)

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 CHM121.*

CHM105 An Observational Approach (3 crs.)

Develops an appreciation of modern chemistry through an integration of laboratory experimentation with lecture discussion. May be used as preparation for CHM121. Two periods lecture, three periods lab/week. *May not be taken by students who are currently taking or who have successfully completed CHM121.*

CHM110 The Chemistry Experience (1 cr.)

Intended for entering chemistry majors, course introduces the expectations and skills required of the course of study leading to a B.S. in Chemistry. 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. Also incorporates discussions and demonstrations of cognitive processing in the context of necessary and appropriate study skills, note taking, and reading scientific texts.

CHM121 Chemical Bonding (3 crs.)

Study of the structure of matter ranging from atoms through molecules to crystalline structures. Three periods lecture/week.

CHM122 Chemical Dynamics (3 crs.)

Study of the reactions of ions and molecules using thermodynamics, equilibrium and kinetics. Three periods lecture/week. *Prerequisite: CHM121.*

CHM123 Laboratory IA—Chemical Systems (1 cr.)

Detailed exposure and training 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. Three periods/week. *Prerequisite or concurrent: CHM121.*

CHM124 Laboratory IIA—Experimental Quantitative Analysis (3 crs.)

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: CHM123 or CHM125; prerequisite/concurrent: CHM122.*

CHM125 Laboratory IB—Stoichiometry and Reactions (1 cr.)

Provides investigation of elementary reactions and physical measurements. Three periods/week. *Prerequisite or concurrent: CHM121.*

CHM126 Laboratory IIB—Equilibrium and Instrumentation (1 cr.)

Study of equilibrium systems utilizing instrumental methods. Three periods/week. *Prerequisite: CHM123 or CHM125; prerequisite or concurrent: CHM122.*

CHM221 Modern Organic Chemistry I (3 crs.)

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: CHM122.*

CHM222 Modern Organic Chemistry II (3 crs.)

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: CHM221.*

CHM223 Laboratory IIIA—Experimental Organic Techniques (1 cr.)

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. *Prerequisites: CHM124 or CHM126; prerequisite/concurrent: CHM221*

CHM224 Laboratory IVA—Qualitative Organic Analysis (3 crs.)

Involves the identification in the laboratory of unknown polyfunctional compounds by chemical and instrumental 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. Builds on the fundamental organic laboratory techniques learned in CHM223 by performing various types of organic chemical reactions. Two periods of lecture and three periods of lab/week. *Prerequisite:* CHM223 or CHM225; *prerequisite or concurrent:* CHM222.

CHM225 Laboratory IIIB—Basic Organic Techniques (1 cr.)

Involves application of the basic techniques of isolation, purification, and identification of organic compounds to various types of synthetic sequences utilized in organic chemistry. Three periods/week. *Prerequisite:* CHM124 or CHM126; *prerequisite/concurrent:* CHM221.

CHM226 Laboratory IVB—Experimental Organic Studies (1 cr.)

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:* CHM223 or CHM225; *prerequisite/concurrent:* CHM222.

CHM227 Introduction to Biochemistry (4 crs.)

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. *Prerequisite:* CHM221, CHM225 and BIO161. *Cannot be used as a prerequisite CHM301, CHM420 or CHM421. Students may not enroll in this course if already completed or enrolled in CHM222.*

CHM301 Biochemistry I (3 crs.)

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:* CHM222 and BIO161.

CHM309,310 Chemistry Internship (1-3 crs. each)

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.

CHM312, 313, 314, 315 Chemistry Seminar (1 cr. each)

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:* junior status.

CHM324 Advanced Organic Chemistry Laboratory (1 cr.)

Expands on the fundamental laboratory techniques acquired in qualitative organic analysis. Crucial to any career in organic chemistry, students perform multistep organic synthesis and incorporate NMR and GC-MS analysis techniques in identification of their products. Three periods lab/week. *Prerequisite:* CHM224 or permission of instructor

CHM361 Physical Chemistry I (4 crs.)

Study of theoretical chemistry, including phenomenological thermodynamics, equilibria, and kinetics. Related fundamental physiochemical measurements emphasized in the laboratory. Three periods lecture, three periods lab/week. *Prerequisite:* CHM222, MAT212, PHY205 or permission of instructor.

CHM362 Physical Chemistry II (4 crs.)

Continuing study of theoretical chemistry including quantum chemistry with applications to bonding and spectroscopy and statistical mechanics with applications to thermodynamics and kinetics. Related physiochemical measurements emphasized in the laboratory. Three periods lecture, three periods lab/week. *Prerequisite:* CHM361.

CHM371 Analytical Chemistry (4 crs.)

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 or concurrent:* CHM361 or permission of instructor.

CHM381 Intermediate Inorganic Chemistry (3 crs.)

Focuses on atomic structure, periodic trends, symmetry, group theory, molecular orbital theory, coordination chemistry, and the electronic and properties of d-metal complexes. Features a capstone project that involves an open-ended coordination chemistry laboratory. Three periods lecture or three periods lab/week. *Prerequisite:* CHM361 or permission of the instructor.

CHM393 Selected Topics in Chemistry (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

CHM420 Biochemistry II (3 crs.)

Extension of CHM301. 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:* CHM301.

CHM421 Biochemistry Laboratory (1 cr.)

Introduces various laboratory techniques essential to the practice of modern biochemistry including separations, purification, and analytical methods. *Prerequisite or concurrent:* CHM301.

CHM480 Organic Reactions and Mechanisms (3 crs.)

Concerned with theoretical organic chemistry with emphasis given to stereochemistry, electronic theory, reaction mechanisms, and the application of physical methods to organic chemistry. *Prerequisite:* CHM222 or permission of instructor.

CHM460 Instrumental Analysis (3 crs.)

Laboratory course with study of the following instrumental methods of analysis: fluorescence, X-ray, atomic absorption, flame emission, mass spectrometry, high pressure liquid chromatography, and nuclear techniques. Students perform analyses with all instruments. Short discussion period precedes each laboratory exercise. *Prerequisite:* CHM362 or permission of instructor.

CHM481 Advanced Inorganic Chemistry (4 crs.)

Focused 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. Topics build upon the material from CHM381. Three periods lecture and three periods lab/week. *Prerequisite:* CHM381.

CHM490 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

CHM496,497,498 Introduction to Research (I, II, III) (1 cr. / semester)

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 2 credits in research courses (CHM496, CHM497, or CHM498 are required for all chemistry majors expecting American Chemical Society accreditation). A student should enroll for two consecutive semesters of research. Course credit is one credit hour per semester with no less than two or more than three granted for the entire year. *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 semester. All seniors applying to do research must have completed the Junior Competency Examination. These courses are restricted to undergraduate students.*

Communication/Journalism (COM)**COM111 Introduction to Mass Communication (3 crs.)**

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.

COM112 Media Writing (3 crs.)

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.

COM201 Principles of Public Relations (3 crs.)

Introductory course dealing with role and function of public relations in society. Emphasizes the application of theory and principles to the practice of public relations.

COM224 Electronic Media Writing (3 crs.)

Opportunity to write for radio and television including news, commercials, public service announcements, editorials, and radio music scripts. Keyboard skills required. *Prerequisite* COM112.

COM241 Public Relations Writing (3 crs.)

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:* COM112.

COM245 Diversity and the Media (3 crs.)

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. Course examines media's influence on various populations within the United States as well as globally. Develops students' critical thinking skills in regard to message framing, message interpretation, and message presentation.

COM284 Electronic Media Basic Production (3 crs.)

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 COM370, COM451, and COM452.

COM285 News Writing and Reporting (3 crs.)

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:* COM112.

COM290 Advertising Copywriting (3 crs.)

Emphasis on writing advertising copy and headlines. Also examines design and layout for print and electronic media. *Prerequisite:* COM112

COM293 Editing (3 crs.)

Devoted to the many responsibilities of the copy editor, including copy editing, head writing, and dummyping pages. *Prerequisite:* COM285.

COM335 Media Advertising and Sales (3 crs.)

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.

COM345 Communication Law and Ethics (3 crs.)

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:* junior standing.

COM355 Communication/Journalism Professional Practicum (3 crs.)

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:* Com/Journ major with junior standing. COM111, COM112 and at least two other COM courses in the student's chosen sequence (print, PR or electronic media).

COM360 Basic Digital Photographic Communication (3 crs.)

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.

COM362 Photojournalism (3 crs.)

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: COM360 or permission of instructor.*

COM370 Television Studio Production (3 crs.)

Introduction to fundamentals of television production. Students obtain experience in the various roles of the television team including producer, director, floor manager, cameraman, etc., in correlated laboratory sessions. *Prerequisite: COM284.*

COM375 Public Affairs Reporting (3 crs.)

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: COM285.*

COM381 Promotional Publication Design (3 crs.)

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.

COM395, 396 Internship I and II (1-3 crs.)

Internship of three credit hours can be earned for service 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: junior standing and departmental permission.*

COM410 Women and the Media (3 crs.)

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: basic coursework in communication/journalism, including a media writing course or permission of instructor.*

COM424 Electronic Media Producing and Performance (3 crs.)

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: COM224 and COM284. Not open to graduate students.*

COM425 Feature Writing (3 crs.)

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: Basic coursework in communication/journalism, including a media writing course or permission of instructor.*

COM432 Public Relations Research and Campaigns (3 crs.)

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. *Prerequisites: COM201, COM241 and Practicum (COM355). Not open to graduate students.*

COM451 Electronic Field Production (3 crs.)

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. *Prerequisites: COM224 and COM284, or permission of instructor.*

COM452 Electronic News Gathering (3 crs.)

Focus is preparation for careers as professional electronic journalists. Emphasizes development of news judgment, journalistic responsibilities, and journalistic ethics. Students work in classroom and television environments to acquire and improve reporting, writing, and technical skills needed to succeed in the electronic newsroom. Introduces the culture of the broadcast news environment, including meeting deadlines and working in a team environment both in the field and in the newsroom. *Prerequisites: COM224 and COM284, or permission of instructor.*

COM460 Case Studies in Public Relations (3 crs.)

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. *Prerequisite: basic coursework in communication/journalism, including a media writing course or permission of instructor.*

COM470 Advanced Digital Photographic Communication (3 crs.)

Introduces principles of digital photography and teaches basic competencies to apply standard photo concepts to the realm of digital imaging. Includes 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: COM360 or permission of the instructor.*

COM476 Magazine Design (3 crs.)

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: basic coursework in communication/journalism, including a media writing course or permission of instructor.*

COM478 Digital Journalism (3 crs.)

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: COM285. Not open to graduate students.*

COM481 Interactive Media Design (3 crs.)

Study in interactive communication with primary emphasis on web design and content; course focuses on practical application of contemporary interactive web design software to create online materials and messages. *Different evaluation criteria applied to graduate/undergraduate students.*

COM482 Internet Communication (3 crs.)

Introductory course with fundamental knowledge concerning the construction, use, and importance of world wide 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: basic coursework in communication/journalism, including a media writing course or permission of instructor.*

COM484 Electronic Media Programming and Management (3 crs.)

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: basic coursework in communication/journalism, including a media writing course or permission of instructor.*

COM490, 491, 492 Selected Topics in Communication/Journalism (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses. *Prerequisite: basic coursework in communication/journalism, including a media writing course or permission of instructor.*

Computer Engineering (CMPE)

CMPE220 Computer Organization (4 crs.)

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: grade of C or better in CSC111 and MAT225.*

CMPE320 Operating Systems (4 crs.)

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: grade of C or better in CMPE220.*

CMPE322 Microcontrollers & Interfaces (4 crs.)

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: CMPE220 (C or better). Corequisites: PHY206,PHY125*

CMPE323 Electronic Design & Processes (4 crs.)

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 systems. *Prerequisite: CMPE322 (C or better).*

CMPE410 Real-Time and Mobile Computing (4 crs.)

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: CMPE320 with a C or better.*

CMPE420 Digital and Reconfigurable Computing (4 crs.)

Students will develop solutions using high performance digital circuits based on embedded processors and Field Programmable Gate Arrays (FPGA). Students will use Verilog to create, simulate, and test their solutions, and to ensure they meet the timing and packaging constraints of the problem. Includes writing code for portable computer systems, such as PDA's and cell phones. *Prerequisite: CMPE320.*

CMPE423 High Speed Circuits (4 crs.)

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: CMPE322 (C or better).*

CMPE498 Engineering Research Methods (2 crs.)

Students use sound engineering methodology to define a development project, including formal project proposal, estimated time and cost budgets, risk analysis, and implementation plan. Project represents the capstone experience for Computer Engineering students and should draw upon the whole of that experience. Students will learn basic research strategies including conducting literature reviews, designing experiments, defining hypotheses, and writing proposals, making proposals to management and customers, project estimation, and risk analysis. Topics include finding and evaluating sources of information, defining topics, developing and supporting a hypotheses, and acceptable research and experimental practices. Project topics must be within the scope of a Computer Engineering project, to include significant development within an existing embedded system, or designing and fabricating a custom computer system to meet the design goals of the system. *Prerequisite: Upper division standing in the major (completion of CMPE, CSC, and PHY courses 300 and below), and senior status (90 earned credits) overall. Graduate students are not permitted to take this course.*

CMPE499 Engineering Design and Development (2 crs.)

Students will independently, but under the direction of the instructor, execute the proposal developed in CMPE498. 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. Students will present their work in a variety of ways, including classroom presentations, participation in academic research symposia, in writing, and in interviews with the department's Industrial Advisory Board. *Prerequisite: Completion of CMPE498 with a C or better. Graduate students are not permitted to take this course.*

Computer Science (CSC)

CSC103 Overview of Computer Science (3 crs.)

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.

CSC106 Computer Science I - Lab (non-majors) (1 cr.)

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: non-majors taking CSC110 concurrently.*

CSC107 Computer Science I - Lab (Majors) (1 cr.)

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. Course also 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 progress against that plan. *Prerequisite: CSC110 taken concurrently.*

CSC110 Computer Science I - Lecture (3 crs.)

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.

CSC111 Computer Science II (4 crs.)

Intermediate course in software design and development. Reinforces proficiency with core programming techniques by developing more challenging programs than in CSC110 and will apply more advanced techniques and data structures such as recursion, file I/O, iterators, trees, etc. to create advanced programs and solutions. Students will improve their solutions to enhance efficiency and soundness. Topics include intermediate programming techniques; using advanced data types including multi-dimensional arrays, queues, lists, tables, trees, and maps; intermediate software design; intermediate problem solving techniques (such as recursion); fundamental algorithm analysis and design; intermediate object oriented design including classes, abstraction, polymorphism, inheritance, and encapsulation. *Prerequisites: grade of C or better in CSC110 and successful completion of the Programming Competency Exam.*

CSC180 Microcomputer Basic (3 crs.)

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 ISM143 or CSC110. Also, course is not available to computer science (B.S.) for major credit.

CSC310 Design and Analysis of Algorithms (4 crs.)

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. *Prerequisites: grade of C or better in CSC111 and MAT225.*

CSC350 Introduction to Computer Graphics (4 crs.)

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: grade of C or above in CMPE220.*

CSC371 Database Management Systems (4 crs.)

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: grade of C or better in CSC211.*

CSC390,391,392 Computer Science Internship I,II,III (3 crs.)

Contact the department for further information on internships.

CSC393 Selected Topics in Computer Science (4 CRS.)

Opportunity to offer courses of departmental major interest not covered by the regular courses. *Prerequisite: junior major status or permission of instructor.*

CSC401 Simulation Techniques (4 crs.)

Study of the statistical and modeling techniques necessary to build credible models. Techniques for gathering real-world data and analyzing for model building and verification; also gathering data from models including sensitivity analysis, steady-state analysis, and variance reduction techniques. Credible “what if” analysis for comparing two models. *Prerequisite: Grade of C or better in MAT313.*

CSC431 Computer Networks (4 crs.)

Studies protocol suites, emphasizing the TCP/IP 4-layer model. Topics include 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. *Prerequisites: grade of C or better in CSC111 and CMPE320.*

CSC432 Computer Security (4 crs.)

Topics include cryptography (both secret and public key), authentication, and network security applications including IP, e-mail, web, network management, and system security. *Prerequisite: grade of C or better in CSC111.*

CSC434 Web Programming (4 crs.)

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: grade of C or better in CSC371.*

CSC440 Compiler Design (4 crs.)

Introduction to design and implementation of compilers. General principles of compiler design are covered with emphasis on the following components: scanner, parser, semantic analyzer, code optimizer, and code generation. Symbol tables and error handling also covered. Includes implementation of a compiler for a simple language. *Prerequisites: grade of C or better in CSC111 and CMPE220.*

CSC450 Advanced Computer Graphics (4 crs.)

Explores advanced topics in computer graphics. Students will be introduced to 3D modeling and animation techniques using a 3D renderer, including topics such as object modeling, lighting, and keyframing. Additional topics may include, but not limited to, shading languages, advanced shading techniques such as ray tracing and radiosity, shadow generation, object interaction, and graphics file formats. *Prerequisite: grade of C or better in CSC350.*

CSC451 Computer Graphics Algorithms (4 crs.)

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. *Prerequisites: grade of C or better in CSC350 and MAT318.*

CSC462 Artificial Intelligence (4 crs.)

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 may include natural language processing, computer vision, robotics, expert systems, and machine learning. *Prerequisite: grade of C or better in CSC211.*

CSC463 Introduction to Robotics (4 crs.)

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; Bratemberg vehicles; integration and calibration of sensors; construction techniques and considerations; and implementation of various types of behaviors. *Prerequisites: grade of C or better in CSC111 and CMPE220.*

CSC493 Selected Topics In Computer Science (4 crs.)

Presents topics which will vary according to need. Topics such as languages are appropriate.

CSC498 Senior Research Methods (2 crs.)

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: junior standing and grade of C or better in any combination of five computer science and computer engineering courses.*

CSC499 Senior Research and Development (2 crs.)

Students will independently, but under the direction of the instructor, execute the proposal developed in CSC498. Students will conduct the experiments outlined in their testing/implementation plan, 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: completion of CSC498 with a C or better.*

Criminal Justice (CRJ)

CRJ100 Introduction to Criminal Justice (3 crs.)

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.

CRJ211 Criminal Law and Procedure (3 crs.)

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: CRJ100.*

CRJ221 Policing a Democracy (3 crs.)

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: CRJ100.*

CRJ241 Survey of Corrections (3 crs.)

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: CRJ100.*

CRJ309 Theories of Crime and Crime Control (3 crs.)

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: CRJ100.*

CRJ310 Research Methods (3 crs.)

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: CRJ100.*

CRJ321 Criminal Investigation (3 crs.)

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. *Prerequisites: CRJ100, upper division status.*

CRJ326 Victimology: The Victim and the Law (3 crs.)

Introduction to the study of the role of victims in the criminal justice system. Focus on defining victimization, treatment of victims in the criminal justice system, characteristics of victims, explanations of victimization, and policies and practices that have been directed towards victims. *Prerequisite: upper division status.*

CRJ336 Introduction to Forensic Science (3 crs.)

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: upper division status.*

CRJ345 Organization & Management of CRJ Agencies (3 crs.)

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: upper division status.*

CRJ348 Clinical, Intervention and Treatment (3 crs.)

Studies historical, philosophical, ideological, cultural, and institutional development of correctional treatment and rehabilitation practices for offenders. Students analyze various practical and theoretical correctional treatment and rehabilitation modalities within the criminal and juvenile justice systems.

CRJ351 Juvenile Justice (3 crs.)

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.

CRJ356 Organized Crime (3 crs.)

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: Upper division status.*

CRJ365 White Collar Crime (3 crs.)

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: Upper division status.*

CRJ370 Mock Trial (3 crs.)

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: Upper division status.*

CRJ390 Selected Topics in Criminal Justice (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

CRJ393 Selected Topics in Criminal Justice (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

CRJ396 Selected Topics in Criminal Justice (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

CRJ397 Selected Topics in Criminal Justice (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

CRJ411 Terrorism (3 crs.)

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. *Prerequisite: Upper division status.*

CRJ433 Evidence Law (3 crs.)

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: Upper division status.*

CRJ452 Race, Ethnicity, and Crime (3 crs.)

Acquaints students with issues regarding the role played by ethnicity/race in the American criminal justice system. A necessarily broad approach will be undertaken to achieve this goal. Will deal with three areas: the making of laws and minorities, the breaking of laws and minorities, and society's reaction to the breaking of laws and minorities. Provides a broad understanding of the philosophical and practical issues revolving around crime and minorities in American society.

CRJ454 Policy, Professionalism, and Ethics (3 crs.)

Assists in understanding critical issues confronting the police, courts, and corrections as criminal justice professionals. Focus on such issues as 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. Provides a knowledge base from which criminal justice majors can either proceed to graduate courses or enter the field. Can be particularly useful if currently considering an internship or employment in a criminal justice agency. *Prerequisite: Upper division status.*

CRJ456 Forensic Science: Evidence Analysis (3 crs.)

Provides a continuation of CRJ336. 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: CRJ336 and upper division status.*

CRJ461 Social Construction of Homicide (3 crs.)

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. *Prerequisites: CRJ100 and completion of 200-level criminal justice courses.*

CRJ463 Comparative Criminal Justice (3 crs.)

Provides a basic appreciation for understanding the historical, philosophical, ideological, and practical issues relevant to worldwide criminal justice systems. *Prerequisite: Upper division status.*

CRJ464 Popular Culture, Crime and Justice (3 crs.)

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. *Prerequisite: Upper division status.*

CRJ466 Women and Criminal Justice (3 crs.)

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.

CRJ471,472,473,474 Internship in Criminal Justice I,II,III,IV (3 crs. each)

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: upper division status.*

CRJ481 Independent Study in Criminal Justice (1-3 crs.)

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: Upper division status.*

Disability Studies (DS)

DS100 Introduction to Disability Studies (3 crs.)

Provides students with the opportunity to examine disability as a social, cultural, and political phenomenon. Explores the impact of disability as it relates to the individual, families, social institutions, cultures and societies, and analyzes the lives and perspectives of people with disabilities. Uses 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. *Prerequisites: No more than 60 credits or by permission of the instructor.*

DS400 Capstone in Disability Studies (3 crs.)

An interdisciplinary course 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. *Prerequisites: DS100.*

Early Childhood/Elementary Education: PK-4 (ECH)

ECH210 The Early Childhood Profession (3 crs.)

Introduction to professional topics and competencies in early childhood education including 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. *Must be taken concurrently with ECH220.*

ECH220 The Developing Child I: Physical, Motor, Health & Well-being (3 crs.)

A study of multiple aspects of physical development, prenatally through middle childhood. Attention is given to both typical and atypical development. *Must be taken concurrently with ECH210.*

ECH253 Early Literacy for Children and Families, Birth-5 Years (3 crs.)

Students will read various sources of information regarding early literacy development, children's literature and family involvement strategies for literacy development. Students will also learn age appropriate methods and developmental issues that critically review best practices for long term school success. *Prerequisites: ECH210 and ECH220.*

ECH260 The Developing Child II: Cognitive and Language Development (3 crs.)

Students will read about, write about and observe children's cognitive development from birth to age 11. Link the student's understanding of development with implications for classroom practice preschool through the fourth grade. *Prerequisites: ECH210 and ECH220. Must be taken concurrently with ECH253.*

ECH320 The Developing Child III: Social & Emotional Development and Guiding Children's Behavior (3 crs.)

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. At least 20 hours of field experience are required. *Prerequisites: ECH210, ECH220, and ECH260. Must be taken concurrently with ECH333 and ECH343.*

ECH333 Social Studies Methods for PK-4th Grade (3 crs.)

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. *Prerequisites: ECH210, ECH220, ECH253, and ECH260. Must be taken concurrently with ECH320 and ECH343.*

ECH343 Mathematics Methods I for PreKindergarten & Kindergarten (3 crs.)

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. *Prerequisites: ECH210, ECH220, ECH253, ECH260. Must be taken concurrently with ECH320 and ECH333.*

ECH370 Assessing Young Children (3 crs.)

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. *Prerequisites: ECH210, ECH220, ECH253, ECH260, and ECH320. Must be taken concurrently with ECH373 and ECH393.*

ECH373 Science and Technology Methods in PK-4 (3 crs.)

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. *Prerequisites: ECH 210, ECH220, ECH260, ECH253, ECH320, ECH333, and ECH343. Must be taken concurrently with ECH370 and ECH393.*

ECH393 Mathematics Methods II, Grades 2-4 (2 crs.)

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. *Prerequisites: ECH210, ECH220, ECH253, ECH260, ECH320, ECH343. Must be taken concurrently with ECH370 and ECH373.*

ECH410 Physical, Motor, and Sensory Development in Early Childhood (3 crs.)

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 required.*

ECH415 Professional Practicum in PK-4 (3 crs.)

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 3-9 years. *Prerequisites: ECH210, ECH220, ECH260, ECH320, and ECH370. Must be taken concurrently with ECH440 and ECH453.*

ECH440 Building Family and Community Partnerships (3 crs.)

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 ECH415. Field experiences include both observation of and participation in family/school/community interactions. *Prerequisites: ECH210, ECH220, ECH260, ECH320, ECH370. Must be taken concurrently with ECH415 and ECH453.*

ECH453 Integrated Curriculum Pre K-4 (3 crs.)

Students will apply Pennsylvania standards for math, science, literacy, social studies and the arts. Competencies will be practiced through projects, portfolio collections and demonstrations. *Prerequisites: ECH210, ECH220, ECH253, ECH260, ECH320, ECH333, ECH343, ECH370, ECH373, ECH393, RDG323, RDG363, and RDG383. To be taken concurrently with ECH415 and ECH440.*

ECH460 Family School and Community Partnerships (3 crs.)

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: A course in child development.*

ECH462 Practicum in Early Childhood (3 crs.)

Supervised observation and participation in an early childhood (pre-primary) setting for at least 150 clock hours. Experiences in planning, implementing, and assessing education for young children and families are required.

ECH470 Language Development, Literacy, and Play in Early Childhood Education (3 crs.)

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. *Prerequisites: TCH160, ECH200, ECH330, and senior status.*

ECH480 Early Childhood Professional Seminar (3 crs.)

Students 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 ECH489. Must be taken concurrently with ECH489.*

ECH489 Early Childhood Student Teaching (12 crs.)

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. *Prerequisites: completion of all course requirements for the early childhood certification major.*

Earth Science (ESS)

ESS108 Conservation of Natural Resources (3 crs.)

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.

ESS110 Introduction to Geology (3 crs.)

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.

ESS111 Introduction to the Atmosphere (3 crs.)

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.

ESS210 Physical Geology (3 crs.)

Deals with basic principles of mineralogy, petrology, earth structures, and surficial processes. Comprehensive analysis of the Plate Tectonic Theory. Lab/lecture.

ESS212 Historical Geology (3 crs.)

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: ESS110 or ESS210.*

ESS214 Geology of National Parks (3 crs.)

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: ESS110 or ESS210.*

ESS220 Oceanography (3 crs.)

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: ESS110 or ESS210 or CHM103 or CHM105 or permission of instructor.*

ESS355 Meteorology (3 crs.)

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. Two hours lecture and two hours lab/week.

ESS393 Selected Topics in Earth Science (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ESS404 Applied Meteorology and Climatology (3 crs.)

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: ESS111 or ESS355.*

ESS410 Sedimentary Geology and Paleoenvironments (3 crs.)

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. Engages 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. Entails lectures, local and regional field trips that may occur on the weekend, as well as laboratory assignments designed to provide students with substantial hands-on, field experience. *Prerequisite: ESS110 or ESS210; ESS212 recommended.*

ESS413 Mineral and Rock Resources (3 crs.)

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: ESS110 or ESS210.*

ESS442 Environmental Geology (3 crs.)

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: ESS110 or ESS210.*

ESS451 Coastal Environmental Oceanography (3 crs.)

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. May also include a travel component to the Florida Keys Marine Lab or similar research facility for additional field experience. *Prerequisite: Oceanography or permission of instructor.*

ESS490 Selected Topics (1-3 crs.)**Economics (ECO)****ECO101 Principles of Macroeconomics (3 crs.)**

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.

ECO102 Principles of Microeconomics (3 crs.)

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.

ECO113 Principles of Economics (4 crs.)

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. *Not open to students who have completed either ECO101 and/or ECO102.*

ECO270 Intermediate Macroeconomic Theory (3 crs.)

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: ECO101 or permission of department.*

ECO280 Managerial Economics (3 crs.)

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. *Prerequisites: ECO113 or ECO102 and MAT181 Applied Calculus.*

ECO303 Labor Economics: Theory and Policy (3 crs.)

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: ECO102 or ECO113.*

ECO305 Money and Banking (3 crs.)

Deals with monetary and banking principles and practices, credit, commercial banks and other financial institutions, and the Federal Reserve System. *Prerequisite: ECO101 or permission of department.*

ECO310 Public Finance (3 crs.)

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. *Prerequisites: ECO101 and ECO102 or permission of department.*

ECO317 Health Economics (3 crs.)

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: ECO102 or ECO113 or permission of department.*

ECO321 International Economics (3 crs.)

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: ECO102 or ECO113 or permission of department.*

ECO325 Globalization: Issues and Policies (3 crs.)

Introduces numerous issues related to globalization and explores alternative ways of interpreting challenges and opportunities, as well as policy response options. Impact of globalization on both rich and poor nations, on skilled and unskilled workers, on farmers and non-farmers, etc., will be presented and discussed. While topical, course based upon both the theoretical and empirical literature. *Prerequisite: ECO101 or ECO102 or ECO113.*

ECO330 Development of Economic Thought (3 crs.)

Concerned with reading and critical discussion of writings of the classical economists, the pre-Marxian and Marxian Socialists, the Neo-Classical economists, the institutional economists, and important contributions to modern economic thought. *Prerequisite: ECO101, ECO102 or permission of department.*

ECO333 Research and Analysis in Economics (3 crs.)

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. *Prerequisites: SCM200 or MAT117, and ECO113 or ECO101 or ECO102, or permission of department.*

ECO340 Introduction to Regional Economics (3 crs.)

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: ECO102 or permission of department.*

ECO345 The Economics of Growth and Development (3 crs.)

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: ECO102 or permission of department.*

ECO355 Environmental Economics (3 crs.)

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. *Prerequisites: ECO102*

ECO360 Industrial Organization (3 crs.)

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: ECO102 or permission of department.*

ECO377 Sports Economics (3 crs.)

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. 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: ECO101 or ECO102 or ECO113.*

ECO391 Internship in Economics I (1-3 crs.)

Students supplement their classroom studies by acquiring human capital through a professional internship. Contact the internship coordinator of the department for further information. *Prerequisite: departmental approval.*

ECO392 Internship in Economics II (1-3 crs.)

Students supplement their classroom studies by acquiring human capital through a professional internship. Contact the internship coordinator of the department for further information. *Prerequisite: departmental approval.*

ECO393 Selected Topics in Economics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ECO484 Mathematical Economics (3 crs.)

Covers the specification of economic models in mathematical terms. Applications of mathematical analysis to both macroeconomic and microeconomic concepts are presented. *Prerequisites: ECO101 and ECO102; and MAT181or MAT211.*

ECO485 Econometrics (3 crs.)

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. *Prerequisites: ECO101 and ECO102.*

ECO490 Selected Topics (3 crs.)

Education of Exceptional Children/ Special Education (EEC)

EEC273 Introduction to Exceptionalities: Understanding Diverse Learners (3 crs.)

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.

EEC411 Introduction to Exceptionality (3 crs.)

Provides a background in the field of special education and the nature of exceptionality in children and youth. Emphasis on societal attitudes and practices in relation to persons 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 or service delivery. The knowledge base comes out of social, cognitive, and developmental psychology, medical aspects of exceptionality, educational law and policy, and special education.

EEC423 Effective Instructional Strategies for Children with Exceptionalities (3 crs.)

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: EEC273 or EEC411 or permission of the instructor.*

EEC444 Formal/Informal Assessment of Individuals with Exceptionalities (3 crs.)

Introduces a learning systems model for the educational evaluation of exceptional children. Tests of intelligence, language development, academic achievement, gross and fine motor skill, and social and emotional development are studied along with other data gathering

techniques such as anecdotal records, behavior checklists, and parent interviews. Emphasis given to identification of those learning and behavior correlates essential in generating prescriptive programs for exceptional children. Class presentation includes lecture, discussion, films, demonstrations on video tape, and actual experience in administering and scoring selected tests. *Prerequisites: EEC411 and EEC475 or permission of the instructor.*

EEC445 Proactive Approaches for Classroom and Behavior Management (3 crs.)

Provides instruction and experience in individual and group aspects of classroom management, 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: EEC273, or permission of the instructor.*

EEC447 Instructional Content and Practices for Special Education (3 crs.)

Advanced study of problems of curricular development including models, content, vehicles of implementation, and evaluation aspects. Students develop curricular solutions to professional and situational needs. Includes the development of Individualized Education Programs (IEPs), working with supervisors, and instructional strategies for teaching academics, social, vocational, and leisure skills.

EEC474 Educational Needs of the Gifted Child (3 crs.)

Examines characteristics and needs of gifted and talented students through reading and discussion of case studies and the literature. Nature of desirable individual and group activities satisfying to gifted students is explored for use in the school program.

EEC483 Assessing Children with Exceptionalities for Curricular Decision-Making (3 crs.)

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: EEC273 or EEC411 or permission of instructor.*

EEC490 Selected Topics (1-3 crs.)

Education (EDU)

EDU290 Introduction to English/Language Arts Education (3 crs.)

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.

EDU371 Technology in the Mathematics Classroom (3 crs.)

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: junior standing or permission of instructor.*

EDU393 Selected Topics in Educational Foundations (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

EDU410 Environmental Education Practicum (3 crs.)

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: approval of coordinator of environmental education.*

EDU412 Teaching Social Studies in Secondary Schools I (3 crs.)

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. *Must be taken concurrently with EDU413.*

EDU413 Teaching of Social Studies II (3 crs.)

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. *Must be taken concurrently with EDU412.*

EDU420 Microcomputers in the Classroom (3 crs.)

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.

EDU421 Teaching of English in Secondary Schools (3 crs.)

Review of language arts requirements of secondary schools with special reference to grade placement and adaptation of materials, appraisal of results, and the development of programs of study. Directed observation in the laboratory school is frequently employed.

EDU422: Methods of Teaching English in Secondary Schools (3 crs.)

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 EDU290 and will begin more specifically elements into practice. *Prerequisite: EDU290.*

EDU426 Methods of Teaching Foreign Languages (3 crs.)

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: permission of instructor.*

EDU429 Methods of Teaching Business Subjects I (3 crs.)

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. Particular focus is on identification and

selection of appropriate curriculum materials, methods of presenting information to diverse groups of students, and the educational technology which supports the instructional program. Classroom management techniques, curriculum considerations, and strategies for teaching business subjects are stressed. *Must be taken concurrently with EDU431.*

EDU431 Methods of Teaching Business Subjects II (3 crs.)

Focuses on topics of educational and psychological measurement and evaluation and their use by classroom teachers, curriculum supervisors, school system administrators, and educational researchers. 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. *Must be taken concurrently with EDU429.*

EDU434 Teaching of Mathematics in the Secondary Schools I (3 crs.)

Covers theories of learning mathematics, national and state standards, and educational issues related to teaching and learning mathematics. Mathematical content and curricula for middle school and high school students will be explored and analyzed. Lesson and long-range planning and the classroom environment are included.

EDU435 Teaching of Mathematics in the Secondary Schools II (3 crs.)

Covers instructional and assessment strategies for middle school and high 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: EDU 434.*

EDU440 Teaching of Science in Secondary Schools (3 crs.)

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. *Must be taken concurrently with EDU441.*

EDU441 Curriculum and Evaluation in the Secondary Science Classroom (3 crs.)

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. *Must be taken concurrently with EDU440.*

EDU490 Selected Topics (1-3 crs.)

EDU495 Student Teaching and Professional Practicum (12 crs.)

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.

English (ENG)

ENG050 Basic Writing (3 crs.)

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 ENG101 or ENG106. Developmental course credits do not count toward the total number of credits required for graduation.

ENG101 College Writing (3 crs.)

Offers instruction in writing effective essays in accordance with a process model of pre-writing (including assigned readings and collecting materials for writing), drafting, peer reviewing, revising, editing, and proofreading. Students compose some writing from print, non-print, and online sources, using such appropriate documentation formats as the Modern Language Association (MLA) format for essays in the humanities. Students assigned to ENG101 on the basis of their performance on the SAT or after successful completion of ENG050.

ENG106 Writing Intensive First-Year Seminar (3 crs.)

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 ENG106 on the basis of their performance on the SAT or after successful completion of ENG050.

ENG107 Literary Studies I (3 crs.)

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. Expect to do at least one documented paper.

ENG110 Advanced Placement Writing (3 crs.)

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 online sources, using such appropriate documentation formats as Modern Language Association (MLA) format for essays in the humanities. Students are assigned to ENG110 instead of ENG101 or ENG106 on the basis of their performance on the SAT.

ENG111 Literary Studies II: Advanced Critical Analysis (3 crs.)

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.

ENG233 American Literature I (1650-1865) (3 crs.)

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.

ENG234 American Literature II (1865-1945) (3 crs.)

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.

ENG236 British Literature I (700-1798) (3 crs.)

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.

ENG237 British Literature II (1798-1945) (3 crs.)

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.

ENG238 Technical/Professional Writing I (3 crs.)

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 online 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.

ENG240 World Literature (3 crs.)

Offers a survey of literatures in global and historical contexts. Readings will focus on literatures produced outside England and the U.S. Over half of the texts studied will be written by non-European writers. Particular focus will vary according to instructor. Course may focus on a theme (e.g., the heroic struggle, nation and identity) or a region (e.g., the history of African literature). Course work will include at least one analytical essay.

ENG243 The Art of the Film (3 crs.)

Studies film as a highly complex art form and focuses chiefly on direction, script, editing, and cinematography. Classic films by such internationally famous directors as Bergman, Kurosawa, Fellini, Herzog, Hitchcock, Lean, Allen, and Huston are screened. A wide variety of short films (experimental, documentary, avant-garde) by independent filmmakers are also shown and discussed. As many films are based on well-known literary works, a novel (such as *Heart of Darkness*, *The Great Gatsby*, *Wuthering Heights*) or play (*Hamlet*, *Hippolytus*, *A Streetcar Named Desire*) is studied along with its cinematic counterpart. Students write critiques on feature films. Satisfies general education requirements.

ENG248 Introduction to Culturally Diverse Literature of the U.S. (3 crs.)

Introduces literature by writers including 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.

ENG250 Introduction to Literature (3 crs.)

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.

ENG256 Introduction to Mythology (3 crs.)

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.

ENG304 Literary Criticism (3 crs.)

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 department's criticism requirement.

ENG307 Poetry Writing (3 crs.)

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.

ENG308 Fiction Writing (3 crs.)

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.

ENG318 Studies in English Renaissance Literature (3 crs.)

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.

ENG323 Reviewing the Arts for Publication (3 crs.)

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.

ENG330 Shakespeare (3 crs.)

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.

ENG333 Cultural Studies (3 crs.)

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 department's criticism requirement.

ENG335 Creative Nonfiction Writing (3 crs.)

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.

ENG336 Theories and Approaches: Language, Learning, and Literacy (3 crs.)

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.

ENG338 Technical Writing for Professionals (3 crs.)

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: enrollment in degree completion program.*

ENG343 Film Criticism (3 crs.)

An examination of some of the major practical and theoretical concepts of film criticism. Through weekly screenings and assigned readings on a certain theme, film director, genre, historical movement, or a variety of these, students will become familiar with methods of film analysis and with the range of current critical discourse on film. A variety of critical approaches will be chosen to illustrate the advantages of a multiple perspective, and students will be expected to bring these to bear in a final written project. The course meets the department's criticism requirement.

ENG345 Women's Literature (3 crs.)

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.

ENG358 Ethnic Literature (3 crs.)

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.

ENG366 History and Structure of the English Language (3 crs.)

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.

ENG370 Queer Studies (3 crs.)

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.

ENG375 African-American Literature (3 crs.)

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.

ENG376 Studies in Medieval Literature (3 crs.)

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.

ENG377 Studies in Restoration and 18th Century British Literature (3 crs.)

Provides an in-depth study of selected works written by British writers from 1660 to 1800. Content, that varies depending on the instructor, may emphasize a genre, a theme, or a time period. For instance, may focus on the novel from John Bunyan to Jane Austen, the mythic vision of British nationhood, or poetry and drama from the Age of Johnson. Expect to write at least one analytical paper dealing with works read in the course.

ENG378 Studies in Early American Literature (3 crs.)

Provides an in-depth study of selected early American literature, roughly the beginnings through 1820. Content and focus varies by instructor; however, featured topics may include literature of European exploration, religious or political writings, seduction novels, and/or captivity narratives. Instructors may focus on genre, theme, or authors. Expect to write at least one analytic paper dealing with one or more works read for the course.

ENG380 Studies in 19th Century British Literature (3 crs.)

Provides an in-depth study of selected 19th century British literature. Content varies by instructor. Featured topics may include a historical movement like the Romantic Period, a theme like the woman question, or a specific genre like the novel. Expect to write at least one analytic paper dealing with one or more works read for the course.

ENG381 Studies in 19th Century American Literature (3 crs.)

Provides an in-depth study of selected 19th century American literature. Content and focus varies by instructor; however, featured topics may include the emergence of the American novel, the slave narrative, American transcendentalism, or the poetry of Dickinson and Whitman. Instructors may focus on genre, theme, or authors. Expect to write at least one analytic paper dealing with one or more works read for the course.

ENG382 Studies in 20th Century British Literature (3 crs.)

Provides focused study of two or more 20th century British authors' works. Particular topic varies according to instructor; may focus on a movement (e.g., modernism, the Angry Young Men), a theme (e.g., the immigrant experience in 20th century England), and/or a specific genre (e.g., the novel, the modernist long poem). Students will write at least one analytic paper.

ENG383 Studies in 20th Century American Literature (3 crs.)

Provides an in-depth study of representative American writers and works from the just-completed century. Selection of texts by at least two such writers will vary according to instructor. May concentrate on the question of modernity/postmodernity, the emergence of

distinctive regional literature(s), or the response to major historic events of the period such as the Great Depression or World War II. Expect to write at least one analytic paper.

ENG385 Studies in Literature of the Postcolonial World (3 crs.)

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.

ENG387 English Internship I (3 crs.)

Contact department for further information on internships.

ENG388 Independent Study–Senior Paper (3 crs.)

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.

ENG389 English Internship II (3 crs.)

Contact department for further information on internships.

ENG394 Selected Topics in English (1-3 crs.)

Opportunity to offer courses in areas of departmental interest not covered by regular course offerings.

ENG420 Studies in Writing (3 crs.)

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.

ENG426 Teaching Adolescent Literature (3 crs.)

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: EDU290.*

ENG427 Advanced Poetry Workshop (3 crs.)

Provides opportunity to develop ability to write original, publishable poetry 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 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: ENG307 or permission of instructor.*

ENG428 Advanced Fiction Workshop (3 crs.)

Provides opportunity to develop ability to write original, publishable fiction 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 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: ENG308 or permission of instructor.*

ENG438 Technical Professional Writing II (3 crs.)

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: ENG238.*

ENG464 Seminar in a Major Author (3 crs.)

In-depth analysis of representative works by a single author 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: ENG107 or permission of the department.*

ENG465 Seminar in Creative Nonfiction (3 crs.)

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: ENG107 or permission of the department.*

ENG466 Seminar in Literary Theory (3 crs.)

In-depth study of one or more theoretical perspectives in literary criticism. Particular theories and authors studied varies according to the instructor. May focus on a theoretical movement (e.g., deconstruction, reader-response) or the works of one or more important theorists (e.g., Fredric Jameson, Stanley Fish). May also be organized around a particular set of issues or concerns relevant to theories of literary criticism (e.g., race in postmodern theory, the meaning of the author in literary theory). Expect to write at least one lengthy analytic paper. The course meets the department's criticism requirement. *Prerequisite: ENG107 or permission of the department.*

ENG467 Seminar in Drama (3 crs.)

Examines drama's fundamental components (plot, character, and what Aristotle calls thought [every effect produced in speech]) within the spatial context of a stage. Concerned, in particular, with performance of drama. Attendance at relevant area stage performances and viewing films and video tapes augment textual study. Requires thoughtful critical reading and critical writing beyond requirements of lower level courses. Both activities done in terms of a non-chronological cluster of significant dramatists, e.g., Marlowe, Ibsen, O'Neill, which may vary from instructor to instructor. Enables in-depth understanding of the components of drama and their various utilizations regardless of a dramatist's time period or individual style. Expect to write at least one lengthy analytic paper dealing with one or more of the components in a work or works read for the seminar. *Prerequisite: ENG107 or permission of the department.*

ENG468 Seminar in Fiction (3 crs.)

Examines fiction's fundamental components—plot, character, and narrative point-of-view. Requires thoughtful critical reading and critical writing beyond requirements of lower level courses. Both activities done in terms of non-chronological cluster of significant fiction writers, e.g., Sterne, Bronte, Faulkner, which may vary by instructor. Enables understanding of in-depth the components of fiction and their various utilizations, regardless of a fiction writer's time period or individual style. Expect to write at least one lengthy

analytic paper dealing with one or more of the components in a work or works read for the seminar. *Prerequisite: ENG107 or permission of the department.*

ENG469 Seminar in Poetry (3 crs.)

Examines poetry's fundamental components — image, sound, and the interplay of concepts. Requires thoughtful critical reading and critical writing beyond requirements of lower level courses. Both activities done in terms of a non-chronological cluster of significant poets, e.g., Milton, Tennyson, Moore, which may vary by instructor. Enables understanding of in-depth the components and their various utilizations, regardless of a poet's time period or individual style. Expect to write at least one lengthy analytic paper dealing with one or more of the components in a work or works read for the seminar. *Prerequisite: ENG107 or permission of the department.*

ENG490 Selected Topics in English (1-3 crs.)

Opportunity to offer courses in areas of departmental interest not covered by regular course offerings.

Ethnic Studies (ETH)

ETH100 Introduction to Ethnic Studies (3 crs.)

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.

ETH101 Introduction to African-American Studies (3 crs.)

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.

ETH102 Introduction to Latino Studies (3 crs.)

Study of Latino life and culture in the United States through a survey of literature, art, films, and other cultural media. Students will be given the background information necessary to explore the issues presented in these and other works.

ETH390 Ethnic Studies Internship (3 crs.)

Contact Ethnic Studies for further information on internships.

Exercise Science (ESC)

ESC200 Lifestyle Management (3 crs.)

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.

ESC207 Stress Management (3 crs.)

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.

ESC243 Physiological Basis of Sport (3 crs.)

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: BIO150.*

ESC244 Mechanical Analysis of Sports Skills (3 crs.)

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.

ESC250 Introduction to Kinesiology (3 crs.)

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.

ESC321 Exercise Physiology I (4 crs.)

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: ESC250 [Pre or Co] and BIO350.*

ESC325 Sport Psychology (3 crs.)

Provides knowledge about effects of psychological factors on behavior in sport (i.e., anxiety, motivation, concentration and confidence) and the psychological effect participation in sport or physical activity has on the performer (i.e., anxiety reduction, aggressive behavior and personality development.) Restricted to coaching minors until schedule clean-up.

ESC333 Biomechanics (3 crs.)

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. *Prerequisites: ESC244, ESC250, BIO371 and PHY121. Offered spring semester only.*

ESC336 Motor Behavior (3 crs.)

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. *Prerequisites: ESC250.*

ESC339 Exercise Science Seminar (1 - 3 cr.)

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. *Prerequisites possible.* Seminar topics announced each semester.

ESC340 Prevention and Care of Athletic Injuries (3 crs.)

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: for minors BIO150 and for majors ESC250 Pre/Co and BIO161 and BIO162*

ESC350 Nutrition for Sport & Fitness (3 crs.)

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: ESC243 or ESC321.*

ESC352 Psychology of Physical Activity (3 crs.)

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. *Prerequisites: ESC250 and PSY101.*

ESC353 Research Design and Statistics for Exercise Science (3 crs.)

Provides an understanding and interpretation of research methods within Exercise Science. Learn basic concepts for designing a research project within exercise science. Introduces data collection, data analysis, presentation of the data, and ethical principles surrounding research. Restricted to exercise science majors only. *Prerequisites: ESC244, ESC321, and MAT117.*

ESC393 Selected Topics - Exercise Science (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

ESC400 Methods of Coaching (3 crs.)

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: ESC340.*

ESC420 Cardiac Rehab & Special Populations (4 crs.)

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. *Prerequisites: ESC250 and ESC321.*

ESC421 Exercise Physiology II (4 crs.)

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: ESC321.*

ESC422 Exercise Testing and Prescription (3 crs.)

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. *Prerequisites: ESC250 and ESC421 (Pre/Co).*

ESC424 Internship (6/9/12 crs.)

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. *Prerequisites: Must have a 2.50 QPA overall; must have completed all exercise science major course requirements with a grade of C or above.*

ESC490 Selected Topics – Exercise Science (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Finance (FIN)

FIN101 Personal Finance (3 crs.)

Survey course that introduces students to basic skills needed to manage their personal financial affairs. 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.

FIN311 Financial Management (3 crs.)

Introduces concepts and techniques of financial management in the context of a business firm seeking to maximize the firm's value. Topics include financial markets, wealth maximization, cash flow and financial statements, valuation of stocks and bonds, cost of capital, risk and return, analysis of long-term financing, capital structure, working capital management, and international aspects of financial management. *Prerequisites: ACC200, ECO113 or ECO102 and junior standing.*

FIN312 Investments (3 crs.)

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. *Prerequisites: FIN311 and SCM200, or permission of department chair.*

FIN313 Advanced Financial Management (3 crs.)

Explores financial theory and financial decision models necessary for handling complex business problems. Applications are illustrated by means of case material. *Prerequisites: FIN311 and SCM200 or permission of department chair.*

FIN314 Financial Institutions (3 crs.)

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. *Prerequisites: FIN311 and SCM200 or permission of department chair.*

FIN320 Risk Management and Insurance (3 crs.)

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. *Prerequisites: FIN311 and SCM200 or permission of department chair.*

FIN322 Estate Planning (3 crs.)

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. *Prerequisites: BSL261, ACC306 (at least concurrently), and FIN320 (at least concurrently).*

FIN324 Retirement Planning and Employee Benefits (3 crs.)

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: FIN311.*

FIN333 Applied Company and Security Analysis (3 crs.)

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). *Prerequisites: FIN311 and SCM200 or permission of department chair.*

FIN340 Principles of Real Estate (3 crs.)

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: FIN311 or permission of department chair.*

FIN393 Selected Topics in Finance (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

FIN405 Real Estate Appraisal and Investment Analysis (3 crs.)

Basic course in real estate appraisal stressing techniques of appraisal, investment analysis, and the valuation theory underlying these methodologies. Practical application in appraising part of course. *Prerequisite: FIN311 or permission of department chair.*

FIN414 Bank Management (3 crs.)

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: FIN314 or permission of department chair.*

FIN421 Personal Financial Planning (3 crs.)

Addresses various aspects of personal financial planning. 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. *Prerequisites: FIN312 and FIN320.*

FIN425 Global Financial Management (3 crs.)

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. *Prerequisites: FIN311 and SCM200 or permission of department chair.*

FIN434,435 Investment Management Program (1-3 crs.)

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. *Prerequisites: FIN333 and departmental approval.*

FIN442 Derivatives Markets (3 crs.)

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: FIN312 or permission of department chair.*

FIN490 Selected Topics in Finance (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

French (FRN)

FRN101 Beginning French I (3 crs.)

Designed for students who have never studied the language. Both textbook and authentic materials used to enable students to express themselves on personalized topics.

FRN102 Beginning French II (3 crs.)

Continuation of FRN101. Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self, family, and friends. *Prerequisite: FRN101 or placement.*

FRN103 Intermediate French (3 crs.)

Continuation of FRN102. 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: FRN102 or placement.*

FRN150 French Civilization (3 crs.)

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.

FRN202 Intermediate Conversation Through the Media (3 crs.)

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 FRN103 with permission of the department. *Prerequisite: FRN103 or department placement.*

FRN204 Ideas and Cultures from the French-Speaking World (3 crs.)

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: FRN103 or placement.*

FRN211 Intermediate French Grammar (3 crs.)

Grammar course hones previously acquired skills. Introduces additional verb tenses as well as moods. Students continue developing 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.

FRN300 Advanced French Conversation (3 crs.)

Allows 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, FRN300 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. Taught in French. *Prerequisite: FRN202, or FRN204 AND FRN211 or departmental placement.*

FRN308 Diction et Comprehension (3 crs.)

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: FRN202, FRN204 or permission of instructor.*

FRN309 French Grammar (3 crs.)

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: FRN202, FRN204 or permission of instructor.*

FRN316 Composition and Stylistics (3 crs.)

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: FRN202, FRN204 or permission of instructor.*

FRN320 French for the Professions (3 crs.)

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: FRN202, FRN204 or permission of instructor.*

FRN330 Masterpieces of French Literature (3 crs.)

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: FRN202, FRN204 or permission of instructor.*

FRN331 Masterpieces of Francophone Literature (3 crs.)

Introduction to rich variety of authors writing in French-speaking world outside of metropolitan France. Works by authors from North and sub-Saharan Africa, Québec, and other regions of Canada, as well as the Caribbean region, Indian Ocean and South Pacific can be included. *Prerequisite: FRN202, FRN204 or permission of instructor.*

FRN340 Genres Littéraires (3 crs.)

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: FRN202, FRN204 or permission of instructor.*

FRN380 Aspects De La Civilisation Française/Francophone (3 crs.)

Particular topics, historical events or political and artistic movements that have assisted in fashioning French and Francophone cultures will be critically explored. *Prerequisite: FRN202, FRN204 or permission of instructor.*

FRN392 French Cultural Studies Immersion (3 crs.)

Offered in Quebec or in France every other summer. Allows students to witness and appreciate first hand elements of culture such as traditions and history, music, theater, dance, or even cuisine. Gives students the opportunity to practice their language skills with native speakers in an immersion environment.

FRN400 Seminar: Advanced Studies in French Language and Literature (3 crs.)

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: permission of instructor.*

FRN411 Theory and Practice of Translation (3 crs.)

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. *Prerequisites: FRN309 and FRN316.*

FRN490 Selected Topics (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Geography (GEO)

GEO101 World Geography (3 crs.)

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.

GEO103 Geography of the United States and Canada (3 crs.)

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.

GEO105 Physical Geography (3 crs.)

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.

GEO140 Cultural Geography (3 crs.)

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.

GEO202 GIS I: Introduction to Geographic Information Systems (3 crs.)

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.

GEO203 Climatology (3 crs.)

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.

GEO217 Geography of Australia and Oceania (3 crs.)

Appraises development of the island nations and possessions of the southwest Pacific as it examines the several geographic patterns evolved by different cultures in the various physical settings of this region.

GEO224 Soils (3 crs.)

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: ESS110 or ESS210.*

GEO226 Hydrology (3 crs.)

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.

GEO230 Economic Geography (3 crs.)

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.

GEO244 Land Use (3 crs.)

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.

GEO301 Introduction to Biogeography (3 crs.)

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.

GEO305 Geography of Europe (3 crs.)

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: GEO101.*

GEO306 Geomorphology (3 crs.)

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: ESS110 or ESS210.*

GEO308 Geography of Latin America (3 crs.)

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. *Prerequisite: GEO101.*

GEO310 Transportation Geography (3 crs.)

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.

GEO313 Geography of South and Southeast Asia (3 crs.)

Examines the diverse cultural and physical features giving form to the present political/economic situation in this region and shaping the future.

GE0314 Industrial Geography (3 crs.)

Interpretative survey of the effects in the United States of geographic conditions upon industrial production and commerce, of development of commercial areas, and availability of resources to markets in relation to other regions of the world.

GE0317 Geography of East Asia (3 crs.)

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.

GE0320 Historical Geography (3 crs.)

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.

GE0322 Urban Geography (3 crs.)

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.

GE0326 Political Geography (3 crs.)

Gives attention to boundary problems, the value and control of colonies, fishing agreements, problems concerning commercial aviation, world trade, world food supplies, control and development of natural resources, and the geographic aspects of problems concerning world peace. *Prerequisite: GEO101.*

GE0339 Remote Sensing (3 crs.)

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.

GE0352 Cartography (3 crs.)

Introduces basic tools of map making. Explains techniques for displaying data and develops skills in compilation, design, and execution of maps.

GE0360 Internship in Geography I (3 crs.)

Contact the department for further information on internships.

GE0361 Internship in Geography II (1-4 crs.)

Contact the department for further information on internships.

GE0363 GIS II: Intermediate Geographic Information Systems (3 crs.)

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: GEO202.*

GE0390 Internship in Urban Studies I (3 crs.)

Contact the department for further information on internships.

GE0391 Geography Seminar (3 cr.)

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.*

GE0393 Selected Topics in Geography (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

GE0394 Internship in Urban Studies II (3 crs.)

Contact the department for further information on internships.

GE0402 Medical Geography (3 crs.)

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.

GE0404 Groundwater and Hydrogeology (3 crs.)

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) supplement classroom material (field trip dates and times will be determined during class). *Prerequisite: ESS110 or ESS210.*

GE0405 Environmental Conservation and Management in PA (3 crs.)

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. Emphasis on current environmental and natural resource issues in Pennsylvania. Topics considered 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.

GE0415 Regional Geographic Studies (3 crs.)

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.

GE0420 GIS III: Advanced Geographic Information Systems (3 crs.)

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 course. *Prerequisites: GEO202, GEO363.*

GE0425 Image Processing (3 crs.)

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 GEO339 is suggested.*

GEO440 Field Techniques (3 crs.)

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 used to aid in the research, analysis, and evaluation of the field problem.

GEO441 Quantitative Methods (3 crs.)

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.

GEO444 Environmental Land-Use Planning (3 crs.)

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.

GEO446 Water Resources Management (3 crs.)

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: GEO 226*

GEO450 Geography-Geology Field Studies (1-3 cr.)

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. *Prerequisites vary depending on topic. Please contact instructor.*

GEO490 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

German (GER)

GER101 Beginning German I (3 crs.)

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.

GER102 Beginning German II (3 crs.)

Continuation of GER101. Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self and other personalized topics. *Prerequisite: GER101 or placement.*

GER103 Intermediate German (3 crs.)

Continuation of GER102. 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: GER102 or placement.*

GER150 German Civilization and Culture (3 crs.)

Examines the culture, the social and artistic factors which have contributed to the evolution 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.

GER151 German Cinema (3 crs.)

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.

GER203 Intermediate German Communication (3 crs.)

Designed as a continuation of GER103 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: GER103 or department placement.*

GER204 Contemporary German Culture (3 crs.)

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: GER103 or department placement.*

GER215 German for the Professions (3 crs.)

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: GER203, 204 or permission of instructor.*

GER300 Introduction to German Literature (3 crs.)

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: GER203, 204 or permission of instructor.*

GER309 German Phonetics (3 crs.)

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: GER203, GER204, or permission of instructor.*

GER312 German Grammar (3 crs.)

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: GER203, GER204, or permission of instructor.*

GER313 Composition and Stylistics (3 crs.)

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: GER203, GER204, or permission of instructor.*

GER320 Berlin (3 crs.)

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 non-fictional texts about Berlin will be analyzed. *Prerequisite: GER203, GER204, or permission of the instructor.*

GER322 Readings in German Literature (3 crs.)

Studies different authors, genres, or movements in German literature (varying topics). Focus on close readings and analysis within a cultural context. *Prerequisite: GER203, GER204, or permission of instructor.*

GER390 German Internship (3 crs.)

Contact the department for further information on internships.

GER400 German Seminar (3 crs.)

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: permission of instructor.*

GER490 Selected Topics in German (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses. *Prerequisite: permission of instructor.*

Gerontology (GRN)

GRN100 Introduction to Gerontology (3 crs.)

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.

GRN301 Gerontology Internship (3 crs.)

Provides an off-campus, professional learning experience in the field of aging. Contact the program director for information.

GRN303 Gerontology Internship II

Provides additional off campus, professional learning experience in the field of aging. Contact the program director for information.

GRN391 Selected Topics in Gerontology (1-3 crs.)

Opportunity to offer courses in areas of program minor not covered by the regular courses.

GRN480 Valuing Diversity in Later Life (3 crs.)

Examines the unique experiences of aging among various racial, ethnic, and cultural groups, with an emphasis on assessing needs and identifying strengths.

Health Care Administration (HCA)

All Health Care Administration courses are only offered in Gettysburg or Harrisburg.

HCA400 Introduction to Health Care Systems (3 crs.)

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.

HCA451 Legal Aspects of Health Care (3 crs.)

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: HCA400.*

HCA452 Health Care Financial Management (3 crs.)

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: HCA400.*

HCA453 Human Resources Management for Health Care Professionals (3 crs.)

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: HCA400.*

HCA454 Health Care Strategic Management (3 crs.)

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: HCA400.*

HCA485 Independent Research in Health Care Administration (1-6 crs.)

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: departmental approval.*

HCA490 Selected Topics in Health Care Administration (3 crs.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses.

HCA498 Internship in Health Care Administration (1-3 crs.)

Students broaden their knowledge of health care administration by participating in an internship. Contact the internship coordinator of the department for further information. *Prerequisite: departmental approval.*

HCA499 Internship in Health Care Administration (1-3 crs.)

Students broaden their knowledge of health care administration by participating in an internship. Contact the internship coordinator of the department for further information. *Prerequisite: departmental approval.*

History (HIS)

HIS105 Historical Foundations of Global Cultures (3 crs.)

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.

HIS106 Thinking Historically in a Global Age (3 crs.)

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.

HIS201 Early History of the United States (3 crs.)

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.

HIS202 Recent History of the United States (3 crs.)

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.

HIS203 Theory and Practice of History (3 crs.)

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. Usually taken during sophomore year. *Prerequisites: HIS105 and HIS106; and sophomore standing. Restricted to History B.A. and B.A. with Public History concentration*

HIS301 The West in American History (3 crs.)

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 in the importance of the American frontier on the nation's history. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor's permission.*

HIS302 American Economic History (3 crs.)

Analyzes growth of the American economy from the pre-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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS304 American Diplomatic History (3 crs.)

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: HIS105 or HIS106; or permission of instructor.*

HIS305 The Civil War Era (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor's permission.*

HIS307 Contemporary U.S. History since 1945 (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor's permission.*

HIS309 History of the American Worker (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor's permission.*

HIS314 History of Jacksonian America (3 crs.)

Analyzes the social, intellectual, political, economic, and religious events, trends, issues, and problems in American life from the 1810s until the 1850s. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor's permission.*

HIS318 History of U.S. Women (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS319 Introduction to Public History (3 crs.)

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 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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor's permission.*

HIS320 Europe in the Early and High Middle Ages: 300 to 1270 (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or permission of instructor.*

HIS321 Late Medieval Europe: 1270 to 1517 (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or permission of instructor.*

HIS325 History of the Tsarist Russia (3 crs.)

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: HIS105 and HIS106; or permission of instructor.*

HIS326 History of the U.S.S.R. (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or permission of instructor.*

HIS330 History of Modern Germany: 1919 to Present (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or permission of instructor.*

HIS331 History of Modern France: 1750 to Present (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or permission of instructor.*

HIS332 English History: 1066 to Present (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS337 History of the Byzantine Empire (3 crs.)

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. *Prerequisites: HIS105.*

HIS338 Colonial America (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor's permission.*

HIS339 The Central Islamic Lands, 500-1700 (3 crs.)

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." Includes the rise and disintegration of the caliphate as an Islamic empire, the development of Islamic 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. *Prerequisites: HIS105.*

HIS341 African-American History (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS342 U.S. Immigration and Ethnicity (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS344 History of the Modern Middle East (3 crs.)

Begins with the impact in the Middle East of the transformation of the agrarian world order and the impact of European colonialism beginning in the late Ottoman period. Includes attempts by Middle Eastern states to adapt to changing circumstances, the development of new forms of identity and religious ideas, and covers the

development of national states up to the present. Attention is also paid to current issues and conflicts involving the region. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS345 Military History of the United States (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS348 History of the Ancient World (3 crs.)

Survey of the political, social, and cultural institutions of the Near East, Greece, and Rome, with special emphasis upon the contributions of each to the civilization of the following periods. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS349 History of Latin America (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS350 History of Modern Japan (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS351 World History since 1945 (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS352 The US and Vietnam (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor's permission.*

HIS353 Modern Southeast Asia (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS354 Traditional China (3 crs.)

Surveys China's history from ancient to early modern times (ca. 1600) by investigating major developments in Chinese society, political systems, economy, and culture. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS355 History of Modern China (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor's permission.*

HIS356 History of 19th Century Europe (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor’s permission.*

HIS357 History of Holocaust (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor’s permission.*

HIS358 American Environmental History (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor’s permission.*

HIS360 History of Mexico (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor’s permission.*

HIS366 History of Brazil (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor’s permission.*

HIS376 History of Africa South of the Sahara (3 crs.)

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. *Prerequisites: HIS105 and HIS106; or instructor’s permission.*

HIS386 History Research Seminar (3 crs.)

Focuses on the critical analysis of primary and secondary sources centered on the production of a research project of significant scholarly value. Students 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 encouraged to submit their research for presentation at a professional conference or publication in a scholarly journal. *Prerequisites: HIS105 and HIS106; and junior standing, or instructor’s permission.*

HIS387, 389, 391 History Internship (3-6 crs.)

Contact the department for further information on internships.

HIS393 Selected Topics in History (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS394 Selected Topics in History (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS397 Seminar in Comparative History (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS203; and senior standing. Restricted to History B.A. and B.A. with Public History concentration.*

HIS402 Revolutionary America (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; or instructor’s permission.*

HIS407 Women in Comparative Perspective (3 crs.)

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 examines the historical development of modern gender conventions in various world regions and of controversies about the human rights of women. *Prerequisites: HIS105 and HIS106, and sophomore standing, or instructor’s permission.*

HIS410 The Islamic World (3 crs.)

Explores the many contours of the Islamic World from 600 to 1500 CE, focusing on Islam as a religion and as an organizing principle of many diverse societies. Examines how politics, warfare, society, and cultures developed in the Islamic world. Includes pre-Islamic Arabia, the rise of Islam, Arab expansion and adaptation, nomadic-urban encounters, and development of socio-political institutions, religious sects, and cultural-scientific achievements. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; and sophomore standing; or instructor’s permission.*

HIS413 Pennsylvania History (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; and sophomore standing; or instructor’s permission.*

HIS423 Issues in 20th-Century Europe (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and sophomore standing, or instructor’s permission.*

HIS428 Issues in the Gilded Age and Progressive Era (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; and sophomore standing; or instructor’s permission.*

HIS430 U.S. Cultural History (3 crs.)

Focuses upon significant cultural developments in American history, and upon the importance of culture to major trends and events in the U.S. past. 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. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; and sophomore standing; or instructor's permission.*

HIS433 Oral History (3 crs.)

Introduces 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. Introduces alternative uses for oral history including audio and video documentary, and digital methods of exhibition. *Prerequisites: HIS105 and HIS106; and HIS201 or HIS202; and sophomore standing; or instructor's permission.*

HIS454 China and the Outside World (3 crs.)

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. *Prerequisites: HIS105 and HIS106; and sophomore standing; or instructor's permission.*

HIS490, 492, 493 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

HIS499 Historiography (3 crs.)

Traces development of historical consciousness from classical antiquity down through the use of scientific history in the late 19th century. Further analyzes the intellectual foundations, social purposes, and methods of contemporary, (i.e., 20th century) historical inquiry. *Prerequisite: nine credits in history or permission of instructor.*

Honors (HON)

HON100 Honors Introduction to Human Communication (3 crs.)

Equivalent to HCS100 Introduction to Human Communication.

HON101 Honors Introduction to Theatre (3 crs.)

Equivalent to THE121 Introduction to the Theatre.

HON102 Honors Introduction to Women's Studies (3 crs.)

Equivalent to WST100 Introduction to Women's Studies.

HON105 Honors Ethical Theories and Problems (3 crs.)

Equivalent to PHL105 Ethical Theories and Problems.

HON106 Honors Writing Intensive First Year Seminar (WIFYS) (3 crs.)

Equivalent to ENG106 Writing Intensive First-Year Seminar.

HON108 Honors Astronomy of the Physical Universe (3 crs.)

Equivalent to PHY108 Astronomy.

HON111 Honors Introduction to Interdisciplinary Arts (3 crs.)

Equivalent to IAP111 Introduction to Interdisciplinary Arts.

HON122 Honors Historical Foundations of Global Cultures (3 crs.)

Equivalent to HIS105 Historical Foundations of Global Cultures.

HON123 Honors Thinking Historically in a Global Age (3 crs.)

Equivalent to HIS106 Thinking Historically in a Global Age.

HON130 Honors Introduction to Philosophy (3 crs.)

Equivalent to PHL101 Introduction to Philosophy.

HON135 Honors Art History III (3 crs.)

Equivalent to ART233 Art History III.

HON140 Honors Geography of the United States and Canada (3 crs.)

Equivalent to GEO103 Geography of the United States and Canada.

HON141 Honors World Geography (3 crs.)

Equivalent to GEO101 World Geography.

HON142 Honors Introduction to the Atmosphere (3 crs.)

Equivalent to ESS111 Introduction to the Atmosphere.

HON145 Honors Environmental Biology (3 crs.)

Equivalent to BIO145 Environmental Biology.

HON151 Honors General Psychology (3 crs.)

Equivalent to PSY101 General Psychology.

HON159 Honors Physical Anthropology (3 crs.)

Equivalent to ANT121 Physical Anthropology.

HON160 Honors Cultural Anthropology (3 crs.)

Equivalent to ANT111 Cultural Anthropology.

HON161 Honors Introduction to Sociology (3 crs.)

Equivalent to SOC101 Introduction to Sociology: Society and Diversity.

HON162 Honors Contemporary Social Problems (3 crs.)

Equivalent to SOC241 Contemporary Social Problems.

HON163 Honors Introduction to Archaeology (3 crs.)

Equivalent to ANT150 Introduction to Archaeology.

HON165 Honors Principles of Macroeconomics (3 crs.)

Equivalent to ECO101 Principles of Macroeconomics.

HON166 Honors Principles of Microeconomics (3 crs.)

Equivalent to ECO102 Principles of Microeconomics.

HON180 Honors Physics for Society (3 crs.)

Equivalent to PHY110 Physics for Society.

HON182 Honors Overview of Computer Science (3 crs.)

Equivalent to CSC103 Overview of Computer Science.

HON186 Honors Human Biology (3 crs.)

Equivalent to BIO150 Human Biology.

HON187 Honors Contemporary Issues in Biology (3 crs.)

Opportunity to explore topics not covered by the regular courses.

HON196 Honors A Cultural Approach (3 crs.)

Equivalent to CHM103 Chemistry: A Cultural Approach.

HON206 Honors The American School (3 crs.)

Equivalent to TCH205 The American School.

HON208 Honors Opera and Music Theater (3 crs.)

Equivalent to MUS227 Opera and Music Theater.

HON210 Honors Introduction to Music (3 crs.)

Equivalent to MUS121 Introduction to Music.

HON224 Honors The Art of the Film (3 crs.)

Equivalent to ENG243 The Art of the Film.

HON235 Honors Introduction to Cultural Studio (3 crs.)

Equivalent to ART274 Introduction to Cultural Studio.

HON244 Honors Introduction to Geology (3 crs.)

Equivalent to ESS110 Introduction to Geology

HON249 Honors Introduction to Literature (3 crs.)

Equivalent to ENG250 Introduction to Literature.

HON251 Educational Psychology (3 crs.)

Equivalent to TCH260 Educational Psychology.

HON261 Honors World Music (3 crs.)

Equivalent to MUS261 World Music.

HON269 Honors Sociology of the Arts (3 crs.)

Equivalent to SOC370 Sociology of the Arts.

HON274 Honors Introduction to International Politics (3 crs.)

Equivalent to PLS141 Introduction to International Politics.

HON279 Honors US Government and Politics (3 crs.)

Equivalent to PLS100 US Government and Politics.

HON360 Honors Colloquium (1 cr.)

Exploration of topics of special interest to Honors students.

HON392, 393 Honors Seminar (3 crs.)

Focus on interdisciplinary explorations of specific topics, and emphasize interdisciplinary analysis and problem-solving.

HON394, 395, 397, 398: Honors Selected Topics (3 crs.)

Opportunity to offer courses in areas of interest to Honors Program students not covered by the regular courses.

HON396 University Honors Colloquium (3 crs.)

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.

HON399 Honors Independent Study (3 crs.)

Opportunity for Honors Program students to undertake independent research, creative, or service-learning projects under the direction of a faculty mentor.

HON411 Honors Introduction to Exceptionalities (3 crs.)

Equivalent to EEC273 Introduction to Exceptionalities: Understanding Diverse Learners.

HON440 Seminar in Business and Society (3 crs.)

Equivalent to MGT447 Business and Society.

HON497 Honors Strategic Management (3 crs.)

Equivalent to MGT497 Strategic Management.

Human Communication Studies (HCS)

HCS100 Introduction to Human Communication (3 crs.)

Overview highlighting four aspects of human communication: general theoretical overview of historical aspects and current models, small group and leadership dimensions of human communication, interpersonal communication, and public speaking strategies. Emphasis on developing student sensitivity to and understanding of the necessity to adapt one's communication styles to various environmental and sociological communication situations.

HCS200 Human Communication Theory (3 crs.)

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. *Prerequisites: HCS100 with a C or better and declared human communication major or minor.*

HCS210 Public Speaking (3 crs.)

Emphasizes the preparation and delivery of speeches to mass 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. *Prerequisites: HCS200 with a C or better and a declared major or minor in Human Communication.*

HCS220 Nonverbal Communication (3 crs.)

Designed to familiarize the primary concepts and the body of literature relating to nonverbal communication. Approached from a theoretical examination relating to the spatial, temporal, vocal, kinesic, occulesic, and olfactory constructs of nonverbal communication. Will acquire an understanding of nonverbal cues and how they impact communication interactions. Students can also improve speaking and listening abilities by understanding how nonverbal actions affect communication with others.

HCS230 Small Group Communication (3 crs.)

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. *Prerequisites: HCS200 with a C or better and declared human communication major or minor.*

HCS240 Interviewing (3 crs.)

Practical approach to the information exchange process. Students participate in information-gathering/giving interviews, job placement interviews for both applicant and employer, survey interviews as a way of gathering research data, problem-solving interviews, persuasive interviews, performance evaluation interviews, and medical and counseling interviews. Emphasis on the strategies of writing quality questions, analysis of data, and appropriate responses to questions. Students also learn to write effective letters of application, resumes, and follow-up correspondence. *Prerequisites: HCS200 with a C or better.*

HCS250 Interpersonal Communication (3 crs.)

Balanced survey of theories on dyadic transactions with ongoing application and exercises. Critical thinking skills developed through discussion and application of significant theories. Will explore topics, in depth, through article presentations, individual research, and case studies. A dynamic, interactive course; students expected to engage in participation and discussion. *Prerequisite: HCS200 with a C or better.*

HCS260 Computer-Mediated Communication (3 crs.)

A twofold approach to computer technology and its impact on human communication: discussion and familiarization, both cognitively and experientially, with the various forms of computer-mediated communication; and creation and application of some basic CMC instruments such as basic HTML, the webpage, the web form, the listserv, and the discussion bulletin board.

HCS270 Intergroup/Intercultural Communication (3 crs.)

Investigates the process by which we acquire, manage, and execute those cultural qualities, patterns of thinking, values, assumptions, and concepts which constitute our subjective cultural experience. A primary objective is for students to improve their interactive skills and develop sensitivity toward individuals of other cultural groups and sub-groups.

HCS305 Communication for Training and Instruction (3 crs.)

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. *Prerequisites: HCS200 and HCS280 with a C or better.*

HCS310 African-American Communication (3 crs.)

Examination 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.

HCS325 The Rhetoric of African-American Struggle and Progress (3 crs.)

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.

HCS333 Communicating Identity (3 crs.)

Examination of identity from the standpoint of human communication, which maintains that identity is (in)formed and (re)produced through communication. Addresses the difficulty of defining identity and examines theoretical explanations of identity in order to understand how features of identity (including sex/gender, race/ethnicity, age, and sexual orientation) are communicated interpersonally, in groups, and in mass media. Conducted as a seminar. *Prerequisites: HCS200 and HCS250 with a C or better.*

HCS335 Popular Culture and Gender Construction (3 crs.)

Examination of impact of different forms of popular culture including cinema, television, popular music, fashion, and sports. Based on various cultural studies frameworks, students explore how these forms construct gender ideals and how those ideals can be challenged.

HCS340 Gender and Communication (3 crs.)

Assessment of gender, as a social construction, that influences our perception of other people's behavior in our everyday interactions. Investigates the division of males and females into separate gender categories (the masculine and the feminine spheres) and how this division becomes the basis for the gender roles our society prescribes.

HCS350 Theories of Organizational Communication (3 crs.)

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.

HCS352 Argumentation & Debate (3 crs.)

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. *Prerequisites: HCS200 and HCS210.*

HCS356 Persuasion (3 crs.)

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: Successful completion of HCS200.*

HCS360 Research Methods in Communication (3 crs.)

Divided into three units: An overview of ethical practices in scientific approaches; an examination of survey designs for quantitative analysis; and an examination of qualitative research methods. Students learn SPSS, in order to perform statistical analysis of data

(t-tests, ANOVA, etc.), and develop skills for translating results from raw numbers to meaningful analysis. Students further skills in research design and participate in interviewing, observation, and ethnographic data collection techniques. *Prerequisites: HCS200 with a C or better and junior status.*

HCS365 Language and Meaning (3 crs.)

Philosophical examination of 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. *Prerequisites: HCS200 with a C or better.*

HCS370 Rhetorical Criticism (3 crs.)

Emphasizes the process of critical analysis. Students use methodologies of analysis, advanced in recent years, as the analytical tools for examining rhetorical artifacts, construct interesting research questions, and employ the methodologies of analysis to answer those questions. *Prerequisites: ENG101 or ENG106 and HCS200 with a C or better, and junior status.*

HCS381 Professional Communication and Multi-media Presentation (3 crs.)

Performance 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 technologies. 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. *Prerequisites: HCS200, HCS210, and HCS350.*

HCS385 Resolving Conflict through Communication (3 crs.)

Skill-building course focusing on communication skills which assist in the settlement of disputes. Students use communication techniques such as listening, interviewing, responding, and persuading and apply them to conflict situations. These skills are applied to non-adversarial methods of conflict resolution such as interest-based negotiation and third-party mediation.

HCS390 Internship I (3 crs.)

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. *Prerequisites: 2.5 QPA in major, 2.25 overall, and junior status.*

HCS391 Internship II (3 crs.)

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. *Prerequisites: 3.25 QPA in major, 3.0 overall, and senior status.*

HCS392 Internship III (3 crs.)

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. *Prerequisites: 3.5 QPA in major, 3.25 overall, and senior status.*

HCS393 Selected Topics in Speech (3 crs.)

Opportunity to offer courses in areas of departmental major interests not covered by the regular courses. *Prerequisite: permission of the instructor.*

HCS400 Senior Seminar (3 crs.)

Required capstone course for all HCS majors that emphasizes a summative experience in the advanced studies of selected areas of the field of human communication. Students expected to produce, from their own scholarly investigation, results that are potentially presentable at professional conferences and in scholarly publications. *Prerequisites: HSC360 with a C or better, senior status, and approval of the instructor.*

HCS410 Feminist Perspectives on Communication Theory and Research Methods (3 crs.)

Critical examination of traditional theories of human communication and research methods in terms of their invalid claims to universalism and their value implications which have perpetuated a world view that is masculine biased. Students develop an understanding of the interaction process, in different communication contexts, as well as the role of the researcher in assessing communicative encounters. Students deconstruct traditional perspectives on basis of the insights gained through diverse feminist perspectives and discover alternative approaches to communication studies.

Interdisciplinary Arts (IAP)

IAP111 Introduction to Interdisciplinary Arts (3 crs.)

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.

IAP449 Interdisciplinary Arts Senior Thesis (3 crs.)

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: IAP111.*

IAP451 Interdisciplinary Arts Showcase (3 crs.)

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. *Prerequisites: IAP111 and IAP449.*

IAP452 Interdisciplinary Arts Internship (3 crs.)

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. *Prerequisites: IAP111 and IAP449.*

International Studies (INT)

INT200 Introduction to International Studies (3 crs.)

Introductory course for International Studies major and minor and Area Studies Letter of Completion. Uses an interdisciplinary approach to assist in understanding other cultures, countries, and world regions, and the global forces that link them together. Facilitates recognition of potential tensions in cross-cultural encounters, international relations and globalization.

INT300 International Studies Seminar (3 crs.)

Capstone course for the International Studies major and minor. Uses an interdisciplinary approach to investigate a region of the world or global topic. Involves seminar discussions of readings, speakers, and audiovisual media, and a research project related to the course topic. *Prerequisites: INT200 or permission of instructor.*

INT390 International Studies Internship (3-6 crs.)

Opportunity to apply knowledge of international studies to practical applications at an internship site. *Prerequisites: INT200 and 6 additional credits of International Studies courses.*

Management (MGT)

MGT305 Organizational Behavior (3 crs.)

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. *Prerequisites: junior standing or departmental permission.*

MGT337 Issues in Entrepreneurship (3 crs.)

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.

MGT340 Human Resource Management (3 crs.)

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: MGT305 or departmental permission.*

MGT342 Labor Relations and Collective Bargaining (3 crs.)

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. *Prerequisite: Upper division status or departmental permission. Students cannot receive credit for both MGT342 and PLS381.*

MGT346 Human Resource Management Law (3 crs.)

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: BSL261 or departmental permission.*

MGT348 Compensation Administration (3 crs.)

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: MGT340 or departmental permission.*

MGT349 International Human Resource Management (3 crs.)

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. *Prerequisites: Junior status and MGT340 or departmental permission.*

MGT368 Senior Seminar I (3 crs.)**MGT369 Senior Seminar II (3 crs.)****MGT370 International Business (3 crs.)**

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: junior standing or department permission.*

MGT380,381 Global Business Exploration Program I and II (1-3 crs.)

Improves working in teams skills, while simultaneously improving the content knowledge of international issues. Makes students aware of the parochialism and ethnocentrism in management in a non-U.S. setting and decreases the U.S. centric view of international management. GBEP researches outstanding learning opportunities, assists students with study abroad challenges and increases the learning experience through a collaborative student-led team project management.

MGT394 Leadership and Decision-Making (3 crs.)

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: MGT305.*

MGT431 Corporate Entrepreneurship (3 crs.)

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 include the need for speed, adaptability, and innovation in order to maintain a competitive edge. Covers 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. *Prerequisites: ACC201, FIN311, and MGT305.*

MGT432 Entrepreneurship (3 crs.)

Focuses on the concepts, skills, and know-how, information, attitudes and alternatives relevant for start-up and early-stage entrepreneurs and entrepreneurial managers. 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. *Prerequisites: MGT337 and MGT433.*

MGT433 Small Business Management (3 crs.)

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. *Prerequisites: ACC201, FIN311, MGT305, MKT305.*

MGT447 Business and Society (3 crs.)

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: Senior status or departmental permission.*

MGT450 Negotiation (3 crs.)

Provides students with skills needed to approach negotiation and bargaining situations with confidence, including 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 in- and outside class negotiation simulations and subsequent class discussion. *Prerequisites: MKT305, FIN311, MGT305, and senior status*

MGT470 International Management (3 crs.)

Study of the unique problems associated with the management of firms operating in an international environment. Focus on the strategic and comparative issues. *Prerequisite: MGT370 or departmental permission.*

MGT490 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

MGT497 Strategic Management (3 crs.)

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 for all business majors. All students expected to participate in designated AACSB International student learning outcome assessments. *Prerequisites: MKT305, FIN311, SCM330, MGT305, Senior standing.*

MGT498 Strategy Implementation (3 crs.)

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. Provides 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. *Prerequisites: MKT305, FIN311, SCM330, MGT305, MGT497 (or concurrent), and Senior standing.*

Management Information Systems (MIS)

MIS142 Business Computer Systems (3 crs.)

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.

MIS240 Introduction to Programming Concepts (3 crs.)

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: MIS142 or equivalent.*

MIS242 Design and Development of User Information Systems (3 crs.)

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: MIS142 or permission of department chair.*

MIS300 Information Technology and Business Operations (3 crs.)

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.

MIS340 Business Programming (3 CRS.)

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: MIS142 or equivalent or permission of department chair.*

MIS344 Business Systems Analysis and Design (3 crs.)

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. *Prerequisites: Upper division status.*

MIS355 Database Applications (3 crs.)

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: MIS240 or equivalent.*

MIS393 Selected Topics in Business Information Systems(3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

MIS399 Introduction to Cybersecurity (3 crs.)

Provides students with a broad view of cybersecurity and information assurance. Managerial, technical, and practice aspects of information system security are integral to the course. Students will develop an

understanding of how cybersecurity fits into business enterprises, society, and their personal lives. 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 threats, attack and adversary models, social engineering, essentials of cryptography, malicious software, legal, privacy and ethical issues, computer forensics, wireless security, and mobile device security. *Prerequisites: Upper division status, strong technical background.*

MIS420 Telecommunications and Distributed Processing (3 crs.)

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: MIS344 or permission of instructor.*

MIS442 Electronic Commerce and Technology Integration (3 crs.)

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. *Prerequisites: MIS355 or permission of instructor.*

MIS446 Applied Project Management (3 crs.)

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: Senior status.*

MIS490 Selected Topics in Business Information Systems (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Marketing (MKT)

MKT305 Principles of Marketing (3 crs.)

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. *Prerequisites: business majors, upper division status or ECO102 or ECO113; non-business majors, ECO102 or ECO113.*

MKT306 Buyer Behavior (3 crs.)

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: MKT305 or departmental permission.*

MKT310 Personal Selling (3 crs.)

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: MKT305.*

MKT315 Sales Management (3 crs.)

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: MKT305 or departmental permission.*

MKT325 Advertising and Promotional Strategy (3 crs.)

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: MKT305 or departmental permission.*

MKT335 E-Marketing (3 crs.)

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, online issues, and Internet marketing strategies. *Prerequisite: MKT305 or departmental permission.*

MKT340 Tourism and Events Planning (3 crs.)

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: MKT305.*

MKT342 Business-to-Business Marketing and Analysis (3 crs.)

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: MKT305 or departmental permission.*

MKT349 Logistics Management (3 crs.)

Examines management aspects of moving and storing raw materials, semi-finished and finished goods throughout the supply chain. Topics include transportation, inventory control, warehousing, materials management, packaging, customer service, international logistics, and site location. Relationships among these elements are stressed. *Prerequisites: MAT181 and junior standing or departmental permission.*

MKT350 Transportation Industry Theory and Practice (3 crs.)

Study of the transportation industry, concentrating on mode description, history, costs, rates, services, and government regulation. Exposes student to market-rate considerations, carrier finances, operational factors, and current issues. Passenger, urban and international transportation also considered. *Prerequisite: ECO102 or ECO113 or departmental permission.*

MKT352 Principles of Retailing (3 crs.)

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: MKT305 or departmental permission.*

MKT360 International Marketing (3 crs.)

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: MKT305 or departmental permission.*

MKT365 Relationship Marketing (3 crs.)

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: MKT305 or departmental permission.*

MKT370 Services Marketing (3 crs.)

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: MKT305 or departmental permission.*

MKT380 Sports Marketing (3 crs.)

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: MKT305 or departmental permission.*

MKT390 Selected Topics in Marketing (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses. *Prerequisite: Senior standing.*

MKT430 Marketing Research (3 crs.)

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 research process, data collection, sampling, data analysis, and presentation of results. Contains hands-on development of capabilities to study characteristics of the marketplace. *Prerequisites: MKT305, MKT306, and SCM200, or departmental permission.*

MKT490 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses. *Prerequisite: Senior standing.*

MKT495 Marketing Analysis and Strategy Development (3 crs.)

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. *Prerequisites: MKT305, MKT306, and MKT430, or departmental permission.*

Mathematics (MAT)

MAT050/051/052 Developmental Mathematics (1-3 crs.)

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. *Prerequisite: Open only to students with level 1 or level 2 mathematics placement. MAT 050 is 3 credits, MAT 051/052 are 1 credit. Developmental course credits do not count toward the total number of credits required for graduation.*

MAT105 Mathematics for Liberal Studies (3 crs.)

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. Prerequisites: MAT050 or math placement level 2 or above. *Not open to math majors.*

MAT107 Math Models Applied to Money (3 cr.)

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. Prerequisites: MAT050 or math placement level 2 or above. *Not open to math majors.*

MAT110 Fundamentals of Mathematics I (3 crs.)

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. Prerequisites: MAT050 or math placement level 2 or above.

MAT111 Fundamentals of Mathematics II (3 crs.)

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: MAT110 or permission of the department chair.

MAT117 Applied Statistics (4 cr.)

A first course in the concepts and methods of statistics with illustrations from across the humanities and the social, behavioral, and biological sciences. Emphasis on inferential methods and interpretation of statistical results provided. Specific topics include numerical and graphical descriptions of data, random sampling methods, probability and sampling distributions, correlation and linear regression, and inference methods such as confidence intervals and hypothesis tests for means and proportions (one and two sample), chi-squared test, ANOVA, and common non-parametric techniques. A graphing calculator with statistical capabilities (such as TI-83+) is required. Recommended as 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 SCM200, MAT165, or MAT313; or math majors. Prerequisites: MAT050 or math placement level 2 or above.

MAT140A College Algebra 4 credits (4 crs.)

Provides algebraic background knowledge necessary for success in MAT175 Precalculus or MAT181 Applied Calculus. 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 MAT140A and MAT140B. Not open to students who have successfully (C or better) completed MAT175, MAT181 or MAT211. Prerequisites: MAT050 or math placement level 3.

MAT140B College Algebra 3 credits (3 crs.)

Provides algebraic background knowledge necessary for success in MAT175 Precalculus or MAT181 Applied Calculus. 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 MAT140A and MAT140B. Not open to students who have successfully (C or better) completed MAT175, MAT181 or MAT211. Prerequisites: Math placement level 4 mathematics placement.

MAT175 Precalculus (3 crs.)

Designed to prepare students for MAT211. 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 MAT211. Prerequisite: MAT140A, MAT140B, math placement level 5, or permission of department chair.

MAT181 Applied Calculus (3 crs.)

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. Prerequisite: Grade of C or better in MAT140A, MAT140B or MAT175 or mathematics placement level 5 or above. Course not open to students who have successfully (C or better) completed MAT211.

MAT211 Calculus I (4 crs.)

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: C or better in MAT175 or math placement level 6.

MAT212 Calculus II (4 crs.)

Continuation of Calculus I. Will include methods of integration, applications and infinite series. Prerequisite: C or better in MAT211.

MAT213 Calculus III (4 crs.)

Generalization of single-variable calculus to higher dimensions. Parametric curves and applications covered. Prerequisite: MAT212.

MAT225 Discrete Mathematics (4 crs.)

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: MAT140A or math placement level 4 or above.

MAT313 Statistics I (4 crs.)

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: MAT211.

MAT318 Elementary Linear Algebra (3 crs.)

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: C or better in MAT212 or MAT225.

MAT320 Introduction to Abstract Algebra (3 crs.)

Introduction to abstract algebraic structures and formal mathematical proof. Structures may include groups, rings, or fields. Prerequisites: C or better in MAT225 and MAT318.

MAT322 Differential Equations (3 crs.)

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: Grade of C or better in MAT212.*

MAT326 Mathematical Modeling (3 crs.)

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. *Prerequisites: C or better in MAT211 and C or better in either MAT225 or MAT318 or by permission of the instructor.*

MAT333 Geometry (3 crs.)

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: MAT225.*

MAT393 Selected Topics in Mathematics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

MAT395,396 Mathematics Internship (3 crs. each)

Contact the department for further information on internships.

MAT400 History of Mathematics (3 crs.)

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: MAT320 or at least junior standing.*

MAT410 Numerical Analysis (3 crs.)

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. *Prerequisites: MAT212 and either CSC180 or CSC110.*

MAT413 Statistics II (3 crs.)

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 hypothesis testing, two-population means, bivariate relationships, regression, ANOVA, experimental designs, two-way tables, time series, survival analysis and multivariate analysis. Examples taken from a variety of disciplines. Concepts reinforced through class projects. *Prerequisite: MAT313.*

MAT421 Number Theory and Cryptography (3 crs.)

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: MAT320.*

MAT422 Partial Differential Equations (3 crs.)

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. A introduction to numerical methods is also included. *Prerequisites: MAT213 and MAT322.*

MAT425 Advanced Algebraic Structures (3 crs.)

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 MAT320. *Prerequisites: MAT318 and MAT320.*

MAT430 Complex Analysis (3 crs.)

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. *Prerequisites: MAT213 and MAT320.*

MAT441 Real Analysis I (3 crs.)

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. *Prerequisites: MAT212 and MAT320.*

MAT450 Combinatorics (3 crs.)

Concerned with computing within discrete mathematical structures and combinatorial problem solving. Topics include enumeration techniques including recurrence relations and generating functions; and may include graph theory and graph algorithms. *Prerequisite: MAT320 or permission of the instructor.*

MAT456 Deterministic Methods of Operations Research (3 crs.)

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. *Prerequisites: MAT212 and MAT318.*

MAT476 Probability (3 crs.)

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. *Prerequisites: MAT213 and MAT318.*

MAT486 Mathematical Statistics (3 crs.)

Continuation of MAT476. 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: MAT476.*

MAT490 Selected Topics in Mathematics (3 crs.)

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.

MAT491 Selected Topics in Applied Mathematics (3 crs.)

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. *Prerequisites: MAT212 and MAT318*

Military Science (MIL)

MIL131,132 Military Science I (2 crs.)

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.

MIL231,232 Military Science II (2 crs.)

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.

MIL240 Leader's Training Course (LTC) Practicum (4 crs.)

Provides military training to qualify students to enroll in advanced officer training (substitutes for first two years of on-campus instruction). Designed to challenge and develop the participants' ability to handle new and demanding situations. Practical aspects of leadership are stressed throughout program. Intensive course where one learns by doing. Meets four weeks at Fort Knox, Kentucky, during the summer months. Room, board, travel expenses, medical care, and pay are provided to all participants.

MIL331,332 Military Science III (2 crs.)

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: Successfully met basic course requirements.*

MIL350,351 Military Science IV (3 crs.)

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: must meet basic course requirements.*

MIL399 Seminar in Military Leadership Topics (3 crs)

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: Department Head of Military Science Department approval and have completed the MSIV curriculum.*

Music (MUS)

MUS101, 102, 201, 202, 301, 302, 401, 402 Brass Ensemble (1 cr.)

Select group of brass instrumentalists who perform in concert and on tour.

MUS103, 203, 303, 403, 409 Marching Band (1 cr.)

Group of musicians, silks and majorettes who perform at all home football games, several away games, parades, and exhibitions.

MUS104, 204, 304, 404 Concert Band (1 cr.)

Select group of wind and percussion instrumentalists who perform several concerts on campus and throughout the Mid-Atlantic region.

MUS105, 106, 205, 206, 305, 306, 405, 406 Concert Choir (1 cr.)

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.

MUS107, 108, 207, 208, 307, 308, 407, 408 Women's Chorale (1 cr.)

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.

MUS110 Fundamental Music Skills (3 crs.)

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.

MUS113, 114, 213, 214, 313, 314, 413, 414 Jazz Ensemble (1 cr.)

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.

MUS117, 118, 217, 218, 317, 318, 417, 418 Madrigal Singers (1 cr.)

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.

MUS121 Introduction to Music (3 crs.)

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.

MUS132, 133, 232, 233, 332, 333, 432, 433 University-Community Orchestra (1 cr.)

Group introduces members to significant masterworks of the western orchestral literature. The ensemble offers two or three concerts per year.

MUS140 Class Piano, Level I (3 crs.)

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: Permission of instructor.*

MUS150 Basic Guitar (3 crs.)

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: Permission of instructor.*

MUS158, 159, 258, 259, 358, 359, 458, 459 Woodwind Ensemble (1 cr.)

Group is comprised of woodwind instrumentalists who perform in concert on campus and throughout the mid-Atlantic region.

MUS212 Music Theory I (3 crs.)

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: Permission of instructor.

MUS222 Music of the Renaissance and Baroque Periods (3 crs.)

Surveys the literature of the period from 1450 to 1750. Styles and characteristics of music of this time are studied with regard to their historical context. Active analytical listening to specified works emphasized. May have a concert attendance requirement. *Prerequisite: MUS121 or permission of instructor.*

MUS121 or permission of instructor.

MUS224 Music of the Classic and Romantic Eras (3 crs.)

Studies musical language and forms of the late 18th century as their characteristics evolved into those of the middle and late 19th century. Music of the two periods is considered as a continuous development of style and aesthetic values. Students listen to and analyze selected repertoire. May have a concert attendance requirement. *Prerequisite: MUS121 or permission of instructor.*

MUS121 or permission of instructor.

MUS226 20th Century Music (3 crs.)

Students gain insight, understanding and increased enjoyment from 20th century music through a study of selected works by its most influential composers. Focus on the main lines of development of 20th century music as reflected in its treatment of traditional components of music (melody, harmony, rhythm, timbre, form); and in its creation of new modes of musical expression. A listening repertoire of the century's most significant works and a knowledge of its most important composers is developed through live performances, recordings, and reading. May have a concert attendance requirement. *Prerequisite: MUS121 or permission of instructor.*

MUS227 Opera and Music Theatre (3 crs.)

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.

MUS260 Voice Class, Level I (3 crs.)

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: Permission of instructor.*

MUS261 World Music (3 crs.)

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.

MUS270 Brass Instrument Class (3 crs.)

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: Permission of instructor.*

MUS272 Strings Class (3 crs.)

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: Permission of instructor.*

Prerequisite: Permission of instructor.

MUS273 Woodwind Instrument (3 crs.)

Provides guided practice and study of the characteristics of the five main woodwind instruments. Emphasizes the development of performance skills on four instruments and the understanding of pedagogy for all woodwinds. Examines various instruction books, teaching methods, and diagnostic techniques. *Prerequisite: Permission of instructor.*

MUS312 Music Theory II (3 crs.)

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: MUS212 or equivalent.*

MUS315 Music in the United States (3 crs.)

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: MUS121 or permission of instructor.*

MUS330 Women in Music (3 crs.)

Surveys key musical accomplishments of women, especially in the elements of music historically dominated by men. Considers a variety of styles, with particular emphasis on secular and sacred art music and American jazz. Discussions may include critiques of concerts and topical films and research on the relationship between music and gender.

MUS340 Class Piano, Level II (3 crs.)

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.

MUS360 Voice Class, Level II (3 crs.)

Continues study of artistic singing with greater emphasis on solo performance. Explores vocal literature from the Renaissance lute song to 20th century art song. Student will expand his or her concept of the basic principles of singing and further develop his own performance practices. *Prerequisite: MUS260 and/or permission of instructor.*

MUS380 Basic Conducting (3 crs.)

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: Permission of instructor.*

MUS393 Selected Topics in Music (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular offerings.

MUS490 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental interest not covered by the regular courses.

Philosophy (PHL)

PHL101 Introduction to Philosophy (3 crs.)

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.

PHL102 Critical Thinking (3 crs.)

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.

PH105 Ethical Theories and Problems (3 crs.)

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.

PHL230 The Ethics of War and Terrorism (3 crs.)

Examines some basic ethical concepts and the natures of war and terrorism. Concepts are applied to some cases or examples of wars and terrorism. Course investigates whether there can be such a thing as an ethical war or act of terrorism.

PHL240 Ethical Issues and the Media (3 crs.)

Examines and assesses ethical theories and applies these theories to some issues related to the media (newspapers, magazines, television, radio, movies, and the internet) and society. Overall aim is to develop the student's ability to formulate, analyze, and evaluate moral arguments, understand and morally evaluate media cases, and to work out a consistent reasoned moral viewpoint related to the media.

PHL248 History of Ancient and Medieval Philosophy (3 crs.)

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.

PHL249 History of Modern Philosophy (3 crs.)

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.

PHL285 Philosophy of Science (3 crs.)

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.

PHL295 Comparative Religions (3 crs.)

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.

PHL301 Formal Logic (3 crs.)

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.

PHL332 Ethical Issues and Computer Technology (3 crs.)

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.

PHL336 Concepts in Buddhism (3 crs.)

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).

PHL337 Existentialism (3 crs.)

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.

PHL340 Contemporary Ethics (3 crs.)

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: PHL105 or permission of the Instructor.*

PHL393 Selected Topics in Philosophy (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses. *Prerequisite: Instructor's option.*

PHL490 Selected Topics (1-3 crs.)

Provides the opportunity for the department to offer courses in areas of departmental major interest not covered by the regular courses. *Prerequisite: Instructor's option.*

Physics (PHY)

PHY107 1st Year Seminar for Physics Majors (2 crs.)

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. *Pre/co-requisite: MAT175 or above.*

PHY108 Astronomy (3 crs.)

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.

PHY110 Physics for Society (3 crs.)

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.

PHY115 Physical Science—A Laboratory Approach (3 crs.)

Introduction to the physical sciences, course is laboratory oriented and provides for individual differences and abilities. Emphasis on developing awareness in observation, resourcefulness in gathering data, and analysis of experimental evidence. Experience is provided for the handling of simple equipment appropriate to the elementary classroom.

PHY121 Introductory Physics I - Lecture (3 crs.)

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 PHY123. *Prerequisite: Competence in high school algebra and trigonometry or pre-calculus math taken concurrently.*

PHY122 Introductory Physics II - Lecture (3 crs.)

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 PHY125. *Prerequisite: PHY121 or competence in high school algebra and trigonometry or pre-calculus math taken concurrently.*

PHY123 Physics I Laboratory (1 cr.)

Provides an experimental approach to concepts developed in its lecture counterparts PHY121 or PHY205. Two periods/week. *Co-requisite: PHY121 or PHY205.*

PHY125 Physics II Laboratory (1 cr.)

Provides an experimental approach to concepts developed in its lecture counterparts PHY122 or PHY206. Two periods/week. *Co-requisite: PHY122 or PHY206.*

PHY205 Intermediate Physics I (3 crs.)

Introduces the study of the laws of mechanics. Topics covered include: kinematics; Newton's laws of motion; energy: The Work-Energy theorem, potential energy, power, conservation of energy; systems of particles: momentum, center of mass motion, momentum conservation, collisions; rotational dynamics: angular variables, angular momentum, rigid body rotation around a fixed axis and around the center of mass; fluids: pressure in static fluids, Archimedes's Principle, steady flows, Bernoulli's Equation; and oscillations and waves: simple harmonic motion, damped and forced oscillations, resonance, travelling waves, superposition of waves, standing waves. *Pre/Co-requisite: MAT211; Co-requisite: PSY123.*

PHY206 Intermediate Physics II (3 crs.)

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. *Prerequisites: PHY205, MAT211. Co-requisite: PHY125.*

PHY221 Fundamentals of Physics I (5 crs.)

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. *Pre/co-requisite: MAT211.*

PHY222 Fundamentals of Physics II (5 crs.)

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. *Pre/co-requisites: PHY221 and MAT211.*

PHY301 Mathematical and Numerical Techniques in the Sciences (4 crs.)

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. *Prerequisites: PHY221, PHY222, and MAT322 (can be a co-requisite).*

PHY311 Quantum I (4 crs.)

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 Planck'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. *Prerequisites: PHY221, PHY222, and MAT322 (can be co-requisite). Co-requisite: PHY301*

PHY321 Electricity and Magnetism I (4 crs.)

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. *Prerequisites: PHY221, PHY222, and PHY301. Co-requisite: PHY331.*

PHY325 Semiconductor Devices (4 crs.)

Lecture/Lab course covers modern topics in solid state physics with an emphasis on semiconductor devices and device fabrication. Topics include the free electron gas, carrier modeling, the band model, pn-junction diodes, bipolar junction transistors, field effect transistors and optoelectronic devices. Techniques for fabricating and characterizing semiconductor devices are also covered in both the lecture and the laboratory. *Prerequisites: PHY311 and MAT322, or CHM362 and PHY461, or permission of instructor.*

PHY331 Mechanics I (4 crs.)

First of two courses aimed at providing students with a solid grounding in classical mechanics. Topics include: rotational dynamics: angular variables in 3d, $\mathbf{L} = \mathbf{r} \times \mathbf{p}$, 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. *Prerequisites: PHY221, PHY222, PHY301 and MAT322 (can be a co-requisite).*

PHY341 Classical and Statistical Thermodynamics (4 crs.)

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. *Prerequisites: PHY221, PHY222, and PHY301.*

PHY355 Electronics (4 crs.)

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. *Prerequisites: PHY222 and MAT212.*

PHY390 Internship Physics I (3 crs.)

Contact the department for further information on internships.

PHY393 Selected Topics in Physics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PHY395 Internship II (1-3 crs.)

Contact the department for further information on internships. *Prerequisite: Junior Standing.*

PHY397 Intro to Research (1-3 crs.)

Contact the department for further information on research.

PHY398 Research II (1-3 crs.)

Contact the department for information on research.

PHY411 Quantum II (3 crs.)

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. *Prerequisites: PHY311, MAT318, and MAT322 (at least concurrently).*

PHY421 Electricity and Magnetism II (3 crs.)

A continuation of Electricity and Magnetism I, treating some of the same topics but with an increased of 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. *Prerequisites: PHY321 and MAT322.*

PHY431 Mechanics II (3 crs.)

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. *Prerequisites: MAT213, MAT318, MAT322 (at least concurrently), and PHY331.*

PHY450 Quantum Materials (4 crs.)

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. *Prerequisites: PHY311 and MAT322, or CHM362 and PHY461, or permission of instructor.*

PHY461 Mathematical Physics (3 crs.)

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: PHY301.*

PHY471 Computational Physics (4 crs.)

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. *Prerequisites: PHY301, CSC110, and MAT322.*

PHY481 Atoms and Photons (3 crs.)

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. *Prerequisites: PHY301, PHY311, and PHY321.*

PHY485 Optics (4 crs.)

Both geometrical and physical optics and applications. Optical instruments, wave propagation, interference diffraction, polarization, and atomic molecular spectra are studied. Spectroscopes, spectrometers, polariscopes, photometers, and interferometers are some of the instruments used. Three periods lecture and two periods lab/week. *Prerequisites: MAT213, MAT318, MAT322, and PHY321.*

PHY493 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Political Science (PLS)

PLS100 U.S. Government and Politics (3 crs.)

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.

PLS141 World Politics (3 credits)

Deals with the nation state, interstate relations and the international political system in the 20th century. 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.

PLS201 Foundations of Political Science: Concepts & Critical Analysis (3 crs.)

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.

PLS231 State and Local Government (3 crs.)

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: PLS100 or permission of instructor.*

PLS251 Introduction to Comparative Politics (3 crs.)

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: PLS100 or permission of instructor.*

PLS271 Introduction to Public Administration (3 crs.)

Basic introductory course in field of management in governmental offices. Includes organization of executive offices, controls over administration, budgeting and personnel procedure, and methods to achieve administrative objectives. *Prerequisite: PLS100 or permission of instructor.*

PLS291 Contemporary Issues (3 crs.)

Focuses on political or policy issues. Covers background of the issues, current developments, and prospects for change. Topics vary from semester to semester. *Prerequisite: PLS100 or permission of instructor.*

PLS300 Advanced American Government and Public Policy (3 crs.)

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: PLS100.*

PLS301 Political Science Research Methods (3 crs.)

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: MAT117 and PLS201 or PLS271.*

PLS302 Public Policy Analysis (3 crs.)

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: PLS301.*

PLS311 The Legislative Process (3 crs.)

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: PLS100 or permission of instructor.*

PLS312 The American Presidency (3 crs.)

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: PLS100 or permission of instructor.*

PLS313 The Judicial Process (3 crs.)

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.

PLS321 Public Opinion and Political Media (3 crs.)

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: PLS100 or permission of instructor.

PLS322 Interest Groups in American Society (3 crs.)

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: PLS100 or permission of instructor.*

PLS323 Campaigns, Elections & Political Parties (3 crs.)

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: PLS100 or permission of instructor.*

PLS324 Women in American Politics (3 crs.)

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.

PLS325 African American Politics (3 crs.)

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: PLS100 or ETH101.*

PLS331 City Politics and Administration (3 crs.)

Studies the development, structure, and political operation of city government in the United States, including the interactions between cities, states, and the national government. Analyzes common city problems and public policy solutions. *Prerequisite: PLS100 or permission of instructor.*

PLS341 International Law and Organization (3 crs.)

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: PLS141 or permission of instructor.*

PLS342 American Foreign Policy (3 crs.)

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: PLS100 or PLS141 or permission of instructor.*

PLS343 Global Economic and Political Conflict (3 crs.)

Designed to provide students with an understanding of global political, economic, security and social relationships. Key focus is contemporary global cooperation and conflict.

PLS347 Applied Diplomacy (3 crs.)

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: permission of the instructor.*

PLS348 Applied Diplomacy (3 crs.)

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: permission of the instructor.*

PLS349 Applied Diplomacy (3 crs.)

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: permission of the instructor.*

PLS351 European Politics (3 crs.)

Examines the politics, institutions, and political culture of European countries. Focuses both on the internal dynamics of European societies as well as integration of the continent.

PLS356 Politics of Developing Regions (3 crs.)

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: PLS141.*

PLS357 Comparative Revolutions (3 crs.)

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: PLS100.*

PLS361 Political Theory from Ancient Times through the 19th Century (3 crs.)

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: PLS100 or permission of instructor.*

PLS362 Contemporary Political Ideologies (3 crs.)

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: PLS100 or permission of instructor.*

PLS363 American Political Thought (3 crs.)

Critical study of the political ideas underlying and associated with personalities and institutions in the United States from colonial times.

PLS365 Constitutional Law: The Federal System (3 crs.)

Analyzes leading American constitutional decisions relating to national legislative, executive, and judicial powers and to the position of the states. *Prerequisite: PLS100 or permission of instructor.*

PLS366 Constitutional Law: First Amendment Freedoms (3 crs.)

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.

PLS367 Constitutional Law: Criminal Law and Equal Protection (3 crs.)

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.

PLS371 Public Management (3 crs.)

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: PLS271 or permission of instructor.*

PLS372 Public Personnel Administration (3 crs.)

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: PLS271 or permission of instructor.*

PLS373 Public Financial Administration (3 crs.)

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: PLS271 or permission of instructor.*

PLS374 Public Service Ethics (3 crs.)

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: Nine hours in political science or permission of instructor; PHL105 and/or PHL210 recommended.*

PLS381 Principles of Labor Relations (3 crs.)

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. *Prerequisite: PLS271 or MGT340. Students taking PLS381 cannot enroll in MGT342 and vice versa.*

PLS391 Selected Topics in Political Science (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PLS395 Internship I (3 crs.)

PLS396 Internship II (3 crs.)

PLS397 Internship III (3-6 crs.)

Contact the department for further information on internships.

PLS399 Senior Seminar (3 crs.)

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. *Prerequisites: PLS100, PLS201, PLS300, PLS301 plus two (2) additional courses in major, with senior standing.*

PLS431 Pennsylvania Local Government (3 crs.)

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: nine hours in political science or permission of instructor.*

Psychology (PSY)

PSY101 General Psychology (3 crs.)

Survey of major principles, research results, and applications of contemporary psychology. Topics traditionally covered include learning, memory, perception, motivation, personality and social behavior. *Not open to psychology majors.*

PSY102 Foundations of Psychology (3 crs.)

Primarily for psychology majors and designed to prepare for subsequent upper division courses in psychology. Topics include developmental processes, motivation, emotion, brain-behavior relationship, conditioning and learning, perception, memory, personality, psychopathology, psychotherapy, and social psychology. *Prerequisite: Psychology major status or permission of instructor.*

PSY105 Research Design and Statistics for the Behavioral Sciences I (3 crs.)

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: PSY101 or PSY102. Restricted to psychology majors, B.S.Ed., or Geography/Land Use majors.*

PSY205 Research Design and Statistics for the Behavioral Sciences II (3 crs.)

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: PSY105 or permission of instructor. Restricted to psychology majors.*

PSY235 Conditioning and Learning (3 crs.)

Designed to teach the basic principles of conditioning and learning. Emphasis on classical and operant conditioning in laboratory research and applied situations. *Prerequisite: PSY101 or PSY102.*

PSY240 Psychology of Personality (3 crs.)

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: PSY101 or PSY102.*

PSY265 Childhood and Adolescence (3 crs.)

Provides understanding and appreciation of the interrelated growth processes of child development. Includes physical, interpersonal, social, peer, self-developmental, emotional, and cognitive processes. *Prerequisite: PSY101 or PSY102.*

PSY270 Social Psychology (3 crs.)

Examines theories, research, and everyday life in an effort to understand how people perceive and influence each other. *Prerequisite: PSY101 or PSY102.*

PSY301 Experimental Psychology (3 crs.)

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: PSY205 or permission of instructor. Restricted to psychology majors.*

PSY305 Applied Research Methods in Psychology (3 crs.)

Opportunity to examine and conduct research in psychology using such non-experimental research methods as naturalistic observation, survey, correlational, field study, and program evaluation. Statistics, including the Statistical Package for Social Sciences (SPSS) available on the campus computer. *Prerequisite: PSY205.*

PSY320 Behavioral Neuroscience (3 crs.)

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: PSY101 or PSY102 or permission of instructor.*

PSY325 Psychology of Human Cognition (3 crs.)

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: PSY101 or PSY102.*

PSY330 Abnormal Psychology (3 crs.)

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: PSY101 or PSY102.*

PSY335 Psychology of Social Influence (3 crs.)

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: PSY270 or permission of the instructor.*

PSY340 Introduction to Clinical Psychology (3 crs.)

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. *Prerequisites: PSY240 and PSY330.*

PSY352 Adulthood and Aging (3 crs.)

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. *Prerequisites: PSY101 and PSY102.*

PSY355 Psychology of the Exceptional Child (3 crs.)

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: PSY101 or PSY102.*

PSY361 Psychology of Group Interaction (3 crs.)

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. *Prerequisites: PSY101 or PSY102 and junior status or permission of instructor.*

PSY365 Multicultural Psychology (3 crs.)

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: PSY101 or PSY102.*

PSY374 Advanced Research in Psychology I (3 crs.)

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. *Prerequisites: PSY301 or PSY305.*

PSY375 Advanced Research in Psychology II (3 crs.)

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 (3 crs.)

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: junior or senior status and at least 21 credits from psychology courses.*

PSY381 Honor Thesis I (3 crs.)

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.

PSY382 Honor Thesis II (3 crs.)

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.

PSY384 Psychology of Person-to-Person Interaction (3 crs.)

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 recording, and small-group exercises. *For psychology majors only.*

PSY385,386,389 Internship in Psychology (3 crs. each)

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.

PSY393 Selected Topics in Psychology (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

PSY395 Seminar in Selected Topics (3 crs.)

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. *Prerequisites: PSY101 or PSY102, senior standing and permission of instructor.*

PSY397 Human Cognitive Development (3 crs.)

Presents a life span approach to study of human development with an emphasis on cognitive processes in infancy, childhood, adolescence, and adulthood. Purpose is to familiarize the student with basic concepts, models, theories and research in the field of cognitive development. Models of gene-environment interaction, Piagetian, Neo-Piagetian, Information-Processing approaches and Post-formal approaches discussed, as well as their application to perception, memory, language, intelligence and wisdom development. Introduces practical applications of current theories of cognitive human development. Recommended to have prior courses in Developmental Psychology and/or Cognition. *Prerequisite: PSY101 or PSY102.*

PSY410 Psychology and Women (3 crs.)

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: At least junior standing.*

PSY420 Health Psychology (3 crs.)

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.

PSY422 The Social Psychology of Aging (3 crs.)

Using a social psychological approach, course covers a variety of topics in aging such as perceived attractiveness of older people, age stereotypes, and relationships over the lifespan. Other topics investigate cross-cultural, intergenerational and intergroup issues. A special section understanding the social psychological factors involved in being victims of con artists presented.

PSY430 Sensation and Perception (3 crs.)

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.

PSY432 The Psychology of Computers and the Internet (3 crs.)

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 online 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.

PSY435 Psychopharmacology (3 crs.)

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. *Prerequisites: PSY102 and PSY320 or permission of instructor.*

PSY440 History and Systems of Psychology (3 crs.)

Explores the philosophical background, historical development, contemporary systems, and possible directions of psychology. *Prerequisite: At least junior standing.*

PSY445 Psychology of Thinking (3 crs.)

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. *Prerequisites: PSY101 or PSY102 and PSY325.*

PSY447 Multicultural Health Psychology (3 crs.)

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 world-wide. 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. *Prerequisites: At least junior standing.*

PSY450 Crisis Intervention (3 crs.)

Conceptual and practical frameworks for providing crisis intervention are 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: PSY384.*

PSY470 Legal Psychology (3 crs.)

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.

PSY475 Industrial and Organizational Psychology (3 crs.)

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.

PSY485 Tests and Measurements (3 crs.)

Focuses on the statistical and psychological theory of tests and measurements. *Prerequisite: a recent undergraduate statistics course.*

PSY490 Selected Topics in Psychology (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Reading (RDG)

RDG050 Developmental Reading and Study Skills (3 crs.)

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. Developmental course credits do not count toward the total number of credits required for graduation.

RDG232 Reading in the Elementary School (3 crs.)

Emphasizes nature of the reading process, general principles of instruction and translating learning theory into sound classroom practice. Participation in an educational field experience required.

RDG323 Processes of Word/Text/Comprehension in Grades 1-4 (3 crs.)

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. *Prerequisites: ECH253.*

RDG334 Classroom Based Literacy Assessment (3 crs.)

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: RDG232.*

RDG340 Seminar in Literacy Tutoring (3 crs.)

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. *Prerequisites: RDG232 and RDG334.*

RDG363 Reading and Writing in PK-4 (2 crs.)

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. *Prerequisites: ECH253 and RDG323.*

RDG383 English Language Learners in PK-4 (2 crs.)

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. *Prerequisites: ECH253 and RDG323.*

RDG413 Teaching Reading to English Language Learners (3 crs.)

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.

RDG422 Studies in Children's Literature (3 crs.)

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.

RDG443 Reading Measures and Interventions in PK-4 (3 crs.)

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. *Prerequisites: ECH253, RDG323, and RDG363.*

Social Work (SWK)

SWK102 Social Work in Social Welfare (3 crs.)

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 with a social service agency. Provides introduction to the profession and serves as resource to make an informed decision about social work as a career.

SWK150 Human Relations Lab (3 crs.)

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.

SWK250 Assessing Individuals in the Social Environment (3 crs.)

Focuses on assessment skills to understand human behavior of individuals in the social environment. Assessments based on biological, psychological, sociological and spiritual factors as well as life cycle or situational specifics that may influence behavior. Requires a volunteer experience in a social service agency of 10-15 hours.

SWK262 Introduction to Child Welfare Practice (3 crs.)

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.

SWK265 Understanding Diversity for Social Work Practice (3 crs.)

Helps students develop tools for increased understanding of and sensitivity to human diversity and cultures different from their own. Students asked to identify areas where differing customs or values could have impact. Generalist approach to social work practice, which encompasses the ethnic sensitive model for intervention and management of human diversity issues. Includes work with, but is not limited to, populations of people who are oppressed due to racial, cultural, religion, gender or sexual identity or other minority status groups in society.

SWK270 Social Work Practice with Individuals (3 crs.)

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. Professional Status necessary for higher-level social work courses. Policies and application procedures are described in the *Social Work Handbook*. *Prerequisites: SWK102 and SWK250.*

SWK275 Social Work Skills for Working with Groups (3 crs.)

Expands the assessment and intervention skills learned in SWK270 to working with groups. Students learn how group theories should inform their developing of group leadership skills. Emphasizes the planning, facilitating, and evaluating of groups often used in social work practice. *Prerequisite: SWK270.*

SWK327 Social Work Practice with Families (3 crs.)

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: SWK270.*

SWK340 Assessing Organizations and Communities in Society (3 crs.)

Examines human behavior concepts in organization and community systems. Builds upon the ecological/systems framework introduced in SWK250 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. *Prerequisites: SWK250 and SWK360.*

SWK347-359 Special Fields of Social Work (3 crs.)

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 (SWK348), Aging (SWK351), Developmental Disabilities (SWK356), Health Care (SWK357), Schools (SWK358), and Violence in Interpersonal Relationships (SWK359). *Prerequisite: SWK270.*

SWK360 Research Techniques for Social Workers (3 crs.)

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. *Prerequisites: SWK250 and MAT117.*

SWK370 Social Work Practice with Organizations and Communities (3 crs.)

Content is an essential, integral part of the generalist approach to social work practice. Extends the generic and direct service generalist frameworks learned in SWK270 and the assessment knowledge learned in SWK340 to practice interventions with organizations and communities. Considers the prevailing social work approaches for organization and community development and changes. The theory and skills of these approaches are studied in the classroom and made operational in simulated and field experiences. *Prerequisites: SWK270 and SWK340.*

SWK383 Selected Topics in Social Welfare (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

SWK388 Preparation for Practicum (1 cr.)

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 e.g., ethical and legal issues, clinical record keeping, professional standards for behavior, stress management and use of supervision. 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: SWK270.*

SWK389 Field Work in Social Work I (6 crs.)

Majors in social work must take all of these, (SWK389, SWK390, SWK391) 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 providing 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. The program educational objectives 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. *Prerequisites: Social work major and successful completion of all courses in the major.*

SWK390 Field Work in Social Work II (6 crs.)

See SWK389 for the course description.

SWK391 Seminar in Social Work Methods (3 crs.)

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. *Prerequisites: Social work major and successful completion of all courses in the major with a C or better.*

SWK420 Gender Issues for Helping Professionals (3 crs.)

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 undergraduate or graduate credit. *Prerequisite: SWK 270 or junior status.*

SWK450 Social Welfare Policies and Services (3 crs.)

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 realist development and change strategies.

SWK490 Selected Topics in Social Welfare (1-3 crs.)

Provides the opportunity for a range of topics to explore issues and concerns for the helping professions. Designed for advanced undergraduate and graduate students.

Sociology (SOC)

SOC101 Introduction to Sociology: Society and Diversity (3 crs.)

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.

SOC201 Sociological Practice (3 crs.)

Prepares students for the reading and writing requirements of upper division electives in sociology. Introduces the process of developing a sociological research idea, researching sociological databases, creating a professional bibliography, analyzing professional sociological writings and writing literature reviews. Also includes a career planning component. *Prerequisite: SOC101, limited to sociology majors.*

SOC220 Social Stratification (3 crs.)

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: SOC101.*

SOC241 Contemporary Social Problems (3 crs.)

Explores the structural roots of major social problems from a sociological perspective. Examples of problems addressed include racism, sexism, poverty, crime, and threats to the environment.

SOC243 Minority Groups (3 crs.)

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: SOC101.*

SOC244 Criminology (3 crs.)

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: SOC101.*

SOC245 Juvenile Delinquency (3 crs.)

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: SOC101.*

SOC248 Sociology of Religion (3 crs.)

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: SOC101.*

SOC257 Sociological Patterns of Courtship and Marriage (3 crs.)

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.

SOC258 Women's Roles and Status (3 crs.)

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: SOC101.*

SOC275 Sociology of Sport and Leisure (3 crs.)

Examines the development of sport and leisure and how they reflect social life. Emphasis on socialization and social differentiation in sport and leisure. *Prerequisite: SOC101.*

SOC320 Sociology of the Body (3 crs.)

Explores our cultural understandings, ideals, and practices regarding the body throughout time, especially in the United States. Emphasizes how and why we construct particular bodies and bodily practices as favorable or unfavorable and how societies treat and engage with the body, particularly as related to gender, disability, race, and sexuality. *Prerequisite: SOC101.*

SOC331 Internship I (3 crs.)

Contact the department for further information on internships.

SOC332 Internship II (3 crs.)

Contact the department for further information on internships.

SOC335 Internship III (6 crs.)

Contact the department for further information on internships.

SOC344 Sociology of Death (3 crs.)

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: SOC101.*

SOC345 Deviance and Social Control (3 crs.)

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: SOC101.*

SOC346 City and Community (3 crs.)

An exploration of rural, urban and suburban histories with a special emphasis on the urban experience. We will focus on identifying and understanding the social forces at work within each of these distinct living arrangements and their impact on individual lives and the communities within which they live. Includes a civic engagement component that will require some out-of-classroom work. *Prerequisite: SOC101.*

SOC351 Race Relations (3 crs.)

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: SOC101.*

SOC354 Social Movements and Social Change (3 crs.)

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: SOC101.*

SOC359 Selected Topics in Sociology (3 crs.)

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: SOC101; specific course prerequisites may be set by instructor.*

SOC363 Population Problems (3 crs.)

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: SOC101.*

SOC365 Elites in Society (3 crs.)

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: SOC101.*

SOC369 Medical Sociology (3 crs.)

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: SOC101.*

SOC370 Sociology of the Arts (3 crs.)

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: SOC101.*

SOC371 Social Dynamics of Aging (3 crs.)

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: SOC101.*

SOC375 Sociology of Mass Communications (3 crs.)

Surveys the social role and influences of mass media in the United States. Using critical frameworks for media analysis, attention is given to the consumer's relationship to mass media and its role in preserving the status quo. Students will demonstrate media literacy in a final project. *Prerequisite: SOC101.*

SOC380 Classical Social Theory (3 crs.)

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: SOC101.*

SOC385 Introduction to Social Research (3 crs.)

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. *Prerequisites: SOC101 and either MAT117 or PSY105. Course restricted to sociology majors and minors; other students admitted by permission of instructor.*

SOC386 Data Collection and Analysis (3 crs.)

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: SOC385.*

SOC391 Violence: A Sociological Perspective (3 crs.)

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.

SOC410 Family and Society (3 crs.)

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: SOC101 or SOC257.*

SOC425 Sociology of Law (3 crs.)

Introduction to study of sociology of law and sociology in law. Primarily looks at legal systems of the United States, primary actors in those legal systems, social/cultural contests in which laws exist and are created, and how laws both reflect and affect social structure. Not designed to be a law course in the law school sense. Examines and applies sociological theories, concepts, and research to a particular arena of the social structure—laws and legal systems. *Prerequisite: SOC101.*

SOC435 Gender, Organizations and Leadership (3 crs.)

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: SOC101 or graduate student status.*

SOC445 Sexuality and Sexual Orientation: A Social Approach (3 crs.)

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 apply 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 GLBTQ and their allies. Students work together to develop better strategies for female/male sexuality and sexual interaction. *Prerequisite: SOC101 or permission of instructor.*

SOC452 Contemporary Social Theory (3 crs.)

Focuses on 20th-century American sociologists and their contributions to the discipline. Idiosyncratic, biographical considerations and a broader “schools of theory” perspective will be utilized. Significant theoretical issues relevant to contemporary sociology also reviewed. *Prerequisite: SOC450.*

SOC486 Qualitative Social Research (3 crs.)

Students will learn techniques of qualitative interviewing and participant observation. Involves basics of ethnographic research, writing fieldnotes, 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 SOC101.*

SOC490 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Software Engineering (SWE)

SWE200 Design Patterns (4 crs.)

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. Course provides hands-on experience using object design patterns to solve a number of problems that reoccur in computer science. Students will develop a number of medium- to large-sized programs individually or in groups. *Prerequisites: grade of C or better in CSC111.*

SWE300 Crafting Quality Code (4 crs.)

Explores 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: grade of C or better in SWE200.*

SWE310 Software Metrics/Process Management (4 crs.)

Explores and evaluates current methods of measuring the software development process. The need for such measurement is motivated by application of the Personal Software Process. Techniques for gathering and analyzing common metrics used to support process improvement. *Prerequisites: grade of C or better in CSC111 and MAT313.*

SWE400 Large Scale Architectures (4 crs.)

Covers 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. *Prerequisites: grade of C or better in SWE300.*

SWE420 Extreme Programming (4 crs.)

Study of testing software including test case design, automated testing, and test coverage. Ways testing can be used to drive the life cycle as in extreme programming (XP). Through a series of testing labs, debugging techniques and XP methodology will be practiced. Student teams will develop at least two iterations of a product using XP (particularly test driven development) practices. *Prerequisite: grade of C or better in SWE300.*

Spanish (SPN)

SPN101 Beginning Spanish I (3 crs.)

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.

SPN102 Beginning Spanish II (3 crs.)

Continuation of SPN101. Both textbook and authentic materials used to enable students to express themselves on a variety of topics concerning self, family and friends. *Prerequisite: SPN101 or placement.*

SPN103 Intermediate Spanish (3 crs.)

Continuation of SPN102. 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: SPN102 or placement.*

SPN150 Spanish Civilization and Culture (3 crs.)

Study of the historical, social, and artistic factors that have contributed to the creation of the civilization and culture of Spain. Emphasis also given to the Hispanic civilization and culture of the Americas.

SPN202 Intermediate Conversation (3 crs.)

Offers conversational activities that will prepare the students to interact in social situations and to handle simple transactions. Students will be able to ask and answer simple questions demonstrating good control of the language and using communicative strategies. Students will be required to read, to view, or to listen to authentic materials and produce oral and short written reports. Follows the ACTFL proficiency standards and therefore, at the end the students should demonstrate proficiency at the Intermediate-Mid level through an oral interview. Taught in Spanish. *Prerequisite: SPN103 or department placement.*

SPN204 Ideas and Cultures from the Spanish-Speaking World (3 crs.)

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. Students will be required to read authentic materials and produce written and oral reports. Follows the ACTFL proficiency standards and therefore, at the end the students should demonstrate proficiency at the intermediate mid level. Taught in Spanish. *Prerequisite: SPN202 or permission of instructor.*

SPN211 Intermediate Context Grammar (3 crs.)

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. Follows the ACTFL proficiency standards and therefore, at the end the expected level of proficiency should be at the intermediate high level. Taught in Spanish. *Prerequisite: SPN204 or permission of the instructor.*

SPN302 Advanced Spanish Conversation (3 crs.)

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. Prepares students to express opinions and points of view in order to attain the ACTFL proficiency level of Advanced Low. Provides exposure to other languages skills important to the development of fluency in speaking. Taught in Spanish. *Prerequisite: SPN202, SPN204 or permission of instructor.*

SPN309 Spanish Phonetics (3 crs.)

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: SPN202, SPN204 or permission of instructor.*

SPN312 Advanced Contextualized Grammar (3 crs.)

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: SPN202, SPN204, SPN211, or permission of instructor.*

SPN313 Advanced Composition and Stylistics (3 crs.)

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: SPN202, SPN204 or permission of instructor.*

SPN330 Spanish for the Professions (3 crs.)

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: SPN202, SPN204 or permission of instructor.*

SPN343 Introduction to Literary Study (3 crs.)

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: SPN202, SPN204 or permission of instructor.*

SPN360 Masterpieces of Spanish Literature (3 crs.)

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: SPN202, SPN204, SPN343 or permission of instructor.*

SPN361 Masterpieces of Spanish-American Literature (3 crs.)

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: SPN343 or permission of instructor.*

SPN385 Aspectos De La Civilización Hispana (3 crs.)

Designed to critically explore selective topics, historical or political events as well as artistic movements that have assisted in fashioning Hispanic cultures. *Prerequisite: SPN202, SPN204 or permission of instructor.*

SPN388 Spanish Internship I (3 crs.)

Contact the department for further information on internships.

SPN389 Spanish Internship II (3 crs.)

Contact the department for further information on internships.

SPN400 Seminar: Advanced Studies in Spanish Language and Literature (3 crs.)

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: permission of instructor.*

SPN410 Internship for Students of Spanish (1 cr.)

Contact the department for further information on internships.

SPN420 Theory and Practice of Translation (3 crs.)

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.

SPN490 Selected Topics (3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Supply Chain Management (SCM)

SCM200 Statistical Applications in Business (3 crs.)

Topical coverage includes graphical displays and descriptive measures of data sets, discrete and continuous probability distributions, estimation of parameters, tests of hypotheses, and linear regression. Coverage may include analysis of variance, Chi-square tests, and non-parametric statistics. Data analysis and interpretation of results are performed using Excel with emphasis on the implications for business decision-making. Students may carry out projects and submit results in the form of written and/or oral reports. *Prerequisites: MAT140 and MIS142.*

SCM215 Information Process in Commerce (3 crs.)

Includes a description of core business processes and the information in the business environment. Studies the rationale, methods, and procedures commonly employed in re-engineering business processes in the business world. Re-engineering is often demanded whenever a new ERP (Enterprise Resource Planning) system is contemplated or implemented.

SCM315 Strategic Procurement (3 crs.)

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.

SCM330 Supply Chain and Operations Management (3 crs.)

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: SCM200 or permission of the instructor.*

SCM355 Managing Quality and Continuous Improvement (3 crs.)

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.

SCM370 Integrated Supply Chain Systems (3 crs.)

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: SCM330.*

SCM380 Data Mining for Supply Chain Management (3 crs.)

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: SCM200.*

SCM390 Strategic Warehouse Management (3 crs.)

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.

SCM393 Selected Topics in Supply Chain Management (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

SCM410 Distributions Systems in Supply Chains (3 crs.)

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. Also explores advances in information technology and its role in distribution systems. *Prerequisite: SCM330*

SCM420 Global Logistics Systems (3 crs.)

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. 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 further reinforce the material's application in practice. *Prerequisite: SCM330.*

SCM481 Decision Models for Supply Chain Management (3 crs.)

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: SCM330.*

SCM490 Selected Topics in Supply Chain Management (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Teacher Education (TCH)

TCH206 Social Foundations of Middle Level Education (3 crs.)

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. Requires visitation, observations, and participation in local middle level programs. (3 credits: 9 hours required).

TCH207 Organizational and Psychological Foundations in Secondary Education (3 crs.)

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. Also focuses 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. Requires visitation, observations, and participation in local secondary school programs. (10 stage one observation hours required.)

TCH251 Elements of Middle Level Instruction (3 crs.)

Emphasis 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.

TCH261 Adolescent Development and Adolescent Learning Theory (3 crs.)

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.

TCH303 Books and Materials for Children (3 crs.)

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.

TCH322 Teaching Middle Level Language Arts (3 crs.)

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. *Prerequisites: Acceptance into Professional Semester and completion of appropriate state mandated exams.*

TCH342 Teaching Middle Level Mathematics (3 crs.)

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: acceptance into Professional Seminar Semester.*

TCH348 Teaching Middle Level Social Studies (3 crs.)

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. Requires a 5-week field experience with 2 days each week at the beginning and 3 successive weeks at the end. *Prerequisites: Acceptance into Professional Semester and completion of appropriate state mandated exams.*

TCH366 Teaching Science at the Middle Level (3 crs.)

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. *Prerequisites: Acceptance into Professional Semester and completion of appropriate state mandated exams.*

TCH423 Integrating Literature in Middle Grades (3 crs.)

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.

TCH440 Gender Equity in Education (3 crs.)

Surveys role of women in educational systems, focusing on women as students, teachers, and administrators. Examines how traditional expectations of women are perpetuated throughout the educational system.

TCH445 Strategies for Effective Classroom Management (3 crs.)

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.

TCH490 Selected Topics (1-3 crs.)

Opportunity to offer courses in areas of departmental major interest not covered by the regular courses.

Theatre (THE)

THE121 Introduction to the Theatre (3 crs.)

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.

THE123 Acting I: Fundamentals of Acting (3 crs.)

Introductory course in acting. Students working in improvisation would be introduced to the fundamental components of the actor's process: the playing of objectives and actions, emotional and sensory recall, the use of activity and given circumstances.

THE222 Acting II (3 crs.)

Provides an introduction to scene study and textual analysis. Students will present scenes from modern and contemporary dramatic literature. Also studies the theories behind a variety of methodologies. Specific acting techniques examined. *Prerequisite: THE123.*

THE229 Introduction to Technical Production (3 crs.)

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.

THE320 Directing (3 crs.)

Study of the theories and practice essential to directing a play, including play selection, casting, director-actor interpretation and relationship, blocking, rehearsal procedures and coordinating the technical and nontechnical parts of the production. Students expected to engage in evening histrionic laboratory work as part of supervised campus extracurricular theatrical activity functioning at the time. Such involvement is considered a part of the student's grade.

THE323 CHILDREN'S THEATRE (3 CRS.)

Opportunity for guided practice and instruction in creating children's theatre. 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. Emphasizes perfecting ensemble skills: creativity, rehearsal techniques, and adhering to production deadlines. *Prerequisite: permission of instructor.*

THE324 Theatre Practicum (3 crs.)

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.

THE327 Costumes and Make-Up (3 crs.)

Detailed survey of 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 dress will be generated to establish a fundamental basis for theatrical design. Make-up and costume design, rendering, and construction techniques will be practically implemented in a laboratory situation. Students expected to engage in evening technical laboratory work as part of supervised campus extracurricular theatrical activity functioning at the time. Such involvement considered a part of the student's grade.

THE329 Theatre History (3 crs.)

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.

THE395,396 Theatre Internship (3 crs.)

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.

THE490 Selected Topics Theatre (3 crs.)

Opportunity to offer courses in areas of departmental interest not covered by regular course offerings. *Prerequisite: permission of instructor.*

Women's and Gender Studies (WST)

WST100 Introduction to Women's Studies (3 crs.)

Provides an interdisciplinary consideration of the scholarly theories and research relevant to the experience and status of women in America. Examines a wide range of social issues that have historically affected the status of American women and continue to affect women today. Explores the diversity of the lives of American women through reading, writing and discussion. Equal attention given to African-American women, Asian-American women, Native American women, Hispanic women and women of European ethnic groups. Perhaps most important is learning how attitudes, perspectives, and beliefs about women and men are shaped by ethnic and racial heritage, by age and social class, by sexual orientation, by physical and mental abilities, and by cultural constructions of gender. Course fulfills the university's diversity requirement.

WST200 Independent Study in Women's Studies (3 crs.)

Independent study project must have approval of the director of the Women's Studies minor.

WST300 Seminar in Women's Studies (3 crs.)

Integrates each student's special interests within the interdisciplinary Women's Studies Minor. Provides a sequenced set of opportunities for upper-level students to demonstrate their ability to critique, compare and connect what they have studied while pursuing the Women's Studies Minor. Students encouraged to interrelate their lives and major field of study with what they have learned in Women's Studies. Students encouraged to take cross-cultural approaches to women's issues. Will examine feminist theory, its creation and operation, and especially the influence on feminism of (and its influence on) postmodern concepts of knowledge as situated (dependent on time, place and the thinker) and as mediated (dependent for expression on language). Through reading and writing on a variety of works, will consider women's issues, women's lives and our own lives. Students have opportunity for creative representation (i.e. writing a story, making a film, designing an art project, etc.). Students may also do a project involving community service.

Prerequisites: WST100 plus 6 hours in Women's Studies or permission of instructor.

WST390 Internship in Women's Studies (3 crs.)

Internship must be approved by both the student's major department and the Women's Studies Minor director.

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 Wendy S. Stoops, Clerk
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 Shawn W. Martin, Maintenance Repair
 Daniel K. Timmons, Maintenance Repair
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 Roger S. Woltz, Locksmith
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 Garry E. Wall, Controls Management Technician
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 Duite E. Ricker, Utility Plant Operator
 Shawn L. Rosenberry, Utility Plant Operator
 Randy R. Russell, Utility Plant Operator
 Chad W. Stevenson, Utility Plant Operator
 Gerald L. Swanger, Utility Plant Operator
 Steven A. Trayer, Utility Plant Operator
 Richard L. Bittinger, Utility Plant Helper
 Larry P. Rotz, Utility Plant Helper
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 John O. Gossert, Groundskeeper Supervisor
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Department Offices

Accounting	Grove Hall	GRH 328	1436
Art and Design	Huber Art Center	HAC 210	1530
Biology	Franklin Science Center	FSC 142	1401
Chemistry	Franklin Science Center	FSC 327	1629
Communication/Journalism	Rowland Hall	RHL 108	1521
Computer Science and Engineering	Mathematics and Computing Technologies Center	MCT 156	1178
Counseling and College Student Personnel	Shippen Hall	SPH 123	1668
Criminal Justice	Shippen Hall	SPH 321	1558
Economics	Grove Hall	GRH 324	1437
Educational Leadership and Special Education	Shippen Hall	SPH 127	1591
English	Dauphin Humanities Center	DHC113	1495
Finance, Information Management and Analysis	Grove Hall	GRH 228	1434
Geography/Earth Science	Shearer Hall	SRH 104	1685
Exercise Science	Henderson	HG 109	1721
History/Philosophy	Dauphin Humanities Center	DHC 213	1621
Human Communication Studies	Dauphin Humanities Center	DHC 313	1732
Management/Marketing	Grove Hall	GRH 224	1439
Mathematics	Mathematics and Computing Technology Center	MCT 250	1431
Military Science	Wright Hall	WRI 206	1782
Modern Languages	Rowland Hall	RLH 109	1635
Music/Theatre Arts	Performing Arts Center	PAC220	1638
Physics	Franklin Science Center	FSC 123	1570
Political Science	Grove Hall	GRH 424	1718
Psychology	Franklin Science Center	FSC 114	1657
Social Work/Gerontology	Shippen Hall	SPH 335	1717
Sociology/Anthropology	Grove Hall	GRH 428	1735
Teacher Education	Shippen Hall	SPH 214	1688

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- MING-SHIUN PAN, *Professor of Finance and Supply Chain Management* (1989)
B.A., Fu-Jen Catholic University; M.A. and Ph.D., University of Alabama
- ANNA L. PAPERIO, *Assistant Professor of Teacher Education* (2009)
B.A., Grinnell College; Ph.D., Virginia Polytechnic Institute and State University
- PATRICIA A. PATRICK, *Associate Professor of Accounting and Management Information Systems* (2008)
B.B.A., M.B.A., and Ph.D., Pennsylvania State University
- WILLIAM J. PATRIE, *Associate Professor of Biology* (1993)
B.A., Hope College; Ph.D., Cornell University
- E. BRITT PATTERSON, *Associate Professor of Criminal Justice* (1992)
B.A., Waynesburg College; M.A., West Virginia University; Ph.D., University of Maryland
- LAURA A. PATTERSON, *Assistant Professor of Criminal Justice* (2004)
B.A. and M.A., Florida State University; Ph.D., University of Maryland
- CHANDRIKA PAUL, *Professor of History/Philosophy* (1996)
B.A., University of Calcutta; M.A. and Ph.D., University of Cincinnati
- GREGORY S. PAULSON, *Professor of Biology* (1994)
B.A., Miami University; M.S., University of Hawaii; Ph.D., Washington State University
- SALLY PAULSON, *Associate Professor of Exercise Science* (2005)
B.S., University of Detroit Mercy; M.A., California State University; Ph.D., University of Arkansas
- MARY C. PAXTON, *Assistant Professor of Teacher Education* (2009)
B.S. and M.S., Shippensburg University; Ed.D., Widener University
- PARIS PEET, *Professor of Music/Theater Arts* (1991)
B.A., University of Delaware; M.F.A., University of South Carolina
- DONALD K. PHILPOT, *Assistant Professor of Teacher Education* (2011)
B.E., University of Manitoba; M.A. and Ph.D., University of British Columbia
- GRETCHEN K. PIERCE, *Assistant Professor of History/Philosophy* (2009)
B.A., Arizona State University; M.A. and Ph.D., University of Arizona
- MARCELA PINEDA-VOLK, *Associate Professor of Modern Languages* (2000)
B.A., Rutgers University; M.A., Middlebury College; Ph.D., Indiana University; Ph.D., Indiana University
- ROBERT W. PINEDA-VOLK, *Professor of Sociology/Anthropology* (1995)
B.A., State University of New York; M.A. and Ph.D., University of Illinois
- VIRGINIA E. PITTS, *Assistant Professor of Psychology* (2010)
B.S. and M.A., University of North Carolina at Chapel Hill; Ph.D., Colorado State University
- GEORGE POMEROY, *Associate Professor of Geography/Earth Science* (1999)
B.A.Ed. and M.S., Western Washington University; Ph.D., University of Akron
- ROBERT C. POSATKO, *Professor of Economics* (1981)
B.A., King's College; M.A. and Ph.D., Pennsylvania State University
- KATHRYN M. POTOCZAK, *Associate Professor of Psychology* (2005)
B.S., M.A. and Ph.D., Western Michigan University
- ALLISON H. PREDECKI, *Associate Professor of Chemistry* (2002)
B.A., Mary Baldwin College; Ph.D., Wake Forest University
- DANIEL P. PREDECKI, *Associate Professor of Chemistry* (2006)
B.S., Colorado State University; Ph.D., Wake Forest University
- KIMBERLY J. PRESSER, *Professor of Mathematics* (2000)
B.S., Pepperdine University; M.S., North Carolina University; Ph.D., University of South Carolina
- MICHAEL PRESSLER, *Professor of English* (1992)
B.A., University of Massachusetts; M.A. and Ph.D., University of Connecticut
- WILLIAM T. PRITCHARD, *Assistant Professor of Communication/Journalism* (2002)
B.A., Dickinson College; M.S., Shippensburg University; Ph.D., Bowling Green State University
- JENNIFER L. PYLES, *Assistant Professor of Teacher Education* (2012)
B.S., James Madison University; M.Ed., Shippensburg University; Ph.D., The Pennsylvania State University
- JOHN W. QUIST, *Professor of History/Philosophy* (1997)
B.A., Brigham Young University; M.A. and Ph.D., University of Michigan
- AGNES C. RAGONE, *Professor of Modern Languages* (1998)
B.A. and M.A., Louisiana State University; Ph.D., University of Texas

- MATTHEW C. RAMSEY, Assistant Professor of Human Communication Studies (2011)
B.A., Arkansas Tech University; M.A., Arkansas State University; Ph.D. University of Southern Mississippi
- MARC RENAULT, *Associate Professor of Mathematics* (2002)
B.S. and M.A., Wake Forest University; Ph.D., Temple University
- JOHN N. RICHARDSON, *Professor of Chemistry* (1994)
B.S., Hampden-Sydney College; Ph.D., University of North Carolina
- MELISSA L. RICKETTS, *Associate Professor of Criminal Justice* (2007)
B.S., Pennsylvania State University; M.A. and Ph.D., Indiana University of Pennsylvania
- HONG RIM, *Professor of Finance and Supply Chain Management* (1986)
B.S., Korea University; M.B.A., Seoul National University; Ph.D., Pennsylvania State University
- SUSAN RIMBY, *Professor of History/Philosophy* (1992)
B.S., Bloomsburg University; M.A., Kutztown University; Ph.D., University of Pittsburgh
- DENNIS RITZ, *Professor of Music/Theater Arts* (1990)
B.S.Mus.Ed. and M.M.Ed., Mansfield University; D.M.A., Michigan State University
- RUSSELL E. ROBINSON, *Associate Professor of Exercise Science* (2005)
B.S., Glenville State College; M.S., Louisiana Tech University; Ph.D., Texas Women's University
- BARBARA D. ROTZ, *Associate Professor of Library* (1999)
B.A., Elizabethtown College; M.S., Drexel University
- CHRISTINE A. ROYCE, *Professor of Teacher Education* (2002)
B.S., Cabrini College; M.A., University of Scranton; Ed.D., Temple University
- MARK SACHLEBEN, *Associate Professor of Political Science* (2006)
B.A., Berea College; M.A., Marshall University; Ph.D., Miami University
- SUSAN T. SADOWSKI, *Associate Professor of Accounting and Management Information Systems* (2010)
B.M. and M.M., Peabody Conservatory; M.A.S., Johns Hopkins University; Ph.D., George Washington University
- HEATHER F. SAHLI, *Assistant Professor in Biology* (2009)
B.S. and B.A., College of William & Mary; Ph.D. Michigan State University
- JOOHEE I. SANDERS, *Associate Professor of Exercise Science* (2008)
B.A., Pepperdine University; M.S., Bloomsburg University; Ph.D., Temple University
- LONCE H. SANDY-BAILEY, *Assistant Professor of Political Science* (2009)
B.A., University of California Irvine; M.A., University of Virginia; Ph.D., University of Massachusetts
- TORU SATO, *Professor of Psychology* (2000)
B.A., Kwansigakuin University; M.A. and Ph.D., York University
- CHRISTOPHER L. SCHWILK, *Associate Professor of Educational Leadership and Special Education* (2005)
B.S. Miami University; M.Div., Trinity Lutheran Seminary; M.S., Bloomsburg University; Ph.D., Pennsylvania State University
- ASHLEY C. SEIBERT, *Assistant Professor of Psychology* (2009)
B.S., University of Pittsburgh; M.A. and Ph.D., Kent State University
- CHRISTINE SENECA, *Associate Professor of History/Philosophy* (2000)
B.A., University of California at Santa Barbara; M.A. and Ph.D., Boston College
- KONNIE R. SERR, *Assistant Professor of Teacher Education* (2010)
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- ROBERT SETAPUTRA, *Professor of Finance and Supply Chain Management* (2005)
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- ROBERT SHAFFER, *Professor of History/Philosophy* (1998)
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- JOSEPH W. SHANE, *Associate Professor of Chemistry* (2005)
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- DANIEL S. SHIFFMAN, *Assistant Professor of English* (2009)
B.A., Colby College; M.A. and Ph.D. University of Wisconsin-Madison
- BLAINE F. SHOVER, *Professor of Music/Theater Arts* (1978)
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- FREDDY SIAHAAN, *Associate Professor of Economics* (2007)
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- JONATHAN K. SKAFF, *Professor of History/Philosophy* (1999)
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- CHERYL A. SLATTERY, *Associate Professor of Teacher Education* (2003)
B.S., Saint Joseph's University; M.Ed., Kutztown University; Ed.D., Widener University
- JANET S. SMITH, *Professor of Geography/Earth Science* (2003)
B.A., University of Virginia; B.S., Virginia Commonwealth University; M.A. and Ph.D., University of Georgia
- MARK E. SPICKA, *Associate Professor of History/Philosophy* (2002)
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- ROBERT D. STEPHENS, *Associate Professor of Management/Marketing* (2005)
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- RICHARD L. STEWART, *Professor of Biology* (2002)
B.S. and M.S., Indiana University of Pennsylvania; Ph.D., Ohio State University
- SUSAN STONE, *Professor of Management/Marketing* (1983)
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- PAUL T. TAYLOR, *Associate Professor of Mathematics* (2006)
B.S., University of Saskatchewan; Ph.D., University of Wisconsin-Madison
- RONALD K. TAYLOR, *Professor of Management/Marketing* (1994)
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- NATHAN E. THOMAS, *Assistant Professor of Biology* (2008)
B.S., Indiana University of Pennsylvania; Ph.D., University of South Dakota
- ADRIAN TOMER, *Professor of Psychology* (1992)
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- JOANNE M. TUCKER, *Associate Professor of Finance and Supply Chain Management* (2000)
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- RONNIE B. TUCKER, *Associate Professor of Political Science* (2000)
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- ALLAN A. TULCHIN, *Assistant Professor of History/Philosophy* (2006)
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- BRIAN J. ULRICH, *Assistant Professor of History/Philosophy* (2009)
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- KIM VAN ALKEMADE, *Professor of English* (1992)
B.A., M.A. and Ph.D., University of Wisconsin
- DAWN M. VERNOOY-EPP, *Associate Professor of English* (2003)
B.A., New Mexico State University; M.A. and Ph.D., University of Nebraska-Lincoln
- STEPHEN O. WALLACE, *Assistant Professor of Academic Services* (2006)
B.A., Hardin-Simmons University; M.Div., Southwestern Baptist Seminary; M.Ed., University of Oklahoma; Ph.D., University of Alabama
- HONG WANG, *Associate Professor of Human Communication Studies* (2002)
B.A., Changsha Tiedao University; M.A., University of Essex, Britain; Ph.D., Southern Illinois-Carbondale
- REBECCA J. WARD, *Associate Professor of Teacher Education* (1998)
B.S. and M.S., University of Nevada; Ph.D., Oregon State University
- ALLISON D. WATTS, *Associate Professor of Management/Marketing* (2008)
B.S., Bloomsburg University; M.S., University of Pennsylvania; Ph.D., Temple University
- KIM A. WEIKEL, *Associate Professor of Psychology* (1994)
B.A., Lycoming College; M.A., University of Dayton; Ph.D., Kent State University
- CAROL A. WELLINGTON, *Professor of Computer Science* (1997)
B.S., University of Delaware; M.S., Villanova University; Ph.D., North Carolina State University
- WILLIAM G. WHITELEY, *Assistant Professor of Art and Design* (2004)
B.A., Findlay University; M.F.A., Cranbrook Academy of Art
- TODD K. WHITMAN, *Assistant Professor of Counseling and College Student Personnel* (2005)
B.A., Colgate University; M.S., State University of New York; Ph.D., University of Virginia
- KAY R.S. WILLIAMS, *Associate Professor of Geography/Earth Science* (1993)
B.S., Salisbury State University; M.A. and Ph.D., University of Georgia
- CHRISTOPHER J. WOLTEMADE, *Professor of Geography/Earth Science* (1994)
B.A., Ohio Wesleyan University; M.S., University of Wisconsin; Ph.D., University of Colorado
- YING YANG, *Assistant Professor of Sociology/Anthropology* (2011)
A.A., Hunan Workers and Staff College Petro; A.A., Central South University of Technology; M.A., Indiana University of Pennsylvania; Ph.D., University of South Carolina
- MICHAEL B. YOH, *Assistant Professor and Director of Media Services* (1972)
B.A., Dickinson College; M.S., Shippensburg University
- CURTIS M. ZALESKI, *Associate Professor of Chemistry* (2006)
B.S., John Carrol University; M.S. and Ph.D., University of Michigan
- CHERYL H. ZACCAGNINI, *Associate Professor of Educational Leadership and Special Education* (1995)
B.S.Ed., M.S. and Ed.D., West Virginia University
- ROBERT G. ZIEGENFUSS, *Associate Professor of Teacher Education* (2007)
B.Ed., Pennsylvania State University; Ph.D., University of Maryland
- JAMES T. ZULLINGER, *Associate Professor of Teacher Education* (1978)
B.A., Virginia Wesleyan; M.Ed., Shippensburg University
- JOSEPH T. ZUME, *Associate Professor of Geography/Earth Science* (2007)
B.S., University of Jos; M.S., Ahmadu Bello University; Ph.D., University of Oklahoma
- RICHARD ZUMKHAWALA-COOK, *Professor of English* (2001)
B.A., Colby College; M.A. and Ph.D., Miami University, Oxford, Ohio
- ELAINE J. ANDERSON (2003)
Biology
- JOSEPH D. ANDERSON (1991)
Social Work
- WILLIAM W. ANDERSON (1997)
Teacher Education
- JOAN S. APPEGATE (1994)
Music
- JOHN ARCH (2010)
Computer Science
- JAN ARMINIO (2012)
Counseling and College Student Personnel
- GARY R. ARMSTRONG (2013)
Accounting
- RUTH D. ARMSTRONG (2001)
Management Information Systems
- HAYDEE AYALA-RICHARDS (2005)
Modern Languages
- THOMAS AUSTIN (2011)
Criminal Justice
- RICHARD A. BARR (1991)
Biology
- ROBERT B. BARTOS (2008)
Education and Human Services
- WILLIAM M. BASSIN (2003)
Information Management and Analysis
- TERRY W. BAYLOR (2009)
Mathematics
- PAUL E. BEALS (1991)
Teacher Education
- RICHARD W. BECKNER (1997)
Government
- HOWARD T. BELL (1999)
Mathematics and Computer Science
- JOHN E. BENHART (2005)
Geography and Earth Science
- HARRY D. BENTZ (1986)
Art
- JAMES A. BERES (2002)
Chemistry
- NORMAN BIRNBAUM (1998)
History
- CYNTHIA M. BISHOP (2007)
Human Communication Studies
- GARY F. BITNER (1994)
Physics
- LARRY BITNER (2013)
Accounting
- GEORGE BOEREE (2010)
Psychology
- LOUIS M. BOUCHARD (1989)
History
- CHARLES W. BOUSLIMAN (2002)
Speech and Theater Arts
- THOMAS B. BRADLEY (2004)
Teacher Education
- LAWRENCE A. BRADSHAW (1999)
English
- MARY OSGOOD BRADSHAW (2003)
Counseling
- LESLIE BRANHAM, JR. (1996)
Speech and Theater Arts
- THOMAS L. BRIGHT (2011)
Management/Marketing

President Emeritus

ANTHONY F. CEDDIA (*Ret. June 24, 2005*)

Faculty Emeriti

ALBERT G. ABDALLA (1993)

English

HUGH M. ABERMAN (2004)

Psychology

KATHRYN K. ABERMAN (2004)

Learning Center

PAUL V. ADAMS (2005)

History

EUGENE D. ALEXANDER (1995)

Psychology

- J. PAUL BURKHART II (1996)
Speech and Theater Arts
- BEVERLY A. BUTLER (2003)
English
- CARL CAMPBELL (1984)
Educational Administration and Foundations
- H. LEE CAMPBELL (1991)
Educational Administration and Foundations
- FRANCIS R. CANNON (1997)
Business Education and Office Administration
- ALBERT R. CAREY (1987)
Counseling
- HERBERT S. CASSEL (1994)
Accounting
- DENNIS M. CASTELLI (1997)
History
- BETTY M. CHURCHILL (1985)
Speech and Theater Arts
- MICHAEL A. CIAVARELLA (1997)
Counseling
- CHARLES B. COATES (1979)
Counseling
- RICHARD A. COFFMAN (1999)
Speech and Theater Arts
- GEORGE S. COLE, (2009)
Management and Marketing
- THOMAS COLLEY (1991)
Speech and Theater Arts
- DOUGLAS COOK (2013)
Library and Media Services
- LYNDA COOK (2006)
Educational Leadership/Policy
- JAMES G. COOLSEN (2005)
Associate Provost
- WILLIAM J. CORMAN (1982)
Health and Physical Education
- ANGELO V. COSTANZO (1997)
English
- DONNA COUCHENOUR (2011)
Teacher Education
- JOSEPH CRETELLA (2005)
Dean of Admissions
- BARBARA CRIST (1985)
Study Skills Counselor
- V. THOMAS CRIST (1979)
Health and Physical Education
- JUDITH L. CULBERTSON (1999)
Library
- THOMAS CYPHER (2002)
Educational Administration
- MARTIN DAKO (2000)
Philosophy
- FRANK R. DANGELLO (2005)
Mathematics
- JAY F. DAVIDSON (1996)
Biology
- WILLIAM C. DAVIES (1985)
Elementary Education
- EUGENE A. DEARDORFF (1999)
Chemistry
- DANIEL P. DEVITIS (2003)
Geography and Earth Science
- ANNE E. DeYOUNG (1984)
Social Work
- DAVID A. DOLBIN, JR. (1992)
Professor and Dean of Students
- LAWRENCE W. DOOLITTLE (1987)
Educational Administration and Foundations
- RICHARD M. DRACHA (1993)
Social Work
- WALLACE W. DREXLER (1996)
Geography and Earth Science
- ROBERT C. EGGLESTON (2000)
Economics
- JANE H. EHEMANN (2004)
Geography and Earth Science
- MAXINE ENDERLEIN, (2006)
Accounting and Management Information Systems
- MARGARET P. EVANS (2013)
Communication/Journalism
- G. ARTHUR FAIRCHILD (2002)
Health and Physical Education
- DONALD C. FETZER (1988)
Educational Administration and Foundations
- MARY W. FOGELSANGER (1974)
Laboratory School
- SUSAN G. FOLTZ (2009)
Educational Leadership & Special Education
- ANN E. FORDHAM (1999)
Teacher Education
- KIM E. FOX (2009)
Political Science
- ROBERT M. FREEMAN, (2008)
Criminal Justice
- DONALD J. FROILAND (1996)
Counseling
- KIM E. FOX (2009)
Political Science
- DONALD L. GARRIS (1997)
Counseling
- LINDA M. GATCHEL (2004)
Library
- ANNE GERO (2004)
Social Work
- JAMES R. GEYER (1982)
Elementary Education
- CYNTHIA GIBBON (2010)
Library & Media Services
- RICHARD W. GIBBS (2006)
English
- PAUL E. GILL (1999)
History
- ROBERT D. GIMMI (2004)
Library
- EDWARD S. GOODHART (2004)
Accounting
- RODGER E. GOODLING (2002)
Health and Physical Education
- WILLIAM A. GOULD (2002)
Professor and Director of Computer Center
- DONALD E. GRACEY (1999)
Mathematics and Computer Science
- JOHN H. GREZLAK (2003)
Chemistry
- DONNA C. HALE (2010)
Criminal Justice
- JAMES P. HANLON (2002)
English
- EUGENE R. HANSON (1991)
Library Science
- DONNA D. HARDY (2000)
Music
- ROBERT C. HARPER (1999)
Geography and Earth Science
- LYNN HARRIS (2005)
Management and Marketing
- WILLIAM C. HARRIS (1991)
Management and Marketing
- DAVID HASTINGS (2013)
Computer Science
- NANETTE M. HATZES (2010)
Academic Services
- HERBERT E. HAYS, JR. (1988)
Biology
- RENETTA F. HEISS (1977)
Business Education and Office Administration
- KEITH L. HESS (1991)
Health and Physical Education
- ROBERT HEWITT, (2008)
Social Work/Gerontology
- DEBORAH E. HOCKING (2012)
Accounting
- RALPH T. HOCKING (2002)
Information Management and Analysis
- MARGARET E. GRUVER HOGG (1969)
Elementary Education
- CHARLES J. HOLLON (2004)
Management and Marketing
- LINDA A. HOOVER (2010)
Teacher Education
- PAUL K. HORRELL (1991)
Mathematics and Computer Science
- FREDERICK O. HOWARD (2001)
Biology
- JOSEPH W. HUNT, JR. (1999)
Economics
- WILLIAM Q. HYNES (2003)
Art
- JOHN P. ILLO (1986)
English
- ROBERT H. JACOBS (1996)
Mathematics and Computer Science
- JAMES L. JENGELESKI, (2009)
Criminal Justice
- HUGH E. JONES (2002)
Political Science
- JERRY N. JUDY (2004)
Sociology
- ROBERT P. KALMEY (2003)
English
- CAROL KAHLE (2004)
Teacher Education
- EDWARD J. KARLOVICH (1991)
Teacher Education

- SIGNE J. KELKER (2013)
Library and Media Services
- W. RUSSELL KELLEY (1977)
Biology
- CARL E. KERR (1991)
Mathematics and Computer Science
- BRUCE L. KESSLER (2004)
Political Science
- CHARLOTTE M. KLEIN (2007)
Teacher Education
- LARRY KLOTZ (2009)
Biology
- JONATHAN W. KOHN (2013)
Finance and Supply Chain Management
- WALTER KONETSCHNI (2005)
Sociology and Anthropology
- THEODORA J. KOOB (1980)
English
- JOHN KORN (1993)
Physics
- W. KEITH KRAUS (1998)
English
- LEON W. KREGER, JR. (1985)
Biology
- ALICE PAULINE KUHNS (2002)
Teacher Education
- KERMIT M. LAIDIG (1991)
Geography-Earth Science
- BERKLEY H. LAITE (2010)
Library
- NANCY A. LEATHERMAN (1998)
French and German
- JOHN H. LEMMON (2012)
Criminal Justice
- JOHN M. LINDBERG (1995)
English
- HILDA E. LINEWEAVER (1991)
Sociology
- RUPERT CHARLES LOUCKS (1997)
History
- CHRISTINE A. LOVELAND (2013)
Anthropology
- DANIEL MACK, (2006)
Chemistry
- FRANK R. MADDEN (1986)
Social Work
- JOHN D. MAGARO (1999)
Communication/Journalism
- DOROTHY C. MARQUART (1975)
Laboratory School
- ALLEN N. MARSHALL, JR. (1989)
Counseling
- JOHN F. MARTIN, JR. (1999)
Mathematics and Computer Science
- ALBERT A. MASON, JR. (1998)
Communication/Journalism
- STEPHEN A. MATHIS (2011)
Economics
- DONALD MAYER, (2005)
Political Science
- WILLIAM G. McARTHUR (1996)
Mathematics and Computer Science
- RONALD M. McCALL (1998)
Geography and Earth Science
- VINCENT F. McCORMACK (2004)
Accounting
- KAY McFARLAND (1978)
Library
- KATHERINE P. MCFARLAND (2008)
English
- THOMAS E. McFEELY (2002)
Assistant Professor and Director of the CUB
- DEBORAH McKAY (1983)
Social Work
- LILLIAN P. McKEEL (2000)
Teacher Education
- DANIEL J. MENNITI (2003)
Criminal Justice
- DALE G. MERKLE (1994)
Teacher Education
- RONALD D. MICHMAN (1993)
Marketing
- CHARLES E. MILLER (1999)
Mathematics and Computer Science
- DONALD N. MILLER (2005)
Exercise Science
- ADELE MITCHELL (1961)
Laboratory School
- ALFRED J. MOCK (1983)
Communication/Journalism
- WILLIAM A. MORGAN (1999)
Modern Languages
- THOMAS L. MORIARTY (2004)
Health
- JACK G. MORRISON (2000)
History
- WILLIAM J. MORRISON (2002)
Biology
- WAYNE MOWREY (1980)
Music
- HELEN A. MOYER (1968)
Library
- DOROTHY J. MUGGE (1981)
Elementary Education
- CORNELIA LYNNE NASH (2000)
Communication/Journalism
- LORI NELSON (1999)
Psychology
- EARL NOLLENBERGER (2013)
Biology
- FREDERICK L. NORDAI (2013)
Mathematics
- FRANCIS H. NORTON (1997)
Counseling
- BARBARA J. OBER (1992)
Sociology
- HUGH R. O'BRIEN (1988)
Library
- JOHN L. OFFNER (1997)
History
- AUDUN J. OLSEN (1999)
Communication/Journalism
- ROBERT F. ORAVETZ (1995)
Business Education and Office Administration
- HARRY W. PAULEY (1983)
English
- JAMES I. PAYNE (1990)
Teacher Education
- RALPH PAYNE, (2006)
Psychology
- DAVID G. PECK (2003)
Sociology
- RANDALL PELLOW (2004)
Teacher Education
- ALEC W. PERKINS, JR. (1987)
Teacher Education
- RUTHANNE PITKIN, (2006)
Biology
- JAMES G. PRIBULA (2002)
Health and Physical Education
- JAMES E. RADCLIFFE (1991)
Government
- SUSAN RAUCH (2003)
Accounting
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- ROBERT D. REED (1987)
Biology
- MARC A. REHR (1988)
Speech and Theater Arts
- THOMAS P. REINWALD (2004)
Economics
- JOHN W. REITMEYER (1985)
Music
- WILLIAM C. RENSE (2004)
Geography and Earth Science
- MORRIS E. RILL (1998)
Mathematics and Computer Science
- VIRGINIA M. ROBINSON (1978)
Geography-Earth Science
- JOHN M. RODDICK (1989)
Physics
- ROBERT ROELOFFS (1990)
Management Science
- JOHN E. ROGERS, JR. (2002)
English
- WILLIAM E. ROGERS (1998)
Biology
- ROBERT D. ROLLINS (2007)
Accounting & Management Information Systems
- HERBERT J. ROTH (2003)
Finance
- FREDRIC A. ROUX (1999)
English
- JANET RUBY (2013)
Art and Design
- JOSEPH R. RUFF (1996)
English
- RICHARD B. RUTH, JR. (2002)
Mathematics and Computer Science
- JAMES RYLAND, (2007)
Educational Leadership & Policy
- VONNIE RYLAND (2007)
Teacher Education
- JAMES M. ST. CLAIR (2004)
Speech and Theater Arts
- MARK H. SCHROEDER (2007)
Computer Science
- THOMAS D. SCHROEDER (2002)
Chemistry

- ROBERT SCULL (2001)
Geography and Earth Science
- HERBERT A. SEARLE (1978)
Educational Foundations and Field Studies
- NATALIA SEMUSHKINA (2012)
Physics
- ROBERT SENN (2007)
Management/Marketing
- JAMES L. SIEBER (2002)
Mathematics and Computer Science
- STEPHEN G.-M. SHENTON (1998)
Communication/Journalism
- WILLIAM R. SHIRK (1997)
Geography and Earth Science
- NAOMI F. SHOOK (1981)
Elementary Education and Rowland School
- BARRY SMITH (2000)
Educational Administration and Foundations
- FRED E. SMITH (1989)
Library
- JOSEPH A. SMITH (1992)
Psychology
- WILLIAM R. SMITH (1987)
Teacher Education
- J. ROBERT SNYDER (1980)
Chemistry
- WILLIAM D. SPRENGER (1999)
Psychology
- GLENN E. STAMBAUGH (2007)
Computer Science
- NANCY H. STANKUS (2007)
Educational Leadership and Policy
- MARY STEWART (2013)
English
- RICHARD D. STONE (2011)
Management/Marketing
- GEORGE L. STRINE (2002)
Teacher Education
- HARRY D. SWEELY (1991)
Psychology
- HAROLD E. SWEENEY, JR. (1998)
Political Science
- JOHN P. TAGGART (2001)
English
- MARY JANE TAYLOR (1996)
Teacher Education
- YVONNE TAYLOR (2010)
Teacher Education
- JOSEPH C. THOMAS (2008)
Computer Science
- BERNARD J. TONEY (1994)
Library Science
- LLOYD A. TRINKLEIN (1986)
Chemistry and Director of Grants and Federal Relations
- BENNIE S. TRUAX (1995)
Music
- MARYJANE URBANOWICZ (2005)
Teacher Education
- ELIZABETH VAUGHAN (2008)
Teacher Education
- THOMAS P. VERNEY (2011)
Management/Marketing
- PATRICIA WALTERMYER (2005)
Communication/Journalism
- GEORGE P. WARICHER (1999)
Art
- HENRY WARKENTIN (1998)
German
- KATHERINE WARKENTIN (2001)
Library
- RICHARD M. WARNER (1995)
Communication/Journalism
- KENNETH C. WASHINGTON (1994)
Mathematics and Computer Science
- HAROLD W. WEIGEL (1974)
German
- JERRY A. WEIGLE (2011)
Management/Marketing
- WILLIAM R. WELLER (1999)
Mathematics and Computer Science
- THOMAS WHISENAND (2009)
Accounting
- SARA J. WILLOUGHBY-HERB (2000)
Teacher Education
- JOHN R. WILSON (1996)
Chemistry
- KENNETH P. WINTER (1996)
Philosophy
- JOEL B. WOOD (1975)
Economics
- ELEANORE R. YOUNG (1980)
Elementary Education
- YUNG J. YU (1988)
Psychology
- SAMUEL S. ZEMAN (1995)
Teacher Education
- CANDICE ZIENTEK (2013)
Exercise Science
- Retired Administrators**
- KATHRYN K. ABERMAN (2004)
Learning Center
- ROBERT B. BARTOS (2008)
Dean of the College of Education and Human Services
- HARRY M. BOBONICH (1989)
Dean of Graduate Studies and Research
- HERBERT H. BOWERS (2003)
Director of Public Safety
- MARY OSGOOD BRADSHAW (2003)
Counseling
- WILBUR O. CARTHEY (1983)
Dean of the College of Education and Human Services
- JAMES G. COOLSEN (2005)
Associate Provost and Dean of Graduate Studies
- JOSEPH G. CRETELLA (2005)
Dean of Undergraduate and Graduate Admissions
- BARBARA CRIST (1985)
Study Skills Counselor
- VIRGINIA CROWE (1995)
Dean of Library and Media Services
- THOMAS E. ENDERLEIN (2009)
Executive Director for Public Service and Sponsored Programs
- DONALD G. ERNAKOVICH, SR. (1998)
Executive Director for University Relations
- WILLIAM C. HARRELL (1986)
Associate Dean of Admissions
- JOHN B. HERRON (1986)
Associate Vice President and Registrar
- PEGGY E. HOCKERSMITH WHEELER (2010)
Associate Dean, College of Education and Human Services
- ELNETTA G. JONES (1999)
Dean of Special Academic Programs
- PAUL KAISER (2002)
Director of Camps and Conferences
- ANTHONY J. MIKLAUSEN (1975)
Director of Institutional Planning
- ALANA G. MORIARTY (2005)
Registrar
- THOMAS L. MORIARTY (2004)
Director of University Health and Emergency Services
- C. ROBERT ORNDORFF (1996)
Vice President for Student Affairs
- MARIAN B. SCHULTZ (2012)
Dean of the School of Academic Programs and Services
- Dean of the Library and Media Services
- ROBERT D. TAYLOR (1986)
Associate Dean of the College of Education and Human Services
- DAVID T. TWINING (2004)
Associate Dean of the College of Arts and Sciences and Director of Study Abroad
- MADELYN F. VALUNAS (2003)
Dean of the Library and Media Services
- LOIS A. WATERS (2005)
Director of Social Equity

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